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### 3.5 Program Requirements

#### 3.5.1 Freshman Program

Students who need to complete 97-120 credits to complete their degree requirements must complete the Freshman program requirements in their first year of studies prior to selecting a departmental program. Students may select one of the following Freshman program options:

- 6 credits in each of three of the following areas: social sciences, languages, humanities, or mathematics and science, with a maximum of 18 credits per area and 12 credits per department.
- 18 credits of courses conducted in French. Depending on degree of language proficiency attained, this could include a maximum of 12 credits of intensive French language courses.

For further details, refer to the Arts and Science Freshman information on the Web at [www.mcgill.ca/artscisao](http://www.mcgill.ca/artscisao).

**Note:** A Freshman (U-0) Year 24-Credit Option "*Making Modernities*" is currently under consideration for September 2005.

Students will explore key texts, cultural artifacts, and performative arts that illustrate social, political, philosophical, and scientific creativity in comparative perspective. A series of four integrated, interdisciplinary 6-credit courses includes lectures, seminars, tutorials, and a performative module. Courses explore the Ancient World of Greece and China, the late Medieval World of Renaissance Italy and Islam, the Early Modern Enlightenment and New World, and the Modern World of Western and Eastern Europe and Developing countries in Africa and Asia.

#### 3.5.2 Departmental Programs

Arts students, other than those registered in the Freshman Program, are required to have an approved program (Multi-track, Honours, Faculty), and to select their courses in each term with a view to timely completion of their degree and program require-

maximum of 12 credits in each of the following areas:

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additional work for a supplemental grade if these options are available, or repeat the course. Course substitution will be allowed only in special cases; students should consult their academic adviser.

Normally, students are permitted to repeat a failed course only once. (Failure is considered to be a grade of less than C or the administrative failures of J and KF.) If a required course is failed a second time, a student may appeal to the Associate Dean (Student Affairs) for permission to take the course a third time. If permission is denied by the Associate Dean and/or by the Committee on Student Standing, on appeal, the student must withdraw from the program. If the failed course is a complementary course required by the program, a student may choose to replace it with another appropriate complementary course. If a student chooses to substitute another complementary course for a complementary course in which a D was received, credit for the first course will still be given, but as an elective. If a student repeats a required course in which a D was received, credit will be given only once.

Full details of the course requirements for all programs offered are given in each unit's section together with the locations of departmental advisory offices, program directors and telephone numbers should further information be required.

### 3.6.1 Course Overlap

Students will not receive credit towards their degree for any course that overlaps in content with a course passed at McGill, CEGEP, at another university, or Advanced Placement exams, Advanced Level results, International Baccalaureate Diploma, or French Baccalaureate. It is the student's responsibility to consult the Student Affairs Office or the department offering the course as to whether or not credit can be obtained and to be aware of exclusion clauses specified in the course description in the Calendar.

**Credit for statistics courses** will be given with the following stipulations:

1. Credit will be given for ONLY ONE of the following introductory statistics courses: AEMA310, BIOL373, ECON227D1/ECON227D2, ECON257D1/ECON257D2, EPSC215, GEOG202, MATH203, MGCR271, PSYC204, SOCI350.
2. Credit will be given for ONLY ONE of the following intermediate statistics courses: AEMA411, ECON227D1/ECON227D2, ECON257D1/ECON257D2, GEOG351, MATH204, MGCR272, PSYC305, SOCI461.
3. Students who have already received credit for MATH324 or MATH 357, will NOT receive credit for any of the following: AEMA411, BIOL373, ECON227, ECON 227 D1/D2, ECON257D1/ECON257D2, EPSC215, MATH203, MATH204, MGCR271, MGCR272, PSYC204, PSYC305, SOCI350.
4. For 500-level statistics courses not listed above, students must consult a program adviser to ensure that no significant overlap exists. Where such overlap exists with a course for which the student has already received credit, credit for the 500-level course will not be allowed.
5. Credit for statistics courses offered by faculties other than Arts and Science requires the permission of the Associate Dean of Arts (Student Affairs).

Credit for computer courses will be subject to the following restrictions:

- 1) credit for Arts Educational Technology ARET150, which is offered by the Faculty of Arts Computer Laboratory, will not be given if taken concurrently with or after COMP100, COMP102, COMP202, COMP203, COMP208, COMP250, EDPT200 or MGCR331. For more information, please refer to section 12.2 "General Faculty Courses".
- 2) credit for courses offered by the School of Computer Science is governed by rules specified as "Notes" in the School's entry in the Faculty of Science section of the Calendar.
- 3) credit for computer courses offered by faculties other than Arts or Science requires the permission of the Associate Dean of Arts (Student Affairs).

### 3.6.2 Courses outside the Faculties of Arts and of Science

The following regulations apply to students in the Faculty of Arts who wish to take courses outside the Faculties of Arts and of Science:

- Regardless of their minimum credit requirement towards their B.A. degree, students are allowed a maximum of 12 credits in ELECTIVE and/or COMPLEMENTARY courses taken in faculties other than the Faculties of Arts and of Science.
- Students in certain designated programs that include a number of REQUIRED and COMPLEMENTARY courses in other faculties are permitted a maximum of 30 credits outside the Faculties of Arts and of Science. These programs are the Faculty Programs in Industrial Relations and in Environment, the Minor Concentration in Environment, the Joint Honours in Economics and Finance, the Minor in Management for students in programs in Economics, the Major and Minor Concentrations in Music, the Major Concentration in Geography (Urban Systems), the Minor Concentration in Educational Psychology, and the Minor in Education for Arts Students.

Any courses taught at McGill University may be used towards the maximum allowed with the following exceptions:

- Continuing Education: consult list of not-approved courses at [www.mcgill.ca/artscisao](http://www.mcgill.ca/artscisao).
- Distance Education: The Faculty is currently reviewing its policy on Distance Education courses. Please consult the Student Affairs Office for more information.
- For the purpose of this policy, courses taught in other faculties and specifically listed in the Arts or Science section of the printed Calendar are considered as courses taught in the Faculties of Arts and of Science.
- The maximum number of credits allowed will be strictly enforced.

### 3.6.3 Transfer Credit Policy for Courses Taken Outside the Faculties of Arts and of Science

Students who transfer from faculties outside the Faculties of Arts and of Science either at McGill or at another institution may transfer up to a maximum of 30 credits under the following conditions:

- Only courses passed with a grade of C or better will be transferred. Grades of C- are not acceptable. Grades of P or S are acceptable only if transferred from faculties within McGill. The letter grades applied by the former home institution take precedence over the numerical grades if provided.
- Decisions on whether a course is outside the Faculties of Arts and of Science will be based on the original faculty in which the course was taken.
- The Faculty is currently reviewing its policy on Distance Education courses. Please consult the Student Affairs Office for more information.
- Transfer credits for Continuing Education courses will be granted only if the courses can be used towards a degree program in a faculty other than Continuing Education at the original university.
- Transfer students will be allowed to take courses outside the Faculties of Arts and of Science at McGill only if they have transferred fewer than 12 credits, and then only up to a maximum of 12 credits.
- Transfer students who register for a Faculty of Arts program that requires additional credits outside the Faculties of Arts and of Science will be allowed to take only the number of credits outside the Faculties of Arts and of Science required to complete the program. These programs are the Faculty Programs in Industrial Relations and in Environment, the Minor Concentration in Environment, the Joint Honours in Economics and Finance, the Minor in Management for students in programs in Economics, the Major and Minor Concentrations in Music, the Major Concentration in Geography (Urban Systems), the Minor

Concentration in Educational Psychology, and the Minor in Education for Arts Students.

### 3.6.4 Courses Taken Under the Satisfactory/Unsatisfactory Option

Students may take one elective course per term that is graded under the Satisfactory/Unsatisfactory Option, to a maximum of 10% of their credits taken at McGill to fulfil their degree requirements. The decision to have an elective course graded as Satisfactory/Unsatisfactory must be made by students before the end of the Drop/Add period. For more information and restrictions, please consult “Courses Taken under the Satisfactory/Unsatisfactory (S/U) Option” on page 42.

### 3.6.5 Courses in English as a Second Language

ESL courses are only open to students whose primary language is not English and who have studied for fewer than five years in English-language secondary institutions. Students in the Faculty of Arts may take a maximum of 12 credits, including academic writing courses for non-anglophones.

### 3.6.6 Auditing of Courses

No auditing of courses is allowed at McGill University.

Students who fall into unsatisfactory standing at the end of the academic year will have their registration cancelled. They may not reregister in the Faculty. However, students who can provide proof of extenuating circumstances that affected their academic performance may appeal to the Associate Dean (Student Affairs) for readmission. For more information, students should consult the Student Affairs Office, Dawson Hall, or the Student Affairs Website [www.mcgill.ca/artscisao](http://www.mcgill.ca/artscisao).

Students who have an outstanding fee balance from a previous term or outstanding fines will not be permitted to register. In addition, students who have registered for the upcoming academic year, but who subsequently take summer courses without paying the fees, will have their registration cancelled. Registration will be denied until these debts are paid in full. Students must pay all debts before the end of the registration period to be permitted to register. Students with financial problems should consult the Student Aid Office, Brow1ndi84 Tw 1rmTw acysuilng f Tj 9.75 -9 TD 0.27056 Tc

## 4 Advising

Fall term academic advising for newly admitted students takes place during the week prior to the beginning of classes. Students newly admitted to the winter term should consult the Calendar of Dates for exact advising dates.

Students who need 96 or fewer credits to complete their degree requirements must consult an academic adviser in their proposed department of study to obtain advice and approval of their course selection. To facilitate program planning, they must present their transcripts and letters of admission. For a detailed description of advising and registration procedures, students should refer to *Welcome to McGill*, which they receive from the Admissions, Recruitment and Registrar's Office upon their acceptance, as well as the Student Affairs Website, [www.mcgill.ca/artscisao](http://www.mcgill.ca/artscisao).

Students who need 97-120 credits to complete their degree requirements will normally be registered in a Freshman Program until they complete their first year. They must consult an adviser in the Student Affairs Office to obtain advice and approval of their course selection. For a detailed description of advising and registration procedures, Freshman students should refer to *Welcome to McGill*, which they receive upon acceptance from the Admissions, Recruitment and Registrar's Office, as well as the Student Affairs Website, [www.mcgill.ca/artscisao](http://www.mcgill.ca/artscisao).

Academic advising for all returning students takes place in March for the coming academic year. For more information, students should refer to the Student Affairs Website, [www.mcgill.ca/artscisao](http://www.mcgill.ca/artscisao).

Advising is also available by e-mail. The address is [adviser.artsci@mcgill.ca](mailto:adviser.artsci@mcgill.ca).

## 5 Registration

All students register by Minerva, McGill's Web-based registration system.

New students register in August prior to the first day of classes. For detailed information about registration, please refer to “Registration” on page 41, *Welcome to McGill*, the Student Affairs Website [www.mcgill.ca/artscisao](http://www.mcgill.ca/artscisao), and to the Minerva Website [www.mcgill.ca/minerva](http://www.mcgill.ca/minerva).

Returning students register at the end of March, April and May for the coming academic year. For detailed information about registration, please refer to “Registration” on page 41, to the information on [www.mcgill.ca/artscisao](http://www.mcgill.ca/artscisao) and to the Minerva Website, [www.mcgill.ca/minerva](http://www.mcgill.ca/minerva).

one of them. For a complete listing, please see section 12.1 "First Year Seminars".

The First-Year Seminars offered by the Faculty of Science are also open to Arts students. For a complete listing, please see "Registration for First-Year Seminars" on page 296.

### **5.2.2 Registration in Multi-Term Courses**

Students who select a multi-term course are making a commit-

For courses in the Faculties of Arts and of Science, the supple-

1.50 and 1.99 and their TGPA is 2.50 or higher, although the TGPA requirement will not apply to the summer term.

- Students who were previously in interim unsatisfactory standing will be placed in probationary standing if their CGPA falls between 1.50 and 1.99 and their TGPA is 2.50 or higher.
- Students who were previously in unsatisfactory readmitted standing will be placed in probationary standing (fall or winter term) if their CGPA is less than 2.00, and if they satisfy relevant conditions specified in their letter of readmission.

#### Unsatisfactory Readmitted Standing

Students who were previously in unsatisfactory standing and who were readmitted to the Faculty by the Associate Dean (Student Affairs) or the Committee on Student Standing will have their standing changed to unsatisfactory readmitted standing. Their course load is specified in their letter of readmission as are the conditions they must meet to be allowed to continue in their program. They should see their departmental adviser to discuss their course selection.

#### Unsatisfactory/Interim Unsatisfactory Standing

Students in interim unsatisfactory standing may continue in their program, but should evaluate their course load and reduce it as appropriate. They are strongly advised to consult a departmental adviser, before the withdrawal deadlines, about their course selection for the winter term.

Students in unsatisfactory standing have failed to meet the minimum standards set by the Faculty. They may not continue in their program, and their registration will be cancelled.

Appeals for readmission by students in unsatisfactory standing should be addressed to the Associate Dean (Student Affairs) no later than July 15 for readmission to the fall term and November 15 for the winter term. Readmission will be considered only when proof of extenuating circumstances that affected academic performance can be provided (e.g., medical or other documentation). Students in unsatisfactory standing for the second time must withdraw permanently.

Normally supplemental examinations are not permitted; however, students in unsatisfactory standing may appeal to the Associate Dean (Student Affairs) for permission to write a supplemental examination, clearly stating the reasons for special consideration and providing proof as appropriate.

- Students will be placed in unsatisfactory standing (winter or summer term) or interim unsatisfactory standing (fall term) if their CGPA falls or remains below 1.50.
- Students who were previously in probationary, unsatisfactory readmitted, or interim unsatisfactory standing will be placed in unsatisfactory standing (fall or winter term) if their TGPA falls below 2.50 and their CGPA is below 2.00.
- Students who were previously in unsatisfactory standing and who were readmitted to the Faculty by the Associate Dean (Student Affairs) or the Committee on Student Standing and who have not at least satisfied the conditions to attain probationary standing that were specified in the letter of readmission will be placed in unsatisfactory standing.

#### Incomplete Standings

Standing awaits deferred exam.  
Must clear K's, L's or Supplementals.  
Standing Incomplete.

Students with incomplete standings in the winter or summer term may register for the fall term, but their standing must be resolved by the end of the course-change period for that term. Students whose incomplete standing changes to satisfactory, probationary, or interim unsatisfactory standing may continue in the program. Students whose standing changes to unsatisfactory standing may not continue in their program, and their registration will be cancelled.

Students whose standing changes to unsatisfactory and who wish to ask for permission to continue in their program must make a request to the Associate Dean (Student Affairs) as soon as they

are placed in unsatisfactory standing. Readmission will be considered only when proof of extenuating circumstances that affected academic performance can be provided (e.g., medical or other documentation).

Students whose standing is still incomplete by the end of course change period should immediately consult with the Student Affairs Office.

At the end of the winter term, students with a mark of K or L will be placed in the appropriate standing in June, if the outstanding mark in the course will not affect their result. Otherwise the standing decision will only be made once their incomplete marks have been cleared. For more information about incomplete grades please refer to "Incomplete Grades" on page 72.

## 10 Awards and Honourary Designations

### 10.1 Honours and First-Class Honours

Departments may recommend to the Faculty that graduating students registered in an Honours program be awarded *Honours*.

Department of Honours



- students must be among the top 10% of the Faculty. This calculation is based on the sessional GPA.

#### 10.4 Medals and Prizes

Various medals, scholarships, and prizes are open to continuing and graduating students. Full details of these are set out in the *Undergraduate Scholarships and Awards Calendar*, available from the Admissions, Recruitment and Registrar's Office or on the Web [www.mcgill.ca](http://www.mcgill.ca). No application is required except in the case of the Moyses Travelling Scholarships.

## 11 Programs in the Faculty

### 11.1 Major Concentrations

African Studies  
 Anthropology  
 Art History  
 Canadian Studies  
 Classics  
 Computing, Foundations of  
 [application required, see unit entry for information]  
 Contemporary German Studies  
 East Asian Studies  
 Economics  
 East Asian Studies

EconoHon6ulty

East Asian Studies TJ 0-9 TD 0.2606 To Economics and Finance Tw (Econ) 0.2425 Mu (-) 0.0989 Tw 61n Studies) TJ 0-9 TD 0.2606 To

### 11.3 Honours Programs

#### 11.4 Joint Honours Programs

There are two types of Joint Honours Programs available in the Faculty of Arts:

- fully integrated programs such as Mathematics and Computer Science, and Economics and Finance, and
- programs that are created by combining the Joint Honours Program components from two Arts disciplines. Students must register for both Joint Honours Program components. Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

Students can choose Joint Honours Program components from **any two** of the following disciplines:

### 11.2 Faculty Programs

Philosophy  
 Philosophy and Western Religions - new  
 Political Science  
 Religious Studies  
 Russian  
 Sociology  
 Women's Studies

### 11.5 Minor Concentrations

African Studies  
 Socio-Cultural Anthropology – see Anthropology  
 Anthropological Archaeology – see Anthropology  
 Art History  
 Behavioural Science [see Psychology]  
 Canadian Ethnic Studies  
 Canadian Studies  
 Catholic Studies  
 Classics  
 Computer Science  
 [application required, see unit entry for information]  
 East Asian Language and Literature  
 East Asian Cultural Studies  
 Advanced East Asian Studies  
 Economics  
 Educational Psychology  
 Education for Arts Students  
 English – Literature  
 English – Drama and Theatre  
 English – Cultural Studies  
 Foundations of Computing [see Computer Science]  
 Langue et littérature françaises – Langue française  
 Langue et littérature françaises – Lettres  
 Langue et littérature françaises – Lettres et traduction  
 Langue et littérature françaises – Langue et traduction  
 Langue et littérature françaises – Théorie et critique littéraires  
 Geographical Information Systems  
 Geography  
 Geography (Urban Systems)  
 German Language  
 German Literature  
 German Literature and Culture in Translation  
 Hispanic Languages  
 Hispanic Literature  
 History  
 History and Philosophy of Science  
 Humanistic Studies  
 International Development Studies  
 Italian Language and Literature  
 Italian Civilization  
 Jewish Studies  
 Jewish Law  
 Theoretical Linguistics  
 Applied Linguistics  
 Mathematics  
 Statistics [see Mathematics and Statistics]  
 Middle East Studies  
 Middle East Languages  
 Music  
 Music Technology  
 North American Studies  
 Philosophy  
 Philosophy and Western Religions -new  
 Political Science

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## 12 Academic Programs

### 12.1 First Year Seminars

See Course section for descriptions.

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### 12.2 General Faculty Courses

#### 12.2.1 Arts Educational Technology (ARET)

The Faculty of Arts Computer Services (FACS) offers an elementary computing course, ARET150 (1 credit).

FACS also operates the Faculty of Arts Computer Laboratory which offers a wide range of services to the Faculty. The labs provide access to the internet, the library catalogue and Canadian Census data, and some other electronic data stored in various locations on campus. The Teaching Lab provides a venue for training in specialized graphic and statistical software, and for other course-related computerized teaching tools. Standard word-processing, statistical and spread-sheet software is available, as well as specialized desk-top publishing software. Laser printing, scanning and colour-printing are available for nominal fees.

**NB:** ARET150 is **not open to** Science, Management or Engineering students, or to Arts students registered in Computer Science programs, or in Mathematics and Computer Science programs. **Credit will not be given** for ARET150 if taken concurrently with or after COMP100, COMP102, COMP202, COMP203, COMP208, COMP250, EDPT200 or MGCR331.

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### 12.3 Faculty of Arts Internship Program

Several departments in the Faculty of Arts offer undergraduate students the opportunity to earn university credit while gaining experience in areas relevant to their fields of study. Open to U2 and U3 students, normally after completing 30 credits of a 90 credit program or 45 credits of a 96-120 credit program, normally with a minimum CGPA of 2.7, and permission of the departmental Internship Advisor. Arts internships involve a minimum of 150 hours of work with an approved host institution or organization. Students are required to submit a major topical paper that discusses an aspect of the internship from academic perspective.

For more information about the Faculty of Arts Internship Program: [www.mcgill.ca/arts-internships](http://www.mcgill.ca/arts-internships).





**MAJOR CONCENTRATION**

The Major Concentration is especially appropriate for students who aim to take courses across several sub-disciplinary or topical concentrations, and for whom specialization is premature. There are no prerequisites for admission to the Major Concentration in Anthropology. Students are encouraged to take a course in quantitative methods (listed under the Honours program below), but this course cannot count as part of this Concentration.

**MAJOR CONCENTRATION IN ANTHROPOLOGY** (36 credits)  
[Addition to course lists under consideration for September 2004. Go to [www.mcgill.ca](http://www.mcgill.ca) (Course Calendars) in July for details.]

**Complementary Courses** (36 credits)  
6 credits selected from the 200-level courses in Anthropology

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methods and theory by taking one history of theory course (ANTH352 or ANTH359), two courses dealing with social and cultural theory (ANTH308, ANTH314, ANTH320, ANTH324, ANTH333, ANTH355 or ANTH412), one course in anthropological research (ANTH358), one course in research methods (ANTH357 or ANTH461) and one course in quantitative methods (SOC1350, PSYC204, ECON317, GEOG 202, or MATH203) for credit as an Anthropology course. In order to acquire a desirable regional background, students are encouraged to take two area courses, ideally pertaining to two distinct geographical concentrations.

Each student has the opportunity to construct within the Honours program a concentration focused on a particular field of interest, such as prehistory and evolution, cultural systems, social and political organization, or on a particular geographical area, such as Africa, North America, Central and South America, Mediterranean, Middle East, South, East or Southeast Asia. A single paper may be submitted for two courses at the 300-level or above, provided that prior written permission has been received from the professors teaching both courses. It is expected that such papers would be more substantial than one submitted for either course.

In the *first year* of the program, students should take introductory courses from a range of topics available at the 200-level. Some 300-level courses may also be taken. The objective of the first year is the development of a grasp of the anthropological discipline, and an exposure to a broad selection of topics.

In the *second year* of the program, students should acquire knowledge of anthropological theories and methods, primarily by taking core courses and other relevant offerings. They should also begin to consider a substantive topic and geographical region of specialization.

The *third year* of the program should advance the process of specialization within the discipline, through 400-level seminars and preparing an Honours Thesis, based on independent research. Permission of an adviser is necessary in order to register for an Honours Thesis in the fall, so students should approach staff before that time to discuss possible topics and gain approval. The required thesis must be a six-credit course. It may be completed in a single term (ANTH490 or ANTH491) or in two consecutive terms (ANTH492D1/ANTH492D2).

According to Faculty regulations, Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

**JOINT HONOURS – ANTHROPOLOGY COMPONENT** (36 credits)**HONOURS IN ANTHROPOLOGY** (60 credits)

Nine of the 60 credits of the Honours program can be courses at the 300 level or above given by other departments, if they are directly related to the student's focus of study within Anthropology and are approved by the student's adviser on the Undergraduate Committee of the Anthropology Department.

The following guidelines represent a program recommended, though not required, for Honours students. It is recommended that students gain a comprehensive background in anthropological

Students interested in Joint Honours should consult an adviser in the other department for specific course requirements. A form will be supplied by the Anthropology Department to keep track of courses required by both departments for the program selected.

Students who wish to study at the Honours level in two disciplines can combine Joint Honours Program components from any two Arts disciplines, see section 11.4 "Joint Honours Programs" for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

For the Honours project, students register for a 3credit "Special Topic" course (e.g., ANTH480, ANTH481, ANTH482, ANTH483, ANTH484, or ANTH485) in Anthropology, and a similar course ("Honours Thesis" or "Special Topic") in the other department. For information on the requirements for the other dis-



Honours students must maintain a GPA of 3.30 in their program courses, and according to Faculty regulations, a minimum CGPA of 3.00 in general. In addition to the above requirements, Honours students, according to Faculty regulations, also must complete at least a Minor Concentration (18 credits) in another academic unit. NB: For students accepted into the Honours program for 1999/2000 and later: Faculty regulations state that Honours students who have not met the Honours requirements at graduation will not be able to graduate with a Major Concentration unless they have completed the requirements for both a Major Concentration and a Minor Concentration in another discipline.

Honours students who plan to proceed to graduate work are strongly encouraged to study a third language other than English and French.

**JOINT HONOURS – ART HISTORY COMPONENT** (36 credits)  
[Program revisions are under consideration for September 2004. Go to [www.mcgill.ca](http://www.mcgill.ca) (Course Calendars) in July for details.]

There are no pre-university requirements for this program.

Qualified students may submit proposals for Joint Honours in Art History and other related subjects to the Chairs of the departments concerned.

**Required Course** (3 credits)

ARTH203 (3) Methods in Art History

**Complementary Courses** (33 credits)

27 credits in Art History to be chosen in the following manner:

minimum 3 credits in Architectural History (II)

minimum 3 credits in Medieval & Renaissance Art (III)

minimum 3 credits in Baroque to 19th Century European Art (IV)

minimum 3 credits in Contemporary Art, Media and Visual Culture (V)

6 credits in Art History at the 400 level

Note: courses in studio practice cannot be counted towards the Joint Honours requirements.

Joint Honours students must maintain a GPA of 3.30 in their program courses and, according to Faculty regulations, a minimum CGPA of 3.00 in general.

Students who wish to study at the Honours level in two disciplines can combine Joint Honours Program components from any two Arts disciplines, see section 11.4 "Joint Honours Programs" for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their research project (if applicable).

**ART HISTORY COURSE FIELDS**

Art History courses are divided into five fields:

I Methodologies

II Architectural History

III Medieval and Renaissance Art

IV Baroque to 19th Century European Art

V Contemporary Art, Media and Visual Culture

**I. Methodologies**

ARTH203 (3) Methods in Art History

ARTH351 (3) Vision and Visuality in Art History

ARTH352 (3) Feminism in Art and Art History

ARTH400 (3) Selected Methods in Art History

ARTH500 (3) Pro-Seminar

**II. Architectural History**

ARTH204 (3) Introduction to Medieval Art and Architecture

ARTH314 (3) The Medieval City

ARTH332 (3) Italian Renaissance Architecture

ARTH333 (3) Italian Baroque Architecture

ARTH340 (3) The Gothic Cathedral

ARTH341 (3) (3)

ARTH333 Italian Baroque Architecture

ARTH333 Italian Baroque Architecture

(3) f2 -0.112 Media and Visual 6 /F2 7.5 T9 0.2404 Nor Twrne to 19 TD i92

ARTH204 (3) Introductitalian Baroque Architecture

ARTH400 (3)65Tj 0 -9 TD00.2688 94 Tc minimum 3 credits in Archi1oque Architecture

ARTH314 (3) ARTH314 (3)922j 18 0 T27293 Tc -ghits in Medieval &ini Tc ity in Art Hure

(3)

ARTH332 (3) McGill University Undergraduate Programs 2001-2005

ARTH314 (3) McGill University Undergraduate Programs 2001-2005

(3)

**Note:** In addition to architectural courses given by the Department, Program students are encouraged to consider courses given in the School of Architecture, and the Departments of East Asian Studies and Philosophy which may, upon consultation with the Department, be regarded as fulfilling part of the requirements.

ARCH252 Introduction to Architectural History 1 [II]

ARCH253 Introduction to Architectural History 2 [II]

EAST303 Current Topics: Chinese Studies 1 [III]

PHIL336 Aesthetics [I]

PHIL436 Aesthetics 2 [I]

**12.7 Canadian Ethnic Studies Minor Concentration**

*Chair*

Morton Weinfeld, Department of Sociology,

[morton.weinfeld@mcgill.ca](mailto:morton.weinfeld@mcgill.ca)

Leacock 714, (514) 398-6853

*Advisory Committee*

G. Burgos (*Sociology*), Ian H. Henderson (*Religious Studies*),

A. Hsia (*German Studies*), S. T. Saideman (*Political Science*),

J. Torczyner (*Social Work*), U. Turgay (*Islamic Studies*)

The Minor Concentration in Canadian Ethnic Studies is an interdisciplinary program administered by the Faculty of Arts. It is affiliated with the McGill Institute for the Study of Canada. The Concentration can be taken in conjunction with any primary program in Arts or Science. It offers to undergraduate students a structured framework in which to appreciate the range of social scientific approaches to the study of ethnic diversity in Canada. The term "ethnic" is used in a very broad sense, to include the full spectrum of ethnic, cultural, aboriginal, linguistic, and racial groups in Canada.

The disciplines featured in the program are Sociology, Anthropology, Geography, History, and Political Science. In special cases, courses taken from other Arts departments, and other units at McGill, may be considered (e.g., Social Work, Education), with the consent of the Chair. The same is true of new relevant courses not yet listed below.

Apart from the intrinsic interest and importance of the subject, the Concentration may be of practical use. Students pursuing further graduate and professional training or employment in a variety of areas will find familiarity with issues relating to cultural diversity to be an asset. These include the fields of health, social services, education, law, law enforcement, human resources and personnel; occupations in government agencies, in ethnocultural and other non-governmental organizations; and graduate work in all the social sciences.

The Canadian Ethnic Studies Concentration will also sponsor programs of interest for the McGill Community during the course of the year. Students interested in registering in this program should contact the Chair.

#### **MINOR CONCENTRATION IN CANADIAN ETHNIC STUDIES**

(18 credits)

**Required Courses** (9 credits)

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Joint Honours students must maintain a GPA of 3.30 in their program courses and, according to Faculty regulations, a minimum CGPA of 3.00 in general.

Students who wish to study at the Honours level in two disciplines can combine Joint Honours Program components from any two Arts disciplines, see section 11.4 "Joint Honours Programs" for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

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### 12.9 Catholic Studies Program (CATH)

Website: [www.mcgill.ca/catholicstudies](http://www.mcgill.ca/catholicstudies)

*Advisory Committee Chair* — Professor David Williams,

(514) 393-5771 or (514) 393-2900 (TNS 2106734531) [David.Williams@mcgill.ca](mailto:David.Williams@mcgill.ca)

#### **JOINT HONOURS – CANADIAN STUDIES COMPONENT**

(36credits)

Students with a minimum program GPA of 3.30 in Canadian Studies Required and Complementary courses may apply to the Joint Honours Program in Canadian Studies. Forms are available from the MISC. There are two application deadlines, January 31 and the last day of classes for the Winter term.

**Required Courses** (9 credits)

**Complementary Courses** (27 credits)

- EDER204 (3) Man Before Reality
- EDER207 (3) 'Who is Christ?'
- EDER209 (3) Search for Authenticity
- EDER394 (3) Philosophy of God
- EDER396 (3) Seminar: Contemporary Theology
- EDER491 (3) Theological Themes
- EDER495 (3) The Eucharist

**English**

- ENGL204 (3) English Literature and the Bible
- ENGL357 (3) Chaucer - Canterbury Tales
- ENGL424 (3) Irish Literature

**French Language and Literature**

- FREN312 (3) Francophonie 2
- FREN329 (3) Civilisation québécoise 2
- FREN252 (3) Littérature Québécoise
- FREN455 (3) La littérature médiévale 1

**Hispanic Studies**

- HISP432 (3) Literature - Discovery and Exploration Spain  
New World

**Italian Studies**

- ITAL320 (3) Manzoni: *Novel and Nationhood*
- ITAL410 (3) Modern Italian Literature
- ITAL461 (3) Dante: *The Divine Comedy*

**Music**

- MUHL399 (3) Church Music

**Religious Studies**

- RELG203 (3) Bible and Western Culture
- RELG210 (3) Jesus of Nazareth
- RELG311 (3) New Testament Studies 1
- RELG312 (3) New Testament Studies 2
- RELG341 (3) Introduction: Philosophy of Religion
- RELG377 (3) Religious Controversies

**Group II: Catholic Social and Intellectual Traditions**

**East Asian Studies**

- EAST385 (3) Society and Community in Korea

**Education**

- EDER208 (3) Philosophy of Human Nature
- EDER394 (3) Philosophy of God
- EDER395 (3) Moral Values and Human Action
- EDER494 (3) Ethics in Practice

**History**

- HIST319 (3) The Scientific Revolution
- HIST320 (3) European Thought and Culture 1
- HIST321 (3) European Thought and Culture 2
- HIST324 (3) History of Ireland
- HIST325 (3) Renaissance-Reformation Europe
- HIST336 (3)

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Europ469DNew Testament Testament

Testament Studies

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**12.10 Classics Program (CLAS)**

Stephen Leacock Building, Room 608  
855 Sherbrooke Street West  
Montreal, QC H3A2T7

Telephone: (514) 398-3975

Fax: (514) 398-8365

Website: [www.arts.mcgill.ca/programs/history/classics](http://www.arts.mcgill.ca/programs/history/classics)

E-mail: [undergrad.history@mcgill.ca](mailto:undergrad.history@mcgill.ca)

*Emeritus Professor*

Paolo Vivante (*John MacNaughton Emeritus Professor of Classics*)

*Professor*

T. Wade Richardson; B.A.(McG.), M.A., Ph.D.(Harv.)

**Classics for the Non-Specialist**

The Major and Minor Concentrations provide a useful complement for students in the arts and sciences. Several courses are offered which do not require a knowledge of Ancient Greek or Latin, suitable for students in other programs such as Anthropology, Art History, English, Languages, Linguistics, Philosophy, Political Science, Religious Studies.

Students of languages, literature and history may be interested in the introductory language courses offered: Latin, Ancient Greek and Modern Greek.

All courses in the Classics Program belong to one of three areas: Ancient Greek, Latin, and Ancient Greek and Roman History and Civilization.

All requirements are minimum requirements; students may take further courses in Classics if they so wish, in consultation with an adviser.

**Classics for the Specialist**

The Honours program is suitable for students who wish to pursue careers in the Classical languages and literature.

**The following outlines represent Departmental requirements only. Each student's program must also satisfy the regulations imposed by the Faculty of Arts. Please consult the Faculty General Information section.**

**MINOR CONCENTRATION IN CLASSICS** (Expandable)

Studies (6 credits) 2

In order to give students freedom to choose suitable concentrations, all courses in Classics programs are placed into the category "Complementary Courses".

**Complementary Courses** (18 credits)

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**MAJOR CONCENTRATION IN CLASSICS** (36 credits)

In order to give students freedom to choose suitable concentrations, all courses in Classics programs are placed into the category "Complementary Courses".

**Complementary Courses** (36 credits)

**HONOURS IN CLASSICS (60 credits)**

In order to give students freedom to choose suitable concentrations, all courses in Classics programs are placed into the category “Complementary Courses”.

**Classical Languages and Literatures  
Complementary Courses (60 credits)**

According to Faculty regulations, Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

**JOINT HONOURS – CLASSICS COMPONENT (36 credits)**

Thirty-six credits in Classics and related courses selected with the approval of the appropriate Undergraduate Adviser and 36 credits in the courses of another department. The 36 credits in Classics and related courses must include a sequence of at least 18 credits in Ancient Greek or Latin language and literature in the original, with a minimum of 3 credits at the 400 or 500 levels.

According to Faculty regulations, Joint Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

Students who wish to study at the Honours level in two disciplines can combine Joint Honours Program components from any two Arts disciplines; see section 11.4 “Joint Honours Programs” for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable). For Classics, see the Undergraduate Adviser, L821, (514)398-6206.

**Notes:**

1. Students who intend to pursue graduate studies in Classics are advised to follow an Honours program.
2. Honours students must maintain a CGPA of 3.00 or higher.
3. Courses considered to be related to Classics are those given by the Departments of English, History, Linguistics, Philosophy, Political Science, and the Faculty of Religious Studies 94 Tc -0.0ihe FCic 0 Tw (3 , (adviswhiSci3.2205 T-ms.) Tj49 are those givu3305odf.8

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**Required Courses** (12 credits)

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EAST544 (3) Classical Japanese 2

(Admission to language courses is subject to placement tests.)

6 - 18 credits, at least 3 of which must be at the 400 or 500 level,  
in East Asian Culture and Literature, chosen from the following

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HONOURS IN EAST ASIAN STUDIES (6 credits)

[Program revisions are under consideration for September 2004.  
Go to [www.mcgill.ca](http://www.mcgill.ca) (Course Calendars) in July for details.]

**Required Courses** (6 credits)

**Complementary Courses** (54 credits)

**East Asian Studies courses offered within East Asian Studies  
and in other Departments and Faculties**

**Anthropology**

Honours students are required to maintain a CGPA of 3.00 or  
above and a program GPA of 3.00 or above.



**JOINT HONOURS – EAST ASIAN STUDIES COMPONENT**

(36credits)

**Required Courses** (3 credits)**Complementary Courses** (33 credits)

Students who wish to study at the Honours level in two disciplines can combine Joint Honours Program components from any two Arts disciplines; see section 11.4 “Joint Honours Programs” for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

According to Faculty regulations, Joint Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

James Engle-Warnick; B.S.(Akron), MBA (Carnegie Melon), Ph.D. (Pittsburgh)

Sonia Laszlo; B.A. (Ottawa), M.A. (Western Ontario), Ph.D. (Toronto)

Daniel Parent; B.A., M.A.(Laval), Ph.D.(Montr.) (*William Dawson Scholar*)

Nurlan Turdaliev; B.Sc.(Moscow), M.A.(Ark.), Ph.D.(Minn.)

Licun Xue; B.Eng. (Tianjin), M.Eng. (Tianjin), M.A. (McG), Ph.D. (McGill)

*Faculty Lecturers*

Paul Dickinson, Kenneth MacKenzie

**GENERAL**

For more up-to-date, detailed information about the Department and its programs, please visit our Websites as follows:

[www.mcgill.ca/economics/programs/majorminor/](http://www.mcgill.ca/economics/programs/majorminor/) for information on the Major and Minor programs, [www.mcgill.ca/economics/programs/majorminor/#MAJOR](http://www.mcgill.ca/economics/programs/majorminor/#MAJOR) for information on the Major concentrations, [www.mcgill.ca/economics/programs/honours/](http://www.mcgill.ca/economics/programs/honours/) for information on the Honours program, and [www.mcgill.ca/economics/programs/majorminor/#MANAGEMENT](http://www.mcgill.ca/economics/programs/majorminor/#MANAGEMENT) for information on the Minor program in Management.

U0 students interested in economics should i Tw (William -102.75D 0.2955

**12.14 Economics (ECON)**

Room 443, Stephen Leacock Building  
855 Sherbrooke Street West  
Montreal, QC H3A2T7

Telephone: (514) 398-4850

Fax: (514) 398-4938

E-mail: [undergraduate.economics@mcgill.ca](mailto:undergraduate.economics@mcgill.ca)

Website: [www.mcgill.ca/economics](http://www.mcgill.ca/economics)

*Chair* — Christopher Green

*Professors Emeritus*

Irving Brecher; B.A.(McG.), M.A., Ph.D.(Harv.)

Kari Levitt; B.Sc.(Lond.), M.A.(Tor.)

*Professors*

Robert B. Cairns; B.Sc.(Tor.), Ph.D.(M.I.T.)

Russell Davidson; B.Sc., Ph.D.(Glas.), Ph.D.(U.B.C.) (*Canada Research Chair*)

Antal Deutsch; B.Com.(Sir G.Wms.), Ph.D.(McG.)

John Galbraith; B.A.(Qu.), M.Phil., D.Phil.(Oxon.) (*James McGill Professor*)

Christopher Green; M.A.(Conn.), Ph.D.(Wis.)

Joseph Greenberg; B.A., M.A., Ph.D.(Hebrew) (*Dow Professor of Political Economy*)

Jagdish Handa; B.Sc.(Lond.), Ph.D.(Johns H.)

Ngo Van Long; B.Ec.(LaT.), Ph.D.(A.N.U.) (*James McGill Professor*)

Robin Thomas Naylor; B.A.(Tor.), M.Sc.(Lond.), Ph.D.(Cantab.)

J.C. Robin Rowley; B.Sc., M.Sc., Ph.D.(Lond.)

Victoria Zinde-Walsh; M.A.(Wat.), M.Sc., Ph.D.(Moscow St.)

*Associate Professors*

Myron Frankman; B.Mgt.E.(Renss.), Ph.D.(Texas)

Franque Grimard; B.A.(York), Ph.D.(Princeton)

George Grantham; B.A.(Antioch), M.A., Ph.D.(Yale)

John Iton; B.A.(McG.), Ph.D.(Johns H.)

C. John Kurien; B.A.(Kerala), M.A., Ph.D.(Vanderbilt)

Mary E. Mackinnon; B.A.(Queen's), M.Phil, D.Phil.(Oxon.)

Christopher T.S. Ragan; B.A.(Vic.), M.A.(Queen's), Ph.D.(M.I.T.)

Lee Soderstrom; B.A., Ph.D.(Calif.)

Thomas Velk; M.S., Ph.D.(Wis.)

Alexander Vicas; B.Com.(McG.), M.A., Ph.D.(Prin.)

William Watson; B.A.(McG.), Ph.D.(Yale)

*Assistant Professors*

Hassan Berchekroun; Diplôme d'ingénieur d'état (Ecole

Mohamedia des Ingénieurs, Morocco), Ph.D.(Laval)

**MINOR CONCENTRATION IN ECONOMICS – STREAM III**

**For Management Students** (18 credits)

**Complementary Courses** (18 credits)

**MINOR CONCENTRATION IN ECONOMICS – STREAM IV**

**(Combinable – for students already registered in a Major Concentration in Economics)** (18 credits)

Prerequisites: None

Students who are registered in a Major Concentration in

Economics and a Minor Concentration in another unit may comA9io 0.2o2o2o2o2o2REAM IM.2488 Tc -0.08Mi Tj -1149 Eca 14y1



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**Complementary Courses** (12 credits)**MAJOR CONCENTRATIONS**

Major Concentration students are required to take a 36-credit program, the specific content of which differs in the three options available. Each student must choose one of these options.

Faculty policy states that, after or while taking a 36-credit Major Concentration in the English Department and an 18-credit Minor Concentration in another department, students may take an additional 18-credit Minor Concentration in English.

For the current lists of complementary courses referred to in the Major Concentrations:

- Major Authors,
-

9 credits chosen from among Department offerings.

At least 6 complementary credits must be at the 500 level.  
A maximum of 9 credits may be from other departments with the signed permission of the adviser.

**HONOURS IN ENGLISH (DRAMA AND THEATRE) (60credits)**

**Required Courses** (15 credits)

ENGL230\* (3)

**JOINT HONOURS IN ENGLISH (LITERATURE) (36credits)**

**Complementary Courses** (45 credits)

**HONOURS IN ENGLISH (CULTURAL STUDIES) (60credits)**

**Required Courses** (15 credits)

**Complementary Courses** (45 credits)

**JOINT HONOURS PROGRAM – ENGLISH COMPONENT (36credits)**

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours Program components from two Arts disciplines; see section 11.4 "Joint Honours Programs" for a list of available programs.

Applications to do a Joint Honours Program in English and another subject in the Faculty of Arts should be submitted once a minimum of 9credits, and no more than 18 credits, have been completed in English. **Application Deadlines:** Application dates for Joint Honours in English: either by the end of January (by which time first-term courses are completed and the grades are available), or at the same time as the Honours application date, typically in mid-April. (Only students who will have completed more than 18credits in English by the end of January may apply in the Fall.)

Applications will be considered by the Department's Honours Committee on the basis of the student's GPA in English courses, at a minimum of 3.50; the application form available in the Department's General Office (Arts 155); and the specific submissions described and required by that form. The latter will take some time to prepare, and allowance for that (at least several weeks) must be made in order to meet the application deadline. **Incomplete applications will not be considered.**

Acceptance into Joint Honours English may be conditional on particular revisions to the Program Course Proposal to be submitted with the application form, and which then goes on file in the General Office with the other submissions. Only course choices that are appropriate, given the nature of the Joint Honours program proposed, including the Honours Essay if applicable, will be approved. In order to graduate with Joint Honours, all subsequent course substitutions in the initially approved Joint Honours English program must be endorsed by the Joint Honours adviser at the point they are made (i.e. at the start of each term) and entered on the Program Course Proposal with the adviser's initialed approval.

The maintenance of a 3.50 GPA in English courses is required for continuation in Joint Honours. (N.B. students already admitted to Joint Honours on the basis of a minimum CGPA of 3.40 must maintain a 3.40 program GPA for continuation and graduation in Joint Honours.)

Each academic year there is a special adviser for Joint Honours students, and the receptionist in the General Office can provide his or her name and contact information. The Department's Website provides additional information on the Joint Honours program and applications, and that should also be consulted prior to contacting the adviser.

**Joint Honours Program Descriptions**

*400 level.* All Joint Honours students' programs of study shall include 6 credits of study at the 400 level or above.

*Advanced study.* All Joint Honours students shall undertake at least 6 credits of advanced study, and in order of preference this consists of:

- a. ENGL491D1/ENGL491D2, an Honours Essay, or
- b. Two 500-level courses

(In very rare cases, a third alternative may be approved at the discretion of the Joint Honours adviser, but only when it is formally recommended for the joint subject according to the description of that Joint Honours program in the University Calendar, as for, e.g., Anthropology: 3 credits of essay work combined with 3 credits in the joint subject, to create a joint essay.)

**JOINT HONOURS IN ENGLISH (LITERATURE) (36 credits)**

**Required Courses** (6 credits)

**Complementary Courses** (30 credits)

**JOINT HONOURS IN ENGLISH (DRAMA AND THEATRE)**  
(36 credits)**Required Courses** (9 credits)**Complementary Courses** (27 credits)**JOINT HONOURS IN ENGLISH (CULTURAL STUDIES)**  
(36 credits)**Required Courses** (9 credits)**Complementary Courses** (27 credits)

**MAJOR CONCENTRATION AND HONOURS STUDENTS may choose courses from the following list as part of their programs; for further details see relevant pages of this Calendar.**

**Department of English Student Association (DESA)**

DESA is the representative body for the students of the English Department at McGill. Any student taking one or more courses in the Department is automatically a member. For more information, please read the description on the Department's Website.

**12.18 English as a Second Language (ESLN)**

English and French Language Centre  
688 Sherbrooke Street West, 2nd Floor  
Montreal, QC H3A 3R1

Telephone: (514) 398-4172  
Fax: (514) 398-5449  
Website: [www.mcgill.ca/eflc](http://www.mcgill.ca/eflc)

*Director* — Hélène Riel-Salvatore

*Lecturers*

Robert Myles; B.A., M.A.(Car.), Ph.D.(McG.)  
Carolyn Samuel; B.A., Dip.Ed.(McG.), M.Ed.(OISE, Tor.)

Full-time, non-anglophone students whose secondary education (high school and CEGEP) has been in institutions where the primary language of instruction was not English, or who have attended English language secondary institutions (high school and CEGEP) for four years or less, are eligible to take up to 12 credits in English as a Second Language (ESL). All courses require **Placement Tests and departmental permission**.

Placement tests in 2004 will be August 26, 27, 30, 31 and September 1, 2 and 3, in the Arts Multimedia Language Facility (AMLF) in the basement of the McLennan-Redpath Library, 3459 McTavish Street and subsequently upon request at the AMLF until end of Drop/Add period. Tests begin at 10:00, 11:30, 13:00 and 14:30. Registration is on a first come, first served basis.

Departmental permission will be given after Placement tests have been evaluated. **All students are required to attend class without fail during the first two weeks, in order to retain their places.**

**12.19 English for Academic Purposes (EFRL)**

English and French Language Centre  
688 Sherbrooke Street West, 2nd Floor  
Montreal, QC H3A 3R1

Telephone: (514) 398-4172  
Fax: (514) 398-5449  
Website: [www.mcgill.ca/eflc](http://www.mcgill.ca/eflc)

*Director* — Hélène Riel-Salvatore

*Lecturers*

Robert Myles; B.A., M.A.(Car.), Ph.D.(McG.)  
Carolyn Samuel; B.A., Dip.Ed.(McG.), M.Ed.(OISE, Tor.)

The English for Academic Purposes (EAP) course, EFRL250 Research Essay & Rhetoric, develops *academic* writing and critical thinking skills.

The course is for native speakers of English. Near-native English speakers may also take the course, but students with less than advanced English Second Language (ESL) skills are advised to take the academic writing courses listed under ESLN (English as a Second Language) in this Calendar.

**Entrance Test:** Short composition first day of class. Students with less than advanced ESL skills and students with serious writing problems will be advised on other courses they might take.

**12.20 Environment**

Arts students who are interested in studying the environment should refer to the McGill School of Environment section where they will find information conc 257ses listed under ESLN (English as

Geneviève Leidelinger; L.ès L.(Nice), M.A.(Vt.)  
Suzanne Pellerin; B.A., M.A.(Laval), D.E.A.(Metz)  
Hélène Poulin-Mignault; B.A., M.A.(McG.)  
Hélène Riel-Salvatore; B.A.(McG.), M.A.(Harv.)  
Jean-Yves Richard; B.A., M.A.(Laval)

Courses in French as a Second Language are open to students in any program who need to develop their oral and written skills in the French language either for use in their future professional career or as preparation for more advanced studies in French linguistics, literature, civilization, translation or in Canadian studies.

Arts Freshman students enrolled in the Option 2: En français may select up to a maximum of 18 credits from FRSL courses.

#### **ADMISSION AND REGISTRATION**

**A Placement Test** is required before admission to any FRSL course, including Beginners' French. *All students should bring a photocopy of their transcript from high school or CEGEP. Departmental permission will be given after the student's level has been determined by a placement test.* Where students' levels in French make admission to this Department inappropriate, they will be directed to the Département de langue et littérature françaises.

No auditors are accepted.

Placement tests and registration take place at 688 Sherbrooke Street West, 2nd floor at 09:00, 10:00, 11:00, 14:00 and 15:00 on August 25, 26, 30 and 31. No testing on August 27. Only a limited number of students are tested at a time, beginning each hour. It is important to arrive on the hour.

**Registration is limited and Departmental permission is absolutely required.** *As numbers are limited in all courses, students who meet the required standard for any given course are admitted on a first come, first served basis.*

**The Department reserves the right to transfer a student to another course if the level is inappropriate. Any absence from class during the Course Change period may lead to losing one's place to another student.**

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#### **12.22 French Language and Literature (FREN)**

Pavillon Peterson  
3460, rue McTavish  
Montréal, QC H3A 1X9  
Secrétariat Général – Tél. (514) 398-6881  
Études de 1er cycle – Tél: (514) 398-6885  
Fax: (514) 398-8557  
Site web: [www.arts.mcgill.ca/programs/french](http://www.arts.mcgill.ca/programs/french)

*Chair* — François Ricard

*Professors*

Marc Angenot; L.Phil.& Lett., Dr.Phil.& Lett.(Bru0.14) 398-6885



**CONCENTRATION MINEURE LANGUE ET LITTÉRATURE  
FRANÇAISES – LANGUE ET TRADUCTION**  
(18 crédits) (Ne peut pas être convertie en Concentration majeure)  
**Cours complémentaires** (18 crédits)

**CONCENTRATION MAJEURE LANGUE ET LITTÉRATURE  
FRANÇAISES – LETTRES** (36 crédits)  
**Cours obligatoires** (9 crédits)

**Cours complémentaires** (27 crédits)

**CONCENTRATION MINEURE LANGUE ET LITTÉRATURE  
FRANÇAISES – LETTRES** (18 crédits)  
(Convertible en Concentration majeure Lettres)  
**Cours obligatoires** (9 crédits)

**CONCENTRATION MAJEURE LANGUE ET LITTÉRATURE  
FRANÇAISES – LETTRES ET TRADUCTION** (36 crédits)  
**Cours obligatoires** (15 crédits)

**Cours complémentaires** (9 crédits)

**Cours complémentaires** (21 crédits)

**CONCENTRATION MINEURE LANGUE ET LITTÉRATURE  
FRANÇAISES – LETTRES ET TRADUCTION** (18 crédits)  
(Convertible en Concentration majeure Lettres et traduction)  
**Cours obligatoires** (9 crédits)

**Cours complémentaires** (9 crédits)

**CONCENTRATION MAJEURE LANGUE ET LITTÉRATURE  
FRANÇAISES – THÉORIE ET CRITIQUE LITTÉRAIRES** (36 crédits)  
**Cours obligatoires** (15 crédits)

**CONCENTRATION MINEURE LANGUE ET LITTÉRATURE  
FRANÇAISES – THÉORIE ET CRITIQUE LITTÉRAIRES**  
(18 crédits) (Convertible en Concentration majeure Lettres)  
**Cours obligatoires** (6 crédits)

**Cours complémentaires** (12 crédits)

**PROGRAMME DE SPÉCIALISATION ("HONOURS") ET DE  
DOUBLE SPÉCIALISATION ("JOINT HONOURS")**

L'obtention d'un baccalauréat avec Spécialisation ou Double Spécialisation est obligatoire pour l'admission dans les programmes de 2e et 3e cycles (maîtrise et doctorat).

En Spécialisation, les étudiants doivent conserver au minimum une moyenne de B pour l'ensemble des cours du programme et maintenir un CGPA de 3.00.

Les étudiants qui souhaitent poursuivre leurs études en spécia-

## 12.23 Geography (GEOG)

Burnside Hall, Room 705  
805 Sherbrooke Street West  
Montreal, QC H3A 2K6

Telephone: (514) 398-4951 (or leave message 398-4111)

Fax: (514) 398-7437

Website: [www.geog.mcgill.ca](http://www.geog.mcgill.ca)

**The Geography Department offers programs in both Arts and Science. Consult the Science entry “Geography (GEOG)” on page 323 for B.Sc. Geography programs, a list of teaching staff, an outline of the nature of Geography and the opportunities for study in this discipline.**

Students planning to enter a B.A. program in Geography or a Joint Honours program should telephone (514) 398-4951 (or leave a message at 398-4111) for an appointment with a departmental adviser. Students should consult the Undergraduate information on the departmental website.

The World Commission on Environment and Development has identified the evidence and possible consequences of currently widespread land use practices which cannot be sustained. Geography is an integrative discipline concerned with the relations between culture systems and resource bases. Students interested in understanding, or working towards the resolution of, our environmental “crisis” should select courses which deal with (1) the dynamics of natural systems (courses in the physical geography of terrestrial, atmospheric and hydrological systems); (2) the dynamics of human systems (courses in cultural, social, economic, political and urban geography); (3) the context of development and land use changes; and (4) practical skills such as Geographical Information Science, remote sensing, image analysis, quantitative methods and resource management.

### Prerequisites

There are no departmental prerequisites for entrance to the B.A. Major Concentrations or Honours programs in Geography. It is helpful for Arts students to include 6 credits of Mathematics in their CEGEP or pre-university programs. A student who has completed college or pre-university geography courses fully equivalent to those of first year university may, with an adviser's approval, substitute other courses as part of the Major Concentrations or Honours programs. B.A. students in U0 are invited to take GEOG205 for science credit, GEOG200 for social science credit.

### MINOR CONCENTRATION IN GEOGRAPHY (18 credits)

[Expandable into the Major Concentration in Geography, but not into the Major Concentration in Geography (Urban Systems).]

The Minor Concentration in Geography is designed to provide students in the Faculty of Arts with an overview of basic elements of human geography at the introductory and advanced level.

**Complementary Courses (18 credits)**

**Required Courses (15 credits)**

**Complementary Courses (3 credits)**

**MINOR CONCENTRATION IN GEOGRAPHY (URBAN SYSTEMS) (18 credits)** [Expandable into the Major Concentration in Geography (Urban Systems).]

**Complementary Courses (18 credits)**

### MINOR CONCENTRATION IN GEOGRAPHIC INFORMATION SYSTEMS (18 credits)

[Expandable into the Major Concentration in Geography, but not into the Major Concentration in Geography (Urban Systems).]

This Minor is designed to provide students in the Faculty of Arts who have an interest in GIS with a basic, but comprehensive knowledge of concepts and methods relating to the analysis of geospatial data.









**HONOURS IN GERMAN STUDIES** (60 credits)

Adviser: Professor Horst Richter (514)398-3648

The Honours program in German Studies consists of 60 credits in German. Literature courses provide an introduction to the major periods from the Middle Ages to the present.

Admission to the Honours Program in German Studies requires departmental approval. Students may begin Honours in German Studies in their first year. Honours students must maintain a GPA of 3.30 in their program courses, and, according to Faculty regulations, a minimum CGPA of 3.00 in general. In addition to the above requirements, Honours students, according to Faculty regulations, also must complete at least a Minor Concentration (18 credits) in another academic unit.

**Required Courses** (42 credits)

- GERM200 (6) German Language, Intensive Beginners'
- GERM300 (6) German Language Intensive Intermediate
- GERM325 (6) German Language - Intensive Advanced
- GERM352 (3) German Literature - 19th Century 3
- GERM360 (3) German Literature 1890 to 1918
- GERM363 (3) German Postwar Literature
- GERM450 (3) Classical Period in German Literature
- GERM451 (3) German Romanticism
- GERM511 (3) Middle High German Literature
- GERM575 (6) Honours Thesis

With permission of the adviser, students with advanced standing in German language will replace language courses for more advanced courses in language, culture or literature.

**Complementary Courses** (18 credits)

12 credits selected from:

- GERM331 (3) Germany after Reunification
- GERM353 (3) 19th Century Literary Topics
- GERM361 (3) German Literature 1918 to 1945
- GERM362 (3) 20th Century Literature Topics
- GERM365 (3) Media Studies in German
- GERM380 (3) 18th Century German Literature
- GERM400 (3) Interdisciplinary Seminar: Contemporary German Studies

Note: In the event that there are not enough courses offered in German, substitution with courses from the list below is allowed only with permission of the adviser.

6 credits selected from:

- GERM259 (3) Individual and Society in German Literature 1
- GERM260 (3) Individual and Society in German Literature 2
- GERM336 (3) German Grammar Review
- GERM354 \*3) Literary Approach to Song
- GERM355 (3) Nietzsche and Wagner
- GERM358 (3) Franz Kafka
- GERM359 (3) Bertolt Brecht
- GERM364 (3) German Culture: Gender and Society
- GERM367 (3) Topics in German Thought
- GERM371 (3) Cultural Change and Evolution of German
- GERM382 (3) Faust in European Literature
- GERM397 (3) Individual Reading Course
- GERM398 (3) Individual Reading Course
- GERM561 (3) German Literature: Baroque

or other suitable courses in the Department or in other related disciplines and departments with the approval of adviser.

**JOINT HONOURS – GERMAN STUDIES COMPONENT**

(36credits)

Adviser: Professor Horst Richter (514)398-3648

Admission to the Joint Honours program in German Studies requires Departmental approval.

**Required Courses** (21 credits)

- GERM200 (6) German Language, Intensive Beginners'
- GERM300 (6) German Language Intensive Intermediate
- GERM325 (6) German Language - Intensive Advanced
- GERM570 (3) Joint Honours Thesis

With permission of the adviser, students with advanced standing in German language will replace language courses for more advanced courses in language, culture or literature2(GERM570) Tj 48 0more

**Complementary Courses** (15 credits)

Joint Honours students must maintain a GPA of 3.30 in their program courses, and, according to Faculty regulations, a minimum CGPA of 3.00 in general.

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours Program components from any two Arts disciplines, see section 11.4 "Joint Honours Programs" for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

**Prerequisites for Literature Courses** – The prerequisite for all literature courses taught in German is GERM325, or equivalent, or permission of the Department.

**TOPICAL LISTINGS**

**Language**



## 12.25 Hispanic Studies (HISP)

688 Sherbrooke Street West, Room 425  
Montreal, QC H3A 3R1

Telephone: (514) 398-6683

Fax: (514) 398-1748

E-mail: [hispanic.studies@mcgill.ca](mailto:hispanic.studies@mcgill.ca)

Website: [www.arts.mcgill.ca/programs/hispanic](http://www.arts.mcgill.ca/programs/hispanic)

*Chair* — Jesus Pérez-Magallón

*Emeritus Professor*

Solomon Lipp; M.S.(C.C.N.Y.), Ph.D.(Harv.)

*Professors*

K.M. Sibbald; M.A.(Cantab.), M.A.(Liv.), Ph.D.(McG.)

Jesús Pérez-Magallón; Lic.Fil.(Barcelona), Ph.D.(Penn.)

*Associate Professor*

David A. Boruchoff; A.B., A.M., Ph.D.(Harv.)

*Assistant Professors*

Amanda Holmes; B.A.(McG.), M.A., Ph.D.(Oregon)

José Jouve-Martin; Lic.Phil. (Madrid), Ph.D. (Georgetown)

Fernanda Macchi; Lic.Lit. (Buenos Aires), M.A. (Oregon), Ph.D. (Yale)

The Department of Hispanic Studies offers courses on literature, intellectual history and the civilization of Spain and Hispanic America, as well as in the Spanish and Portuguese languages.

The Department and its programs are committed to expanding the liberal arts background of students by helping to develop the skills of communication and critical reasoning, and by providing insight into the culture of other regional, linguistic and national groups.

McGill University has bilateral exchange agreements with the Universidad de Salamanca (Spain), the Universidad Nacional Autónoma de México, and the Universidad de las Américas, Puebla (Mexico), as well as with other leading universities in the Spanish and Portuguese-speaking world which allow student and faculty exchanges, and other collaborative ventures. Further information about these exchanges may be obtained from the Department. Application forms are available from the Student Exchange Officer in the Admissions, Recruitment and Registrar's Office, James Building Annex.

The Department collaborates closely with the Program in Latin-American and Caribbean Studies, and students are encouraged to consult that program's listing.

### UNDERGRADUATE PROGRAMS

Adviser: Professor Fernanda Macchi, 688 Sherbrooke, Room 381, (514) 398-6687/6683

The Department of Hispanic Studies offers the following undergraduate programs and concentrations, which permit students to pursue a variety of intellectual and pre-professional options:

Minor Concentration in Hispanic Languages (Expandable)

Minor Concentration in Hispanic Literature and Culture (Expandable)

Major Concentration in Hispanic Languages

Major Concentration in Hispanic Literature and Culture

Honours Program in Hispanic Studies

Joint Honours Program in Hispanic Studies

Students who envision graduate studies upon completion of the B.A. are strongly advised to pursue a program of Honours or Joint Honours. Although the Major and Minor Concentrations form an important part of the multi-track B.A. in Arts, this general degree does not provide the specialized training called for by most graduate programs in the Humanities and Social Sciences.

- HISP453 (3) 20th Century Spanish-American Poetry
- HISP457 (3) Medieval Literature
- HISP458 (3) Golden Age Drama
- HISP460 (3) Golden Age Poetry
- HISP501 (3) History of the Spanish Language
- HISP505 (3) Seminar in Hispanic Studies
- HISP506 (3) Seminar in Hispanic Studies
- HISP507 (3) Seminar in Hispanic Studies

The **Minor Concentration in Spanish Literature and Culture** and the **Minor Concentration in Spanish-American Literature and Culture** were retired at the end of the 2003-04 academic year. Students enrolled in either program at that time should consult with a Departmental adviser.

**MAJOR CONCENTRATION IN HISPANIC LANGUAGES**  
(36 credits)

**Complementary Courses** (36 credits)  
 0 - 18 credits in language and civilization  
 6 credits in Survey of Literature  
 12 - 30 credits in Hispanic literature at the 300-level or above, at least 6 credits of which must be in literature of the pre-1700 period (courses marked with an asterisk \*), selected from the Complementary course list given under the Major Concentration in Hispanic Literature and Culture.

**MAJOR CONCENTRATION IN HISPANIC LITERATURE AND CULTURE** (36 credits)

**Required Courses** (18 credits)  
 HISP241 (3) Survey of Spanish Literature 1  
 HISP242 (3) Survey of Spanish Literature 2  
 HISP243 (3) Survey of Spanish-American Literature 1  
 HISP244 (3) Survey of Spanish-American Literature 2  
 HISP451D1 (3) Cervantes  
 HISP451D2 (3) Cervantes

**Complementary Courses** (18 credits)  
 0 - 3 credits from:  
 HISP250 (3) Reading Hispanic Literature  
 at least 15 credits in Hispanic literature at the 300-level or above, at least 3 credits of which must be in literature of the pre-1700 period (courses marked with an asterisk \*), selected from the following:  
 HISP321 (3) Spanish Literature - 18th Century  
 HISP324 (3) 20th Century Drama  
 HISP325 (3) Spanish Novel of the 19th Century  
 HISP326 (3) Spanish Romanticism  
 HISP327 (3) Literature of Ideas: Spain  
 HISP328 (3) Literature of Ideas: Spanish America  
 HISP332 (3) Spanish-American Literature of 19th Century  
 HISP333 (3) Spanish-American Drama  
 HISP349 (3) Generation of 1898: Essay  
 HISP350 (3) Generation - 1898: Creative Genres  
 HISP351 (3) Spanish-American Novel  
 HISP352 (3) Contemporary Spanish-American Novel  
 HISP356 (3) Spanish-American Short Story  
 HISP358 (3) Women Writers Fiction Spanish-America  
 HISP421\* (3) Gold0TD 0.31Age929 3 Spanishesh-America  
 (3)

**HONOURS IN HISPANIC STUDIES** (60 credits)

Prerequisite for admission into Honours: A first-year Spanish course with a final grade of B+. Honours students are expected to maintain a program GPA of 3.30 and an overall CGPA of 3.00. Students must take an 18-credit Minor Concentration in another area.

**Required Courses** (24 credits)

**Complementary Courses** (36 credits)

**JOINT HONOURS – HISPANIC STUDIES COMPONENT**  
(36credits)

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours Program components from any two Arts disciplines. See section 11.4 "Joint Honours Programs" for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

Joint Honours students are expected to maintain a program GPA of 3.30 and an overall CGPA of 3.00.

**Required Courses** (12 credits)

**Complementary Courses** (24 credits)

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**12.26 History (HIST)**

General Office, Room 608  
Sixth Floor, Stephen Leacock Building  
855 Sherbrooke Street West  
Montreal, QC H3A 2T7

Telephone: (514) 398-3975

Fax: (514) 398-8365

Website: [www.arts.mcgill.ca/programs/history](http://www.arts.mcgill.ca/programs/history)

E-mail: [undergrad.history@mcgill.ca](mailto:undergrad.history@mcgill.ca)

*Chair* — Brian Lewis

*Emeritus Professors*

Michael P. Maxwell; B.A.(Sir G. Wms.), M.A., Ph.D.(McG.)

Albert Schachter; B.A.(McG.), D.Phil.(Oxon.) (*Hiram Mills*  
*Emeritus Professor of Classics*)

*Professors*

Valentin J. Boss; B.A.(Cantab.), Ph.D.(Harv.)

Myron J. Echenberg; M.A.(McG.), Ph.D.(Wis.)

John W. Hellman; B.A.(Marquette), M.A., Ph.D.(Harv.)

Peter Hoffmann; Ph.D.(Munich), F.R.S.C. (*William Kingsford*  
*Professor of History*)

Gershon D. Hundert; B.A., M.A.(Ohio St.), Ph.D.(Col.) (*Leonor*  
*Segal Professor of Jewish Studies*) (*joint appoint. with Jewish*  
*Studies*)

Carman I. Miller; B.A., B.Ed.(Acad.), M.A.(DaTly eLond.D.(Col.608McG365Harv.)

**Complementary Courses** (18 credits)

18 credits in History, 12 credits (minimum) at the 300-level and up,

15 credits to be taken in one of the following areas:

Africa/Asia/Latin America; Canada; Europe; North America; or in an approved theme such as History of Medicine, Jewish History, Migration, War and Society.

**MAJOR CONCENTRATION IN HISTORY** (36 credits)

Director: Professor Myron Echenberg

In order to give students freedom to choose suitable thematic and geographic concentrations, all courses in History programs are placed into the category "Complementary Courses". These are to be chosen with an adviser.

**Complementary Courses** (36 credits)

36 credits in History, 24 credits (minimum) at the 300-level or above,

with a minimum of 6 credits from *at least two* of the following areas: Canada; North America (which may or may not include Canada); Europe; Asia/Africa/Latin America;

3 credits in history of the pre-1800 period;

3 credits in history of the post-1800 period.

Students are strongly urged to distribute their history courses as follows: Year 1 - 12 credits; Year 2 - 12 credits; Year 3 - 12 credits.

The History Major Concentration is designed to provide both flexibility and breadth for our students. Each student will pursue an individually distinct program according to his or her interests and intellectual concerns. Students who choose a Major Concentration in History should consult an adviser in the Department **before** registering for their courses. Students are advised that no more than 12 credits taken at another university will be accepted within their Major program.

**HONOURS IN HISTORY** (60 credits)

Director: TBA

In order to give students freedom to choose suitable concentrations, all courses in History programs are placed into the category "Complementary Courses". These are to be chosen with an adviser.

**Complementary Courses** (60 credits)

60 credits in History distributed as follows, 42 credits (minimum) at the 300 level or above:

42 credits in the student's chosen concentration such as Africa/Asia/Latin America, Canada, Europe, North America, Ancient History; or in an approved theme such as Colonialism, History of Medicine, War and Society; 6 credits (minimum) must be seminar credits.

18 credits (maximum) outside the student's chosen concentration, 6 of which must be seminar credits.

Students must maintain a 3.30 grade point average in their program courses and must have no less than a "B" in any program course. In addition, and in accordance with Faculty of Arts rules, students must maintain an overall CGPA of 3.00.

The purpose of the Honours program is to give students an opportunity to study an area or theme of history in some depth. Each Honours student's program is worked out to suit the student's specific needs within the general framework of the program. The rules of the program are designed to lead the student from introductory courses to more advanced courses while, at the same time, enabling the student to acquire ancillary skills which are necessary for historical research in particular areas.

The full Honours student normally takes 60 credits in history over a three-year period, 42 credits to be selected from within an area or theme including one of two seminars or the tutorial option. If a student must acquire a language or other ancillary skill, or if there is a strong case for taking a historically oriented course in another discipline, the history requirement may be diminished. (See note at the end of the statement.)

The **first year** of the program is devoted primarily to introductory history courses (12 - 18 credits) to obtain a general perspective on the past. These courses are important prerequisites for upper year courses.

In the **second year** students begin to specialize by taking a seminar or, if necessary, by beginning the two-year tutorial method. Note that the second seminar is normally taken in the third year. A seminar is a class composed of Honours students who pursue advanced studies in a specific area. A tutorial is a series of classes in which the student works individually or in small groups with a member of staff. The tutorial route is designed for those students who wish to concentrate on projects not accommodated by the seminar offerings. Students taking tutorials instead of seminars work with one member of staff over a period of two years. As in other courses, evaluation and marks during each of the two years are based on the student's written and oral work. At the end of the second tutorial year, a project is presented which is usually a substantial piece of work based on primary sources.

Students may enter Honours as early as their U1 year.

**JOINT HONOURS – HISTORY COMPONENT** (36 credits)

**Complementary Courses** (36 credits)

36 credits in History distributed as follows, 24 credits (minimum) at the 300 level or above.

24 credits (minimum) in History in the student's chosen concentration such as Africa/Asia/Latin America, Canada, Europe, North America, Ancient History; or in an approved theme such as Colonialism, History of Medicine, War and Society; 6 of these credits (minimum) must be seminar credits.

12 credits (maximum) in History outside the student's chosen concentration.

Students must maintain a 3.30 grade point average in their program courses and must have no less than a "B" in any program course. In addition, and in accordance with Faculty of Arts rules, students must maintain an overall CGPA of 3.00.

In a few cases Joint Honours students enter one of the two-year tutorials.

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours Program components from any two Arts disciplines, see section 11.4 "Joint Honours Programs" for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

**NOTE:** Not as an encouragement for deviation from the programs outlined above, but in recognition of compelling circumstances and academically legitimate wishes on the part of the students, the possibilities for deviation from the usual 60 credit requirement are defined as follows. No more than 12 historically oriented credits may be taken, in exceptional cases, outside the Department of History, or outside the University. A maximum of six credits, taken as a summer course may be accepted within the limits of the 12 credits outside the Department if strong academic reasons favour it. History courses taken at CEGEPs cannot be part of the 60 credit requirement. In Joint Honours programs, no more than six credits may be taken outside the Department. Full Honours Students may take one advanced language course in each of their U2 and U3 years and have them count in their 60 credit requirement, if these language courses are necessary and relevant to their program. Introductory language courses cannot be accepted as part of the Honours course requirements. Bilingual students will not be permitted to take language courses in one of their two languages as part of their Honours program requirements.

**The following course(s) may be chosen by History Major Concentration and Honours students as part of their programs** (for other possible courses, please see the general descriptions of the programs).

**Anthropology****12.27 History and Philosophy of Science (HPSC)**

Stephen Leacock Building, Room 908  
 855 Sherbrooke Street West  
 Montreal, QC H3A 2T7  
 Telephone: (514) 398-6060  
 Website: [www.arts.mcgill.ca/hpsp/hpsp.htm](http://www.arts.mcgill.ca/hpsp/hpsp.htm)

*Director* — Eric Lewis (*Philosophy*)

*Committee*

Valentine Boss (*History*), Mario Bunge (*Philosophy*),  
 Emily Carson (*Philosophy*), Roger Krohn (*Sociology*),  
 J. Lambek (*Mathematics and Statistics*),  
 Storrs McCall (*Philosophy*)

History and Philosophy of Science at McGill is an interdisciplinary program that aims to provide students with an understanding of science through the study of both its historical development and of some of the fundamental philosophical principles upon which it rests.

**MINOR CONCENTRATION IN HISTORY AND PHILOSOPHY OF SCIENCE** (18 credits)

**Complementary Courses** (18 credits)

**12.28 Humanistic Studies (HMST)**

Peterson Hall, Room 318  
 3460 McTavish Street  
 Montreal, QC H3A 1X9  
 Telephone: (514) 398-4301  
 Fax: (514) 398-8049  
 E-mail: [faye.scrim@mcgill.ca](mailto:faye.scrim@mcgill.ca)  
 Website: [www.arts.mcgill.ca/humanistic/](http://www.arts.mcgill.ca/humanistic/)

*Director* — Robert Myles (*English and French Language Centre*)

*Committee*

Laura Beraha (*Russian and Slavic Studies*), Charles Boberg (*Linguistics*), Elena Lombardi (*Italian Studies*), Storrs McCall (*Philosophy*), Josef Schmidt (*German Studies*), Myrna Watt Selkirk (*English*), David Williams (*English*)

Humanistic Studies provides a broad liberal arts education that is personally enriching. It is also practical in its goal of developing the analytical, critical, and contextual thinking skills that are vital for the creation, expression and transmission of ideas. Humanistic Studies is not a department, but a program wherein students are advised and guided by professors of diverse disciplines.









**AFRICAN FIELD STUDY SEMESTER**, see page 325 under the Department of Geography, Faculty of Science, for details of the 15-credit interdisciplinary AFSS. **Note: The AFSS will only be offered in 2004-05 pending approval by the Dean of Science.**

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### 12.31 Islamic Studies (ISLA)

Morrice Hall, Room 319  
3485 McTavish Street  
Montreal, QC H3A 1Y1  
Telephone: (514) 398-6077  
Fax: (514) 398-6731  
E-mail: info.islamics@mcgill.ca  
Website: www.arts.mcgill.ca/programs/islamic

*Director* — Eric L. Ormsby

*Emeritus Professor*

Donald P. Little; B.A. (Vanderbilt), M.A. (Stan.), Ph.D. (Calif.)

*Professors*

Sajida S. Alvi; B.A., M.A., Ph.D. (Punj.)

Wael B. Hallaq; B.A. (Haifa), Ph.D. (Wash.)

Eric L. Ormsby; B.A. (Penn.), M.L.S. (Rutgers), M.A., Ph.D. (Prin.)

*Associate Professor*

A. Uner Turgay; B.A. (Robert Coll., Istanbul), M.A.,  
Ph.D. (Madison-Wis.)

*Assistant Professor*

Michelle L. Hartman; B.A. (Col.), Ph.D. (Oxford)

*Lecturers (part-time)*

Issa J. Boullata; B.A., Ph.D. (Lond.) (post-retirement)

Henry Habib; Ph.D. (McG.)

Faruq Hassan; Ph.D. (Leeds)

Bilal Kuspinar; Ph.D. (McG.)

In addition to its graduate programs, the Institute of Islamic Studies offers courses in history, civilization and languages (Arabic, Turkish, Persian and Urdu) at the 400- and 500-level.

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### 12.32 Italian Studies (ITAL)

688 Sherbrooke Street West, Room 425  
Montreal, QC H3A 3R1  
Telephone: (514) 398-3953  
Fax: (514) 398-1748  
E-mail: italian.studies@mcgill.ca  
Website: www.mcgill.ca/italian

*Chair* — Lucienne Kroha

*Emeritus Professor*

Pamela D. Stewart; B.A. (Montr.), M.A. (McG.), F.R.S.C.

*Professor*

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**HONOURS IN ITALIAN STUDIES** (54 credits)

Students with advanced standing in the language must replace language courses with courses from groups B, C and D.

**Required Courses** (6 credits)

**Complementary Courses** (48 credits)

Students must maintain a minimum CGPA of 3.00 and a GPA of 3.30 in the program courses.

Admission to the Honours program in Italian requires Departmental approval. Students wishing to register should consult with the Department as early as possible.



**JEWISH TEACHER TRAINING PROGRAM**

Established in 1973 in the Faculty of Education in conjunction with the Department of Jewish Studies, this program prepares students

**JOINT HONOURS – JEWISH STUDIES COMPONENT**

(36credits)

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours program components from any two Arts disciplines, see section 11.4 "Joint Honours Programs" for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

**Required Courses** (9 credits)

**Complementary Courses** (27 credits)

According to Faculty regulations, Joint Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

JWST572 Aggadah in Modern Scholarship  
 JWST573 History of Hebrew Bible Text  
 JWST574 Bible in Responsa Literature  
 JWST575 Topics in Parshanut  
 JWST581 Aramaic Language  
 JWST582 Hebrew and Aramaic Philology  
 RELG307 Scriptural Interpretation

#### Rabbinic Studies

JWST216 Jewish Studies 2: 400 BCE - 1000  
 JWST217 Jewish Studies 3: 1000 to 2000  
 JWST316 Social and Ethical Issues in Jewish Law 1  
 JWST319 Judaism and the Occult  
 JWST333 The Hebrew Liturgy  
 JWST345 Introduction to Rabbinic Literature  
 JWST358 Topics in Jewish Philosophy 1  
 JWST359 Topics in Jewish Philosophy 2  
 JWST402 Readings in Rabbinic Literature  
 JWST532 Narrative Midrash  
 JWST533 Halakhic Midrash  
 JWST534 Homiletical Midrash  
 JWST535 Exegetical Midrash  
 JWST537 The Bible in the Talmud Bavli  
 JWST538 Early Rabbinic Parshanut 1  
 JWST541 Medieval Ashkenazi Parshanut  
 JWST542 Abraham ibn Ezra as Parshan  
 JWST543 Maimonides as Parshan  
 JWST544 Nachmanides as Parshan  
 JWST572 Aggadah in Modern Scholarship  
 JWST574 Bible in Responsa Literature  
 HIST207 Jewish History: 400 B.C.E. to 1000  
 HIST219 Jewish History: 1000-2000

#### Language and Literature

##### 1. Hebrew Language and Literature

JWST199 Images - Jewish Identities  
 JWST200 Hebrew Language (Intensive)  
 JWST205 Survey of Hebrew Lit. from the Bible to the present  
 JWST220D1/JWST220D2 Introductory Hebrew  
 JWST225 Literature and Society  
 JWST300 Charisma and Social Change  
 JWST301 Hebrew Empire and Crisis  
 JWST320D1/JWST320D2 Intermediate Hebrew  
 JWST340D1/JWST340D2 Advanced Hebrew  
 JWST367/368/369/370  
 Studies in Hebrew Language and Literature  
 JWST383 Holocaust Literature  
 JWST404 Literary Response to Loss/Separation  
 JWST411 Topics: Modern Hebrew Literature 1881-1948  
 JWST412 Topics: Modern Hebrew Literature 2  
 JWST429 Biblical Poetry  
 JWST438 Survey of Hebrew Literature 1  
 JWST439 Survey of Hebrew Literature 2  
 JWST445 The Poetry of Nationalism  
 JWST502 Contemporary Hebrew Literature  
 JWST550 The Bible in Hebrew Literature  
 JWST582 Hebrew and Aramaic Philology

##### 2. Yiddish Language and Literature

JWST206 Introduction to Yiddish Literature  
 JWST280D1/JWST280D2 Introductory Yiddish  
 JWST351 Studies in Modern Jewish Literature  
 JWST355 The Yiddish Canon  
 JWST361 The Shtetl: 1500-1897  
 JWST362 The Shtetl: 1897-1939  
 JWST380D1/JWST380D2 Intermediate Yiddish  
 JWST381 Modern Yiddish Literature  
 JWST383 Holocaust Literature  
 JWST387 Modern Jewish Authors  
 JWST480 Advanced Yiddish 1  
 JWST481 Advanced Yiddish 2  
 JWST485/486/487/488 Tutorial in Yiddish Literature  
 JWST498D1/JWST498D2 Tutorial in Yiddish Literature  
 JWST499D1/JWST499D2 Studies in Yiddish Literature

JWST530/531 Topics in Yiddish Literature  
 JWST587/588 Tutorial in Yiddish Literature.

#### Jewish Thought

JWST216 Jewish Studies 2: 400 BCE -1000  
 JWST217 Jewish Studies 3: 1000 to 2000  
 JWST261 History of Jewish Philosophy and Thought  
 JWST301 Hebrew Empire and Crisis  
 JWST310 Believers, Heretics and Critics  
 JWST314 Denominations in North American Judaism  
 JWST315 Modern Liberal Jewish Thought  
 JWST337 Jewish Philosophy and Thought 1

JW1: -0.2468 Tminodiberal Jewish Thought5 TD /F0 7.5 Tf 0.3873 Tc -0.22  
 Er wisWWIlosophy and 55Tj 0 -9.71j T\* 0.3955 Tc -0.2nomination0.2034Co  
 JWST314 Denominations in North American Judaism

JWST361 The Shtetl: 1500-1897  
 JWST362 The Shtetl: 1897-1939  
 JWST217 Jewish Studies 3: 10645 TD /F0 79 T\* 0.3656 258 Tutorial 0 BelS  
 JWST301 Hebrew Empire 535to 2000

HIST427 The Hasidic Movement  
 HIST477D1/477D2 Seminar in Jewish History  
 POLI347 Arab-Israel Conflict, Crisis, Peace  
 SOCI327 Jews in North America

**East European Studies**

JWST206 Introduction to Yiddish Literature  
 JWST217 Jewish Studies 3: 1000 to 2000  
 JWST240 The Holocaust  
 JWST351 Studies in Modern Jewish Literature  
 JWST356 Jewish Labour Movement/Eastern Europe  
 JWST357 Jewish Labour Movement/North America  
 JWST361 The Shtetl: 1500-1897  
 JWST362 The Shtetl: 1897-1939  
 JWST365 Modern Jewish Ideologies  
 JWST366 History of Zionism  
 JWST371D1/JWST371D2 Jews and the Modern City  
 JWST381 Modern Yiddish Literature  
 JWST383 Holocaust Literature  
 JWST404 Literary Response to Loss/Separation  
 JWST411 Topics: Modern Hebrew Literature 1881-1948  
 JWST412 Topics: Modern Hebrew Literature 2  
 JWST438 Survey of Hebrew Literature 1  
 JWST439 Survey of Hebrew Literature 2  
 JWST445 The Poetry of Nationalism  
 JWST485/486/487/488 Tutorial in Yiddish Literature  
 JWST498D1/JWST498D2 Tutorial in Yiddish Literature  
 JWST499D1/JWST499D2 Studies in Yiddish Literature  
 JWST585 Tutorial: Eastern European Studies 1  
 JWST586 Tutorial: Eastern European Studies 2  
 HIST307 Jews in Poland  
 HIST427 The Hasidic Movement

Honours students in Latin-American and Caribbean Studies at McGill to count a portion of their undergraduate course work toward the degree requirements for Georgetown's M.A. in Latin American Studies, thus permitting completion of the M.A. in one calendar year. See the Program Adviser for additional information.

**Undergraduate Degree Programs**

**514)39we.5 Tc -0.5005 uW.g 8c-0.1158 Tw (studyv1ld research 188 Tc -0.2409**

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**12.34 Latin-American and Caribbean Studies (LACS)**

Website: [www.mcgill.ca/lacs](http://www.mcgill.ca/lacs)  
 E-mail: [info.lacs@mcgill.ca](mailto:info.lacs@mcgill.ca)

*Advisory Committee Chair* — K.M. Sibbald

*Advisory Committee (2004-2005)*

R.Castro (*Architecture*), J. Jouve-Martin (*Hispanic Studies*), O.Coomes (*Geography*), A.Holmes (*Hispanic Studies*), C.LeGrand (*History*), U.Locher (*Sociology*), T.Meredith (*Geography*), K.Norget (*Anthropology*), P.Oxhorn (*Political Science*), D. Studnicki-Gizbert (*History*)

*Adviser* —

Ines Scharnweber, Leacock 439,  
 Telephone: (514)398-4804

Established in 1971, the interdisciplinary Program in Latin-American and Caribbean Studies offers a comprehensive array of courses on the peoples, cultures, history, literature, politics, economy and geography of Latin America and the Caribbean, providing students with a broad-based understanding of this geographic region, and with the language and research skills required for advanced scholarship. The program in Latin-American and Caribbean Studies encourages the free exchange of ideas and perspectives in order to foster an environment suitable for serious reflection and critical analysis.

Students in the Program in Latin-American and Caribbean Studies are encouraged to consider the opportunities for foreign study and research made available by bilateral exchange agreements with the Universidad de Salamanca (Spain), the Universidad Nacional Autónoma de México, the Universidad de las Américas, Puebla (Mexico), the Universidad de los Andes (Colombia), and other leading universities in the Spanish and Portuguese-speaking world. These exchanges are open to all members of the McGill University community. Further information may be obtained from the Program Adviser. Application forms are available from the Student Exchange Officer in the Admissions, Recruitment and Registrar's Office, James Building Annex.

An agreement of cooperation with the Center for Latin American Studies at Georgetown University (Washington, D.C.) permits

HIST309	(3)	History of Latin America to 1825
HIST360	(3)	Latin America since 1825
LACS497	(3)	Research Seminar: Latin America and the Caribbean
LACS498	(3)	Independent Research Project
POLI319	(3)	Politics of Latin America

**Complementary Courses** (39 credits)

12 credits in Spanish or Portuguese.

27 additional credits on Latin America and the Caribbean, exclusive of language courses, selected from the Complementary Course List in consultation with the Program Adviser.

At least 15 of these 27 credits must be taken in one of the following disciplinary clusters, which may also include up to 6 credits of theoretical and/or methodological courses of particular relevance to the student's research interests:

Literature and Culture;  
History, Economics and Political Science;  
Anthropology, Geography and Sociology.

**HONOURS IN LATIN-AMERICAN AND CARIBBEAN STUDIES – THEMATIC OPTION** (60 credits)

This option permits highly motivated students to combine the study of Latin America and the Caribbean with a theme or intellectual focus whose roots extend beyond the geographic confines of this area, and for which a high level of methodological and/or theoretical expertise is required.

Themes of study may include, but are not limited to: ethnography and ethnohistory; the age of European expansion; transnationalism; the concepts and practice of law and justice; nationalism and nation-building; ecology and the management of human and natural resources.

**Required Courses** (21 credits)

HISP243	(3)	Survey of Spanish-American Literature 1
HISP244	(3)	Survey of Spanish-American Literature 2
HIST309	(3)	History of Latin America to 1825
HIST360	(3)	Latin America since 1825
LACS497	(3)	Research Seminar: Latin America and the Caribbean
LACS498	(3)	Independent Research Project
POLI319	(3)	Politics of Latin America

**Complementary Courses** (39 credits)

12 credits in Spanish or Portuguese

12 credits on Latin America and the Caribbean, exclusive of language courses, selected from the Complementary Course List in consultation with the Program Adviser.

15 credits from outside the Complementary Course List, within a coherent theme of specialization, selected in consultation with the Program Adviser

**LACS Complementary Course List**

Consult the Courses section for course descriptions and information on prerequisites. Not all courses listed are offered in any given year. NB: no credit will be given for multi-term courses unless all components are successfully completed as specified, for example, D1 and D2 components must both be successfully completed in consecutive terms.

**Anthropology**

ANTH212	(3)	Anthropology of Development
ANTH326	(3)	Peoples of Central and South America
ANTH349	(3)	Transformation of Third World Societies
ANTH439	(3)	Theories of Development

**Economics**

ECON313	(3)	Economic Development 1
ECON314	(3)	Economic Development 2
ECON410	(3)	Economic Development: Selected World Area

**English**

ENGL321	(3)	Caribbean Fiction
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**Geography**

GEOG310	(3)	Geography of the Caribbean
GEOG320	(3)	Geography of Food Systems
GEOG408	(3)	Geography of Development
GEOG410	(3)	Geography of Underdevelopment: Current Problems
GEOG510	(3)	Humid Tropical Environments

**Hispanic Studies**

HISP202D1	(3)	Portuguese Language: Beginners
HISP202D2	(3)	Portuguese Language: Beginners
HISP204D1	(3)	Portuguese Language: Intermediate
HISP204D2	(3)	Portuguese Language: Intermediate
HISP210D1	(3)	Spanish Language: Beginners
HISP210D2	(3)	Spanish Language: Beginners
HISP218	(6)	Spanish Language Intensive - Elementary
HISP219	(6)	Spanish Language Intensive - Intermediate
HISP220D1	(3)	Spanish Language: Intermediate
HISP220D2	(3)	Spanish Language: Intermediate
HISP222	(3)	Advanced Oral and Written Expression
HISP225	(3)	Hispanic Civilization 1
HISP226	(3)	Hispanic Civilization 2
HISP243	(3)	Survey of Spanish-American Literature 1
HISP244	(3)	Survey of Spanish-American Literature 2
HISP302	(3)	Hispanic Literature - English Translation 2
HISP328	(3)	Literature of Ideas: Spanish America
HISP332	(3)	Spanish-American Literature of 19th Century
HISP333	(3)	Spanish-American Drama
HISP351	(3)	Spanish-American Novel
HISP352	(3)	Contemporary Spanish-American Novel
HISP356	(3)	Spanish-American Short Story
HISP358	(3)	Women Writers Fiction Spanish-America
HISP432	(3)	Literature - Discovery and Exploration Spain New World
HISP433	(3)	Gaicho Literature
HISP434	(3)	Dictatorship: Hispanic America
HISP437	(3)	Viceregal Spanish America
HISP442	(3)	Modernismo
HISP453	(3)	20th Century Spanish-American Poetry
HISP505	(3)	Seminar in Hispanic Studies
HISP506	(3)	Seminar in Hispanic Studies
HISP507	(3)	Seminar in Hispanic Studies

**History**

HIST197	(3)	FYS: Race in Latin America
HIST217	(3)	A Survey of Spanish History
HIST309	(3)	History of Latin America to 1825
HIST360	(3)	Latin America since 1825
HIST419	(3)	Central America
HIST464D1	(3)	Topics: Latin American History
HIST464D2	(3)	Topics: Latin American History
HIST480D1	(3)	Capitalism and Empire: European Domination
HIST480D2	(3)	Capitalism and Empire: European Domination
HIST580D1	(3)	European and Native-American Encounters
HIST580D2	(3)	European and Native-American Encounters

**Political Science**

POLI227	(3)	Developing Areas/Introduction
POLI300D1	(3)	Developing Areas/Revolution
POLI300D2	(3)	Developing Areas/Revolution
POLI319	(3)	Politics of Latin America
POLI343	(3)	Foreign Policy: Latin America
POLI471	(3)	Democracy in the Modern World
POLI472	(3)	Developing Areas/Social Movements
POLI473	(3)	Democracy and the Market

**Sociology**

SOCI366	(3)	Social Change in the Caribbean
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AB<sup>+</sup> average (program GPA 3.30) is required to maintain Honours standing in Linguistics and a minimum grade of B<sup>+</sup> must be obtained in four out of five of the following courses LING230, LING331, LING370, LING371, LING440, as well as in the Hon-





**MAJOR CONCENTRATION IN MIDDLE EAST STUDIES**

(36 credits)

**Complementary Courses** (36 credits)

12 credits (2 levels) in one Middle East language – Arabic, Hebrew, Persian, Turkish.

(In the case of Arabic, the first two levels involve 15 credits. The extra 3 credits will be counted towards the remainder of the program requirements.)

24 credits in Middle East Studies (21 credits if Arabic has been chosen):

- 6 - 9 credits in History, a minimum of 6 credits from core courses;
- 6 - 9 credits in Religion and Philosophy, a minimum of 6 credits from core courses;
- 6 - 9 credits in Social Science.

**HONOURS IN MIDDLE EAST STUDIES** (60 credits)

The Honours program involves 60 credits in Middle East Studies:

- 18 credits (3 levels) in one Middle Eastern language;
- 12 credits in Middle Eastern history, a minimum of 9 credits from Core courses;
- 6 credits in Middle Eastern religion and philosophy, a minimum of 3 credits from Core courses;
- 12 credits in Middle East social science courses;
- 12 credits in Middle East Studies electives.

Honours students must maintain a program GPA of 3.30 in their Middle East Studies courses.

According to Faculty regulations, Honours students must maintain a minimum CGPA of 3.00.

**JOINT HONOURS – MIDDLE EAST STUDIES COMPONENT**

(36 credits)

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

**Complementary Courses** (36 credits)

Language:

12 credits (2 levels) in one Middle East language (in the case of Arabic, the first two levels involve 15 credits. The extra 3 credits will be counted toward the remainder of the program.)

Middle East Studies:

24 credits (21 if Arabic has been chosen), distributed as follows:

History

6 - 9 credits, a minimum of 6 credits from the following courses:

- ISLA410 (3) History: Middle-East 1798-1918
- ISLA411 (3) History of the Middle East 1918-1945
- ISLA510D1 (3) History: Islamic Civilization - Classical
- ISLA510D2 (3) History: Islamic Civilization - Classical
- ISLA511D1 (3) History: Islamic Civilization - Mediaeval Era
- ISLA511D2 (3) History: Islamic Civilization - Mediaeval Era

Religion and Philosophy

6 - 9 credits, a minimum of 6 credits from the following courses:

- ISLA505 (3) Islam: Origin and Early Developments
- ISLA506 (3) Islam: Later Developments
- ISLA531D1 (3) Survey Development of Islamic Thought
- ISLA531D2 (3) Survey Development of Islamic Thought

Social Science

6 - 9 credits to be selected from:

- POLI340 (3) Developing Areas/Middle East
- POLI341 (3) Foreign Policy: The Middle East
- POLI347 (3) Arab-Israeli Conflict, Crisis, Peace
- POLI437 (3) Politics in Israel
- or ANTH340 (3) Middle Eastern Society and Culture

Independent Research/Honours Seminar,

3 credits selected from:

- MEST495 (3) Middle East Studies: Research Seminar
- MEST496 (3) Independent Reading and Research

Joint Honours students must maintain a program GPA of 3.30 in their Middle East Studies courses. According to Faculty regulations, Joint Honours students must maintain a minimum CGPA of 3.00.

**COURSES**

[Additions are under consideration for September 2004. Go to [www.mcgill.ca](http://www.mcgill.ca) (Course Calendars) in July for details.]

Students wishing to take upper-level courses in Anthropology and Political Science are expected to take the necessary prerequisites.

**Languages**

*Arabic (Islamic Studies)*

- ISLA521D1 (4.5) Introductory Arabic
- ISLA521D2 (4.5) Introductory Arabic
- ISLA522D1 (3) Lower Intermediate Arabic
- ISLA522D2 (3) Lower Intermediate Arabic
- ISLA523D1 (3) Higher Intermediate Arabic
- ISLA523D2 (3) Higher Intermediate Arabic

*Hebrew (Jewish Studies)*

- JWST200 (12) Hebrew Language (Intensive)
- JWST220D1 (3) Introductory Hebrew
- JWST220D2 (3) Introductory Hebrew
- JWST320D1 (3) Intermediate Hebrew
- JWST320D2 (3) Intermediate Hebrew
- JWST340D1 (3) Advanced Hebrew
- JWST340D2 (3) Advanced Hebrew
- JWST367 (3) Studies in Hebrew Language and Literature
- JWST368 (3) Studies in Hebrew Language and Literature
- JWST369 (3) Studies in Hebrew Language and Literature
- JWST370 (3) Studies in Hebrew Language and Literature
- JWST411 (3) Topics: Modern Hebrew Literature 1881-1948
- JWST412 (3) Topics: Modern Hebrew Literature 2881-1948

JW45 Studies (3) Hebrew Language (Tc -0.19(3) 3)

**History**

**Religion/Philosophy**

**Complementary Courses** (12 credits)**Social Sciences****MINOR CONCENTRATION IN MUSIC TECHNOLOGY**  
(18 credits) (Non-Expandable)

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(18 credi3ts) Comple-di3ts)Tc  
(6 credits)

**Middle East Studies**

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**12.38 Music (MUAR)**

Strathcona Music Building  
555 Sherbrooke Street West  
Montreal, QC H3A 1E3

Telephone: (514) 398-4535

Fax: (514) 398-8061

Website: [www.mcgill.ca/music](http://www.mcgill.ca/music)

*Department of Theory* — Brian Cherney (*Chair*)

*Department of Performance* — Douglas McNabney (*Chair*)

*Adviser (B.A./B.Sc. Music programs)* —

B. Minorgan (514) 398-4535, ext.6333

**Music Programs in Arts**

Available within the Faculty of Arts are a Major and a Minor Concentration in Music, and a Minor Concentration in Music Technology.

Admission to the B.A. program is granted according to criteria established by the Faculty of Arts.

Students in the B.A. Freshman Program who are considering a Music Concentration should see the Freshman Adviser in the Arts Student Affairs Office in Dawson Hall. They should also see the Music Adviser in order to ensure that they include any necessary prerequisite Music courses (based on the results of placement examinations) in their first-year selection.

*Students interested in a more intensive music program, including practical instruction on an instrument or in voice and additional ensemble participation, should consider the B.Mus. degree or the diplomas offered by the Faculty of Music; see "Degrees and Diplomas Offered" on page258.*

**MINOR CONCENTRATION IN MUSIC** (18 credits) (Expandable)**Required Courses** (6 credits)



sonal needs and inclinations. Students must ENSURE they have fulfilled the 200-level prerequisites before registering for the advanced-level courses listed below.

Students may choose to spend a term on a student exchange program with Dartmouth, American University, Duke or Carleton. See Advisers for details – there is a competition.

Independent study, internships and university exchange arrangements can be worked into a student's program (a certain amount of flexibility is allowed here, but in close conjunction with the program as outlined below).

Each Major Concentration student in third year must enrol in the required North American Studies Seminar offered by the Department of English.

### MINOR CONCENTRATION IN NORTH AMERICAN STUDIES

(18 credits) (Expandable)

#### Complementary Courses (18 credits)

6 credits, two of the introductory complementary courses (in different categories) listed for the Major Concentration

12 credits of intermediate and senior level courses, 3 from each of the four categories

### MAJOR CONCENTRATION IN NORTH AMERICAN STUDIES

(36 credits)

#### Required Course (3 credits)

ENGL529D1 (1.5) Interdisciplinary Seminar - North American Studies

ENGL529D2 (1.5) Interdisciplinary Seminar - North American Studies

#### Complementary Courses (33 credits)

9 credits at the introductory level, normally taken in the first year of the program

*3 credits in Canadian and American History, selected from:*

HIST202 (3) Survey: Canada to 1867

HIST203 (3) Survey: Canada since 1867

HIST211 (3) American History to 1865

HIST221 (3) United States since 1865

*3 credits in Canadian and American Literature, selected from:*

ENGL225 (3) American Literature 1

ENGL226 (3) American Literature 2

ENGL228 (3) Canadian Literature 1

ENGL229 (3) Canadian Literature 2

*3 credits in Canadian and American Political Science and Economics selected from:*

CANS200 (3) Introduction to the Study of Canada

ECON208 (3) Microeconomic Analysis and Applications

ECON209 (3) Macroeconomic Analysis and Applications

ECON219 (3) Current Economic Problems: Topics

ECON223 (3) Political Economy of Trade Policy

POLI221 (3) Government of Canada

POLI222 (3) 3 0 TD Tj 0 TD 0.445 02 Tc -0.1252 Tw (Political Process and Behaviour of Canada) Tj -68.25 -9.75 TD 0.5925 Tc 0 onomi6

Canadian Literature 3 (12) redoursesllowing groups: 259.750 F 2 Tj 0 TD 0.270 (HIST221) Tj 50.25 Politica, 259.750 F 2 Tj 0.270 0.1, 259.750

3 (18) 0.445 0.303 0.138 0.15rrenEPOLI325inmentCanada

3 (18) 0.445 0.303 0.138 0.15rrenEPOLI326mentCanada

3 (18) 0.1175 Tc 0.15rrenEPOLI336mentCanada

### Economics

Charles Taylor; M.A., D.Phil.(Oxon.), F.R.S.C.

*Professors*

Mario A. Bunge; Ph.D.(LaPlata), F.R.S.C. (*John Frothingham  
Professor of Logic and Metaphysics*)

George Di Giovanni; B.A., M.A., S.T.B., Ph.D.(Tor.)

Storrs McCall; B.A.(McG.), B.Phil., D.Phil.(Oxon.)

*Associate Professors*

R. Philip Buckley; Ph.D.(Louvain)

David Davies; B.A.(Oxon), M.A.(Manit.) Ph.D.(W.Ont.)

Marguerite Deslauriers; B.A.(McG.), M.A., Ph.D.(Tor.)

Michael Hallett; B.Sc., Ph.D.(Lond.)

Alison Laywine; B.A.(Ott.), M.A.(Montr.), Ph.D.(Chic.)

Eric Lewis; B.A.(C'nell), Ph.D.(Ill. at Chic.)

James McGilvray; B.A.(Carleton College), Ph.D.(Yale)

Stephen Menn; M.A., Ph.D.(Chic.), M.A., Ph.D.(Johns H.)

Sarah Stroud; A.B.(Harv.), Ph.D.(Prin.)

*Assistant Professors*

Alia Al-Saji; M.A.(Louvain), Ph.D.(Emory)

Emily Carson; M.A.(McG.), Ph.D.(Harv.)

Gaëlle Fiasse; B.A., M.A., Ph.D.(Louvain) (*joint appoint. with  
Faculty of Religious Studies*)

Gregory Mikkelson; M.S., Ph.D.(Chic.) (*joint appoint. with McGill  
School of Environment*)

Jeffrey Speaks; B.A.; (Notre Dame), Ph.D.(Prin.)

*Adjunct Professors*

8(Emerituafi Phnghaser-9.75 -950TD //F0 7.5 Tf 0.2684 T3190.1103 Tw54(jointlan

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## 12.40 Philosophy (PHIL)

Leacock Building, Room 908  
855 Sherbrooke Street West  
Montreal, QC H3A 2T7

Telephone: (514) 398-6060

Fax: (514) 398-7148

E-mail: [info.philosophy@mcgill.ca](mailto:info.philosophy@mcgill.ca)

Website: [www.arts.mcgill.ca/programs/philo](http://www.arts.mcgill.ca/programs/philo)

*Chair* — R. Philip Buckley

*Emeritus Professors*

Raymond Klібansky; M.A.(Oxon.), D.Phil.(Heidel.), F.R.Hist.,

F.R.S.C. (*John Frothingham Emeritus Professor of Logic and  
Metaphysics*)

Alastair McKinnon; M.A.(Tor.), Ph.D.(Edin.), B.D.(McG.),

F.R.S.C., R.D., D.H.L.(St.Olaf) (*William C. Macdonald Emeritus  
Professor of Moral Philosophy*)

David Norton; M.A.(Claremont), Ph.D.(Calif.), F.R.S.C.



other disciplines, e.g., Law. As the interdisciplinary discipline par excellence, philosophy also maintains and encourages ties with other fields, so many students will find that certain classes in philosophy are directly relevant to their major area of study. The



**Required Course** (3 credits)

RELG 307 (3) Western Scriptures and Interpretations

**Complementary Courses** (15 credits)

3 - 6 credits\*, Philosophy and Western Religions,  
 PHWR 300 (3) Philosophy & Western Religions 1  
 PHWR 301 (3) Philosophy & Western Religions 2

\* Students are strongly encouraged to take both PHWR 300 and PHWR 301.

3 - 6 credits, History of Philosophy,  
 at least one of:

PHIL 354 (3) Plato  
 PHIL 355 (3) Aristotle

The remaining credits, if any, to be chosen from:

CLAS 415 (3) Advanced Latin: Oratory  
 CLAS 426 (3) Advanced Greek: Philosophy  
 PHIL 356 (3) Early Medieval Philosophy  
 PHIL 357 (3) Late Medieval and Renaissance Philosophy  
 PHIL 360 (3) 17th Century Philosophy  
 PHIL 452 (3) Later Greek Philosophy

3 - 6 credits to be chosen from the PHWR Complementary Course List - Jewish, Christian, and Islamic Thought.

**MAJOR CONCENTRATION IN PHILOSOPHY AND WESTERN RELIGIONS** (36 credits)

The Major Concentration in Philosophy and Western Religions has an option without language requirement (Option A), and an option with language requirement (Option B). The latter was designed for students who wish to acquire the linguistic skills allowing them to read and research source texts in the original languages. Students will benefit most from the Major Concentration if they combine it with a program in Philosophy, Islamic Studies, Jewish Studies, Religious Studies, or Classics. Students are also encouraged to complete a Minor Concentration in one of the languages relevant to the academic field.

Students are strongly encouraged to consult an adviser each year to devise a suitable course combination.

**Note:** Not all courses listed below are offered every year, and some of the courses have limited enrolment.

**Required Course** (3 credits)

RELG 307 (3) Western Scriptures and Interpretations

**Complementary Courses** (33 credits)

3 - 9 credits\*, Philosophy and Western Religions,  
 PHWR 300 (3) Philosophy & Western Religions 1  
 PHWR 301 (3) Philosophy & Western Religions 2  
 PHWR 500D1 (1.5) Interdisciplinary Seminar  
 PHWR 500D2 (1.5) Interdisciplinary Seminar

\* Students are strongly encouraged to take both PHWR 300 and PHWR 301.

24 - 30 credits taken in either Option A or Option B as follows:

**Option A - Without Language Component**

9 - 12 credits, History of Philosophy,

at least one of:

PHIL 354 (3) Plato  
 PHIL 355 (3) Aristotle

at least one of:

PHIL 356 (3) Early Medieval Philosophy  
 PHIL 357 (3) Late Medieval and Renaissance Philosophy  
 PHIL 360 (3) 17th Century Philosophy

The remaining credits, if any, to be chosen from:

CLAS 415 (3) Advanced Latin: Oratory  
 CLAS 426 (3) Advanced Greek: Philosophy  
 PHIL 345 (3) Greek Political Theory  
 PHIL 350 (3) History and Philosophy of Ancient Science  
 PHIL 353 (3) The Presocratic Philosophers  
 PHIL 452 (3) Later Greek Philosophy  
 PHIL 453 (3) Ancient Metaphysics and Natural Philosophy  
 PHIL 454 (3) Ancient Moral Theory  
 PHIL 551 (3) Seminar: Ancient Philosophy 2

PHIL 556 (3) Seminar: Medieval Philosophy

PHIL 560 (3) Seminar: 17th Century Philosophy

3 - 6 credits to be chosen from the PHWR Complementary Course List - Scriptures and History of the Western Religious Traditions.

9 - 12 credits to be chosen from the PHWR Complementary Course List - Jewish, Christian, and Islamic Thought, with a maximum of 6 credits from any one of the three groups.

**Option B - With Language Component**

12 - 15 credits (two years: 12 credits, or in the case of Arabic, 15 credits) in one language (Greek, Latin, Arabic, or Hebrew), chosen from the PHWR Complementary Course List - Languages.

6 - 9 credits, History of Philosophy,

at least one of:

PHIL 354 (3) Plato  
 PHIL 355 (3) Aristotle

at least one of:

PHIL 356 (3) Early Medieval Philosophy  
 PHIL 357 (3) Late Medieval and Renaissance Philosophy  
 PHIL 360 (3) 17th Century Philosophy

The remaining credits, if any, to be chosen from:

CLAS 415 (3) Advanced Latin: Oratory  
 CLAS 426 (3) Advanced Greek: Philosophy  
 PHIL 345 (3) Greek Political Theory  
 PHIL 350 (3) History and Philosophy of Ancient Science  
 PHIL 353 (3) The Presocratic Philosophers  
 PHIL 452 (3) Later Greek Philosophy  
 PHIL 453 (3) Ancient Metaphysics and Natural Philosophy  
 PHIL 454 (3) Ancient Moral Theory  
 PHIL 551 (3) Seminar: Ancient Philosophy 2  
 PHIL 556 (3) Seminar: Medieval Philosophy  
 PHIL 560 (3) Seminar: 17th Century Philosophy

0 - 3 credits to be chosen from the PHWR Complementary Course List - Scriptures and History of the Western Religious Traditions.

6 - 9 credits to be chosen from the PHWR Complementary Course List - Jewish, Christian, and Islamic Thought, with a maximum of 6 credits from any one of the three groups.

**HONOURS IN PHILOSOPHY AND WESTERN RELIGIONS** (60 credits)

The Honours Program in Philosophy and Western Religions was designed for students who wish (i) to explore in depth the intertwined intellectual worlds of Judaism, Christianity and Islam, and the interaction between philosophy and religion from Antiquity to the Enlightenment and (ii) to acquire the linguistic and conceptual tools allowing them to read source texts in the original languages, and to conduct research in the areas investigated by the interdisciplinary program. Students are encouraged to complete, in addition, a Minor Concentration in one of the languages relevant to the academic field.

Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

Students are strongly encouraged to consult an adviser each year to devise a suitable course combination.

Students who combine the Honours Program with a Minor Concentration in one of the languages relevant to the academic field, or who have acquired proficiency in one language elsewhere may replace 6 credits of the language requirements through additional credits in other segments of the program.

**Note:** Not all courses listed below are offered every year, and some of the courses have limited enrolment.

**Required Course** (3 credits)

RELG 307 (3) Western Scriptures and Interpretations

**Complementary Courses** (57 credits)

6 - 9 credits\*, Philosophy and Western Religions,  
 PHWR 300 (3) Philosophy & Western Religions 1



**Jewish, Christian, and Islamic Thought**

Dietlind Stolle; M.A.(Claremont), Ph.D.(Prin.)

*Faculty Lecturers*

Daniel Cere; B.A., M.A.(McG.), Ph.D.(C' dia)

Students wishing to do an Honours degree or a Major or Minor Concentration in Political Science should consult with a Political Science Departmental Adviser each year in order to devise a suitable program. Proper selection of courses is required if a student wishes to graduate on time.

**1. Procedure for NEW Students**

All new students entering the Political Science Program (including Minor Concentrations) are strongly urged to attend an Information Meeting scheduled at the end of August. The date and location of the meeting will be posted on the web. Attendance will help students prepare for their session with an adviser. It is the student's responsibility to be in Montreal for the meeting. The following brochures are available on the Web: "Programs in Political Science", "Minor Programs in Political Science", and "List of Political Science Courses offered 2004-2005". It is essential to read through these prior to attending the Information Meeting.

**2. For all Political Science Students**

"Programs in Political Science", "Minor Programs in Political Science", and "List of Political Science Courses offered 2004-2005" are all available in the Department as well as on the Web. The Calendar provides course descriptions and should be used in conjunction with the "List of Political Science Courses Offered 2004-2005". Students wishing to have courses taken at other universities counted as satisfying program requirements must bring copies of their transcripts and course syllabi to the Director of the Major or Honours Program or the Director of Undergraduate Studies. Students are not accepted into the Honours Program in Political Science until their second year in Political Science; an exception is made for those in Joint Honours Programs.

As course and personnel changes may occur after this Calendar has gone to press, students should not use it to plan their program of studies without first consulting the Department Office for updated information.

**MINOR CONCENTRATION IN POLITICAL SCIENCE**

(18 credits) (Expandable)

**Complementary Courses** (18 credits)

6 - 9 credits at the 200 level, from at least two fields:

*Canadian Politics Field*

- POLI221 (3) Government of Canada
- POLI222 (3) Political Process and Behaviour in Canada
- POLI226 (3) La vie politique Québécoise

*Comparative Politics Field*

- POLI211 (3) Comparative Government and Politics
- POLI212 (3) Government and Politics - Developed World
- POLI227 (3) Developing Areas/Introduction

*International Relations Field*

- POLI243 (3) International Politics of Economic Relations
- POLI244 (3) International Politics: State Behaviour

*Political Theory Field*

- POLI231 (3) Introduction to Political Theory
- POLI232 (3) Modern Political Thought

9 - 12 credits above the 200 level from at least two fields:

*Canadian Politics Field*

- POLI316 (3) Le Québec et l'Amérique du Nord
- POLI320 (3) Issues in Canadian Democracy
- POLI321 (3) Issues: Canadian Public Policy
- POLI326 (3) Provincial Politics
- POLI327 (3) Principles of Public Administration
- POLI336 (3) Le Québec et le Canada
- POLI337 (3) Canadian Public Administration
- POLI342 (3) Canadian Foreign Policy
- POLI355 (3) Idéologie et classes sociales au Québec
- POLI370 (3) Révolution tranquille/changements politiques/ Québec de 1960

- POLI371 (3) Challenge of Canadian Federalism
  - POLI378 (3) The Canadian Judicial Process
  - POLI379 (3) Topics in Canadian Politics
  - POLI410 (3) Canadian Political Parties
  - POLI411 (3) Immigration and Multiculturalism in Canada
  - POLI412 (3) Canadian Voting/Public Opinion
  - POLI415 (3) Political Parties
  - POLI416 (3) Political Economy of Canada
  - POLI417 (3) Health Care in Canada
  - POLI421 (3) Social Movements in Canada
  - POLI426 (3) Partis politiques et comportements électoraux au Québec
  - POLI427 (3) Selected Topics: Canadian Politics
  - POLI446 (3) Les politiques publiques au Québec
  - POLI447 (3) Canadian Constitutional Politics
  - POLI467 (3) Politique et société a Montréal
  - POLI469 (3) Politics of Regulation
  - POLI477 (3) Business-Government Relations in Canada
  - POLI478 (3) The Canadian Constitution
  - QCST440 (3) Aspects du Québec contemporain/ Aspects of Contemp. Quebec
- Comparative Field (Developed and Developing)*
- POLI300D1 (3) Developing Areas/Revolution
  - POLI300D2 (3) Developing Areas/Revolution
  - POLI315 (3) Approaches to Political Economy
  - POLI318 (3) Comparative Local Government
  - POLI319 (3) Politics of Latin America
  - POLI322 (3) Political Change in South Asia
  - POLI323 (3) Developing Areas/China and Japan
  - POLI324 (3) Developing Areas/Africa
  - POLI325D1 (3) Government and Politics: United States
  - POLI325D2 (3) Government and Politics: United States
  - POLI328 (3) Modern Politics in Western Europe
  - POLI329 (3) Russian and Soviet Politics
  - POLI331 (3) Politics in East Central Europe
  - POLI332 (3) Politics of Former Soviet Republics
  - POLI335 (3) State and Society - Southern Europe and South America
  - POLI338 (3) Developing Areas/Topics 1
  - POLI339 (3) Comparative Developed: Topics 1
  - POLI340 (3) Developing Area/Middle East
  - POLI353 (3) British Constitutional Thought
  - POLI356 (3) Public Policy: Western Europe
  - POLI357 (3) Politics: Contemporary Europe
  - POLI358 (3) Comparative State-Society Relations
  - POLI368 (3) Comparative Politics of Welfare
  - POLI411 (3) Immigration and Multiculturalism in Canada
  - POLI414 (3) Society and Politics in Italy
  - POLI419 (3) Transitions from Communism
  - POLI422 (3) Developing Areas/Topics 2
  - POLI423 (3) Politics of Ethno-Nationalism
  - POLI424 (3) Media and Politics
  - POLI425 (3) Topics in American Politics
  - POLI428 (3) Politics of France
  - POLI429 (3) The Politics of South Africa
  - POLI430 (3) The Politics of Scandinavia
  - POLI431 (3) Nations and States/Developed World
  - POLI432 (3) Selected Topics: Comparative Politics
  - POLI437 (3) Politics in Israel
  - POLI438 (3) British Politics
  - POLI450 (3) Peacebuilding
  - POLI451 (3) The European Union
  - POLI454 (3) British Political Thought
  - POLI463 (3) Politics of Germany
  - POLI464 (3) Comparative Political Economy
  - POLI466 (3) Public Policy Analysis
  - POLI471 (3) Democracy in the Modern World
  - POLI472 (3) Developing Areas/Social Movements
  - POLI473 (3) Democracy and the Market

*International Relations*

POLI301	(3)	The Modern International System
POLI341	(3)	Foreign Policy: The Middle East
POLI342	(3)	Canadian Foreign Policy
POLI343	(3)	Foreign Policy: Latin America
POLI344	(3)	Foreign Policy: Europe
POLI345	(3)	International Organization
POLI346	(3)	American Foreign Policy
POLI347	(3)	Arab-Israel Conflict, Crisis, Peace
POLI349	(3)	Foreign Policy: Asia
POLI350	(3)	Approaches to War Avoidance, War Limitation, and Peace
POLI351	(3)	Crisis, Conflict and War
POLI354	(3)	Approaches to International Political Economy
POLI359	(3)	Topics in International Politics
POLI360	(3)	Security: War and Peace
POLI362	(3)	Political Theory and International Relations
POLI441	(3)	IPE: North-North Relations
POLI443	(3)	Change in International Politics
POLI444	(3)	Topics in International Politics
POLI445	(3)	IPE: North-South Relations
POLI450	(3)	Peacebuilding
POLI451	(3)	The European Union

*Political Theory*

POLI333	(3)	Western Political Theory 1
POLI334	(3)	Western Political Theory 2
POLI362	(3)	Political Theory and International Relations
POLI363	(3)	Contemporary Political Theory
POLI364	(3)	Radical Political Thought
POLI365	(3)	Democratic Theory
POLI366	(3)	Topics in Political Theory
POLI433	(3)	History of Political/Social Theory 3
POLI434	(3)	History of Political/Social Theory 4
POLI455	(3)	American Political Thought
POLI459	(3)	Topics in Political Theory
POLI460	(3)	Ideology and Political Ideologies
POLI470	(3)	Philosophy, Economy and Society

Other Political Science courses may be used to satisfy this Minor subject to approval.

**MINOR CONCENTRATION IN POLITICAL SCIENCE:**

**CANADA/QUEBEC** (Non-expandable) (18 credits)

**Complementary Courses** (18 credits)

6 credits at the introductory level from:

POLI221	(3)	Government of Canada
POLI222	(3)	Political Process and Behaviour in Canada
POLI226*	(3)	La vie politique Québécoise

12 credits, 3 of which must be in Quebec politics, from:

POLI226*	(3)	La vie politique Québécoise
POLI316*	(3)	Le Québec et l'Amérique du Nord
POLI320	(3)	Issues in Canadian Democracy
POLI321	(3)	Issues: Canadian Public Policy
POLI326	(3)	Provincial Politics
POLI327	(3)	Principles of Public Administration
POLI336*	(3)	Le Québec et le Canada
POLI337	(3)	Canadian Public Administration
POLI342	(3)	La vie politique Québécoise

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(3)

POLI226\*

(3)

Political Process and Behaviour in Canada

(3)

La vie politique Québécoise

(3)

POLI226\*

(3)

**MINOR CONCENTRATION IN INTERNATIONAL RELATIONS**

(Non-expandable) (18 credits)

**Required Courses** (6 credits)

**Complementary Courses** (12 credits)





The Honours program in Political Science consists of 54 credits of which 48 must be in Political Science. The remaining 6 credits must be in related social studies disciplines and must be taken at the 300 or 400 level.

Students wishing to take Honours Political Science will be admitted to the program in their second year in Political Science. In their first year in political science, they should register as Major students and take 12-15 credits in Political Science spread over at least three of the four main fields offered by the Department (Comparative Politics, Canadian and Québec Politics, International Politics, Political Theory). Potential Honours students are also strongly encouraged to take one of the basic courses in economic analysis (ECON208 and ECON209 or ECON230D1/ECON230D2). The introductory course requirements in the various fields of Political Science are the same as those presented in the description of the Major program above.

Students in the Honours Political Science program are encouraged to concentrate in one or two of the major fields offered by the Department. While concentration is considered beneficial, excessive specialization is discouraged. Students will normally not be permitted to take more than half their Political Science credits in any one field. Honours students are required to take a 3-credit course in Methods (POLI311) and a 3-credit course in Political Theory (at any level). They are also required to take one-quarter of their Political Science credits (12 credits) at the 400-level or higher, including at least one 500- or 600-level Seminar. Students can satisfy this one-quarter rule by taking one 400-, one 500-, and one 600-level course. Further information may be obtained from one of the Honours advisers.

Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.30.

#### JOINT HONOURS – POLITICAL SCIENCE COMPONENT (36 credits)

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours Program components from any two Arts disciplines, see section 11.4 "Joint Honours Programs" for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

**Note:** The following provides only a summary view of the program. Detailed information is provided in the handout "Programs in Political Science", available from the Department; all Joint Honours and potential Joint Honours students must read it before seeing an adviser.

To meet the requirements for Joint Honours degrees, students must complete 36 credits in Political Science and meet the requirements set forth by the other Department. Students wishing to follow a Joint Honours program will be admitted in their first year in political science. Joint Honours students normally take 12 credits in Political Science, 12 credits in the other Honours subject and 6 credits of other courses in each year of their program.

In the first year in political science, the 12 credits in Political Science should cover at least two (preferably three) of the four main fields offered by the Department. While some concentration is encouraged, students will normally not be permitted to take more than half their Political Science credits in any one field. Joint Honours students are required to take a Political Science course in Methods (POLI311) unless they are authorized to take an equivalent social science methods course in another department (Sociology, Economics). In that case they are required to take a course (at any level) in Political Theory. They are also required to take one-quarter of their Political Science credits (i.e., 9 credits) at the 400 level or higher, including at least one 500- or 600-level Seminar. Students can satisfy the one-quarter rule by taking one 500- and one 600-level course.

According to Faculty regulations, Joint Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.30.

#### HONOURS STANDARDS

To enter, remain and graduate in Honours, students must achieve/maintain a B+ average in their political science courses and more than half of the political science grades must be at the B+ level or higher. To be awarded First Class Honours at graduation, in addition to a 3.50 CGPA, students must achieve an A-average in their political science courses and more than half of political science grades must be at the A- level or higher. All political science courses taken at McGill are counted in determining a student's standing. (The specific criteria are given in the brochure "Programs in Political Science", which may also be found on the Department webpage.) To be awarded Honours at graduation, students must be registered in the Honours program in their final year. At graduation, students' Honours standing will be determined by their overall record in the Honours program.

Further information may be obtained from the Head of the Honours program.

#### 12.43 Psychology (PSYC)

Stewart Biological Sciences Building, Room W8/1  
1205 Docteur Penfield Avenue  
Montreal, QC H3A1B1

Telephone: (514) 398-6100

Fax: (514) 398-4896

E-mail: [info@psych.mcgill.ca](mailto:info@psych.mcgill.ca)

Website: [www.psych.mcgill.ca](http://www.psych.mcgill.ca)

**The Psychology Department offers programs in both Arts and Science. For a list of teaching staff and an outline of the nature of Psychology refer to the Science entry "Psychology (PSYC)" on page 343. Programs which may be taken by Arts students are described in this section, those listed under the Faculty of Science may be taken by Science students only.**

**Note:** The B.A. (or B.Sc.) with a Major Concentration or Honours degree in psychology is not a professional qualification. It does not qualify the individual to carry on professional work in psychology.

#### INFORMATION MEETINGS FOR NEW STUDENTS

All new students entering the Psychology undergraduate program are required to attend an Information Meeting prior to registration. Students planning to pursue a Bachelor of Arts with a Major Concentration in Psychology must attend a meeting at 14:30 on August 25, 2004, in the Stewart Biological Sciences Building, Room S1/4. At this meeting, Nicole Allard, the Academic Adviser, will explain the requirements of the Department's programs. Incoming students will have an opportunity to ask questions and receive advice on how to plan their courses. After this meeting students in the Major Concentration in Psychology will make appointments for individual advising sessions and fill out their Study Plan form for registration.

Entering students must bring their letter of acceptance and a copy of their collegial transcript(s). They will also need this Calendar and a preliminary Class Schedule. Students will also find the Psychology Department Handbook helpful. The Handbook contains more detailed descriptions of Psychology courses, as well as providing guidelines for how students might pursue particular areas of interest. The Handbook is available on the Department Website: [www.psych.mcgill.ca/ugrad/ugrad.htm](http://www.psych.mcgill.ca/ugrad/ugrad.htm).

Students entering the Psychology program in January are encouraged to call the Academic Advisor, Nicole Allard, in December to clarify their course selections.

#### COURSE GROUPS: LIST A AND LIST B

The study of psychology covers many fields. To develop a breadth of understanding in psychology, students are expected to obtain knowledge beyond the introductory level in two or more areas of psychology. To ensure this requirement is met, Psychology courses are divided into two lists. List A covers the areas of behavioural neuroscience, cognition and quantitative methods. List B covers social, health and developmental psychology.

**List A (Behavioural Neuroscience, Cognition and Quantitative Methods)**

PSYC301 CEGEP five M50.2922r TcHb4 Te q16 387c96308 B0LCEP T12y 370CEP22vdl136 r q16c0e07c10 6183689030m p16r CE

**MINOR CONCENTRATION IN PSYCHOLOGY** (18 credits)  
(Exp.337ble)

Students registered in a Bachelor of Arts Program in another department may pursue a Minor Concentration in Psychology. This Minor Concentration is exp.337ble for students who may wish to transfer into a Major Concentration in Psychology at a later date.

**Recommended background:** Students are advised to complete a course in Introductory Psychology at the collegial or freshman level. Students who have not previously completed CEGEP Psychology 350-101 or 350-102 or equivalent are required to complete PSYC100 during the first year of study at McGill.

**Complementary Courses** (18 credits)**MINOR CONCENTRATION IN BEHAVIOURAL SCIENCE**

(18 credits) (Non-exp.337ble) (Open only to students registered in the Major Concentration In Psychology)

Students who wish to go on to graduate training in Psychology, and those who may wish to apply for membership in the Ordre des Psychologues du Québec (once the additional graduate requirements of the Ordre have been completed), are advised to take the following supplementary Minor Concentration in Behavioural Science. Note that this counts as a *second* Minor Concentration, and is open only to students registered in the Major Concentration In Psychology. A first Minor Concentration must also be completed in a discipline other than Psychology.

**Complementary Courses** (18 credits)**MAJOR CONCENTRATION IN PSYCHOLOGY** (36 credits)

Students with a Major Concentration in Psychology must obtain a minimum grade of C in all 36 credits of the program. A grade lower than C may be made up by taking another equivalent course (if there is one), by successfully repeating the course, or by successfully writing a supplemental examination (if there is one).

**Recommended Background:**

Students registered in a Bachelor of Arts degree with a Major Concentration or Honours program in Psychology, and those registered in a Bachelor of Arts and Science degree with a Major Concentration or Joint Honours Component in Psychology, are advised to complete courses in Introductory Psychology and Human Biology at the collegial level.

Students who have not previously completed Psychology 350-101 or 350-102 in CEGEP will be required to register for PSYC100 during their U1 year. Bachelor of Arts students who have not completed one Biology 101-301, 101-401, 101-911 or 101-921 in CEGEP will be required to complete BIOL115 (or if they prefer BIOL111 or BIOL112) during their U1 year. Bachelor of Arts and Science students who have not completed one course in General Biology (CEGEP objective OOUK, OOXU or equivalent) will be required to complete one of BIOL 111 or BIOL 112 during their U1 year.

All students who have completed either Mathematics 201-307 or 201-337 or equivalent, or the combination of Quantitative Meth-



possible sur la société québécoise à l'intérieur d'un cadre canadien et international.

Sauf les cours de Études sur le Québec (QCST300), Travaux dirigés (QCST472D1/QCST472D2) et le séminaire (QCST440), les cours compris dans la concentration Majeur ou la concentration Mineur ont la responsabilité des divers départements. Pour connaître la description de ces cours et, le cas échéant, les conditions d'admission, l'étudiant(e) est donc invité(e) à se reporter aux autres sections de l'Annuaire et, au besoin, à consulter les Départements concernés, d'autant plus que tous les cours ne se donnent pas nécessairement à chaque année. Veuillez noter que les conseillers pédagogiques ou les directeurs de programmes peuvent suggérer l'inscription à un cours sans toutefois imposer ce choix. La décision finale revient à l'étudiant(e) en ce qui concerne l'inscription à un cours en autant que l'étudiant(e) répond aux conditions d'admission pour ce cours.

Le titre de chaque cours indique s'il est donné en français ou en anglais, mais les travaux et examens peuvent toujours être rédigés dans l'une ou l'autre de ces deux langues (sauf au Département de langue et littérature françaises, où le français est de rigueur).

The Quebec Studies Program is intended to stimulate interdisciplinary studies and exchanges on Quebec society.

With departmental support, a Major Concentration and a Minor Concentration are offered, both of which consist of a coherent series of courses providing an interdisciplinary perspective on Quebec society in a Canadian and an international context.

Except for the general course (QCST300), the Tutorial (QCST472D1/QCST472D2) and the seminar (QCST440), courses included in the Major Concentration or Minor Concentration are the responsibility of the departments. To obtain a complete description of these courses and the admission requirements where applicable, students should read the relevant sections of the McGill Calendar, and if necessary, consult with the departments concerned, bearing in mind that not all courses are available in any given year. Please take note that an adviser or a director of a program can recommend registration in a course without imposing this choice. The final decision belongs to the student if the student has successfully completed the course prerequisites.

The title of each course indicates whether it is given in French or English, but term papers and exams can be written in either of these two languages (except in the French Language and Literature Department where French is the rule).

#### **LA CONCENTRATION MINEUR EN ÉTUDES SUR LE QUÉBEC MINOR CONCENTRATION IN QUEBEC STUDIES (18 crédits) (Expandable)**

La concentration Mineur en Études sur le Québec a pour but de donner à l'étudiant(e) une connaissance générale de la société québécoise à la fois interdisciplinaire et complémentaire à sa propre discipline de spécialisation.

On peut s'inscrire à la concentration Mineur en U2 ou en U3.

The goal of this Concentration is to give the student a general knowledge of Quebec society that will be both interdisciplinary and complementary to his/her own Major Concentration or Honours Program.

Students can enrol in the Minor Concentration either in U2 or U3. They must obtain permission to do so either from their academic adviser or the director of their Department.

#### **Cours Obligatoires/Required Courses (6 crédits/credits)**

QCST300 (3) Études sur le Québec  
QCST440 (3) Aspects du Québec contemporain/  
Aspects of Contemp. Quebec

#### **Complémentaires/Complementary (12 crédits/credits)**

12 crédits, dont au moins 3 doivent faire partie du tronc commun et les autres peuvent provenir de l'ensemble des cours.

Le choix de ces cours se fera en consultation avec le Directeur du programme et variera selon le domaine de spécialisation de chaque étudiant(e).

12 credits, at least 3 of which must be from Core courses, chosen from the Complementary Course lists below.

The selection of courses will be made in consultation with the Program Director and will vary depending on the Major Concentration or Honours program of each student.

#### **LA CONCENTRATION MAJEUR EN ÉTUDES SUR LE QUÉBEC MAJOR CONCENTRATION IN QUEBEC STUDIES**

(36 crédits)

La concentration Majeur en études sur le Québec s'adresse aussi bien aux étudiants(es) du Québec et du Canada qu'à ceux et celles de l'étranger. Ce programme veut offrir à chaque étudiant(e) une connaissance du Québec à la fois large et approfondie, tout en lui permettant de recevoir une bonne formation interdisciplinaire.

The Major Concentration in Quebec Studies is intended for students from inside as well as outside Quebec and Canada. Its goal is to provide the student with a wide and thorough knowledge of Quebec, while allowing him/her to focus on several fields of study.

#### **Cours Obligatoires/Required Courses (12 crédits/credits)**

QCST300 (3) Études sur le Québec  
QCST440 (3) Aspects du Québec contemporain/  
Aspects of Contemp. Quebec  
QCST472D1 (3) Tutorial/Travaux dirigés  
QCST472D2 (3) Tutorial/Travaux dirigés

#### **Complémentaires/Complementary (24 crédits/credits)**

24 crédits, dont au moins 6 doivent faire partie du tronc commun et les autres peuvent provenir de l'ensemble des cours.

Le choix de ces cours se fera en consultation avec le Directeur du programme et variera selon le domaine de spécialisation de chaque étudiant(e).

24 credits, at least 6 of which must be from Core courses, chosen from the Complementary Course lists below,

The selection of courses will be made in consultation with the Program Director and will vary depending on the Major Concentration or Honours program of each student.

#### **Cours complémentaires/Complementary Course Lists**

Cours inscrits au tronc commun, c'est-à-dire les cours portant plus spécifiquement sur le Québec sont marqués par un astérisque (\*).

Core courses, courses with a specific focus on Quebec, are indicated by an asterisk (\*)

#### **Anglais/English**

ENGL228 Canadian Literature 1  
ENGL229 Canadian Literature 2  
ENGL327 Canadian Prose Fiction 1  
ENGL328 Development of Canadian Poetry 1  
ENGL335 The 20th Century Novel 1  
ENGL336 The 20th Century Novel 2  
ENGL361 Poetry of the 20th Century 1  
ENGL362 Poetry of the 20th Century 2  
ENGL393 Canadian Cinema 1  
ENGL394 Canadian Cinema 2  
ENGL409 Studies in a Canadian Author  
ENGL410 Theme or Movement Canadian Literature  
ENGL411 Studies in Canadian Fiction

#### **Anthropologie/Anthropology**

ANTH306 Native Peoples' History in Canada  
ANTH336 Ethnohistory: North Eastern North America  
ANTH338 Native Peoples of North America  
ANTH436 North American Native Peoples

#### **Architecture**

ARCH372 History of Architecture in Canada

#### **Centre d'enseignement du français et de l'anglais/ English and French Language Centre**

FRSL326 Découvrons le Québec en français

#### **École de travail social/Social Work**

SWRK352 Public Social Services in Canada  
SWRK357 Legal Problems of the Poor  
SWRK535 Women and Social Policy in Canada

**Études sur le Canada/Canadian Studies**

- CANS200 Introduction to the Study of Canada  
 CANS300 Topics in Canadian Studies 1  
 CANS402 Canadian Studies Seminar 2

**Études juives/Jewish Studies**

- JWST354 Interdisciplinary Lectures 2

**Géographie/Geography (\* Core Course)**

- GEOG311 Canada - A Geo-Economic Perspective  
 GEOG326\* Geography of Québec  
 GEOG499\* Subarctic Field Studies

**Histoire/History (\* Core Course)**

- HIST202 Survey: Canada to 1867  
 HIST203 Survey: Canada since 1867  
 HIST303\* History of Quebec  
 HIST332 Constitutional History: Canada - 1867  
 HIST333\* History of New France: Part 1  
 HIST334\* History of New France: Part 2  
 HIST342 Canada: External Relations since 1867  
 HIST343 Women in Post-Confederation Canada  
 HIST353 Canada: Work and Society, 1830-1919  
 HIST357 Religion and Canadian Society in Historical Perspective  
 HIST363 Canada 1870-1914  
 HIST364 Canada, 1914-1945  
 HIST367 Canada since 1945  
 HIST373 Canadian Labour History  
 HIST403\* History of Quebec Institutions  
 HIST423 Topics: Migration and Ethnicity  
 HIST434\* British North America 1760-1867  
 HIST462D1 Topics: Canadian Conservatism  
 HIST462D2 Topics: Canadian Conservatism  
 HIST463D1 Topics: History of Women in Canada  
 HIST463D2 Topics: History of Women in Canada  
 HIST469D1 Topics in Canadian Religious History  
 HIST469D2 Topics in Canadian Religious History  
 HIST471D1 Canadian Immigration History  
 HIST471D2 Canadian Immigration History  
 HIST472D1\* Economics and Society/British North America 1760-1867  
 HIST472D2\* Economics and Society/British North America 1760-1867  
 HIST483D1\* History of Montreal  
 HIST483D2\* History of Montreal  
 HIST493D1 Topics: Canadian Social History  
 HIST493D2 Topics: Canadian Social History

**Histoire de l'art/Art History**

- ARTH301 Canadian Art 1914 - Present  
 ARTH302 Aspects of Canadian Art

**Langue et littérature**

- LIT291 Introduction to French Literature  
 LIT292 Introduction to French Literature  
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**Langue et littérature**

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**Langue et littérature**

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**Langue et littérature**

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**Langue et littérature**

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**Langue et littérature**

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**Langue et littérature**

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**Langue et littérature**

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**12.45 Religious Studies (RELG)**

William and Henry Birks Building  
 3520 University Street  
 Montreal, QC H3A 2A7

Telephone: (514) 398-4121

Website: [www.mcgill.ca/religiousstudies](http://www.mcgill.ca/religiousstudies)

Dean — B. Barry Levy, B.A., M.A., B.R.E.(Yeshiva), Ph.D.(N.Y.U.)

***Emeritus Professors***

Gregory B. Baum; B.A.(McM.), M.A.(Ohio), D.Th.(Fribourg)

Douglas J. Hall; B.A.(W.Ont.), M.Div., S.T.M., Th.D.(U.T.S., N.Y.),

L.L.D.(Wat.), D.D.(Pres.Col), D.D.(Queen's)

Joseph C. McLelland; B.A., (McM.), M.A.(Tor.), B.D.(Knox, Tor.),

Ph.D.(Edin.), D.D.(Mtl. Dio. Coll.; Knox, Tor.)

***Post-Retirement***

Robert C. Culley; B.D.(Knox, Tor.), M.A., Ph.D.(Tor.)

Frederik Wisse; Ing.(Utrecht), B.A., B.D.(Calvin, Mich.), Ph.D. (Claremont)

*Professors*

MauriceBoutin; B.A., B.A., B.A.(Montr.), D.Th.(Munich)  
*(J.W.McConnell Professor of Philosophy of Religion)*  
 ArvindSharma; B.A.(Alld.), M.A.(Syr.), M.T.S., Ph.D.(Harv.)  
*(Henry Birks Professor of Comparative Religion)*  
 KatherineK.Young; B.A.(Vt.), M.A.(Chic.), Ph.D.(McG.) *(James McGill Professor)*

*Associate Professors*

Douglas B.Farrow; B.R.E.(Providence), M.Div.(Grace), M.Th.(Regent), Ph.D.(Lond.)  
 IanH. Henderson; B.A.(Man.), B.D.(St.And.), M.A.(McM.) D.Phil.(Oxon.)  
 G. VictorHori; B.A.(York), M.A.(Tor.), Ph.D.(Stan.)  
 W.J. Torrance Kirby; B.A.(King's, Halifax), M.A., D.Phil.(Oxon.)  
 PatriciaG.Kirkpatrick; B.A.(Dal.), M.T.(Lond.), D.Phil.(Oxon.)  
 G.S. Oegema; B.A., Th.D.(Free: Amsterdam), M.A., Ph.D.(Freie: Berlin), Dr. Theol. Habil (Tubingen)

*Assistant Professor*

Daniel A. Arnold; B.A. (Car.), M.A.(Columbia), M.A.(Iliff), Ph.D.(Chicago)  
 Gaëlle Fiasse, B.A., M.A., Ph.D. (Louvain-le-Neuve) *(Assistant Professor of Ethics and Religious Ethics) (Joint appointment with Department of Philosophy)*  
 L. H. Sideris; B.A., M.A., Ph.D.(Indiana)  
 Devesh Soneji, B.A. (Manitoba), Ph.D. (McG.); *(Assistant Professor of Hinduism)*

*Associate Member*

Leigh Turner; B.A.(Winn.), M.A.(Manit.), M.A., Ph.D. (SouthernCalif.)

*Faculty Lecturers*

Jim Kanaris; B.A.(C'dia), M.A., Ph.D.(McG.)

*Course Lecturers*

Barbara Galli; B.A.(Carlton), M.A.(Tor.), Dip.Ed., Ph.D.(McG.)  
 Lucille Marr; B.A., M.A., Ph.D. (Wat.)  
 Manuel M. Jinbachian, B.Litt. (Oxf). Ph.D.(Strasbourg)  
 Mirela Saim; B.A., M.A.(Bucharest), Ph.D.(McG.), *(Course Lecturer in Dialogues and Controversies)*  
 JohnM.Simons; B.A.(Bishop's), S.T.B.(Trinity), Ph.D.(Georgetown) (PT)  
 Glenn Smith, B.A.(Mich.), M.A. (Ott.), Ph.D.(Nor Bap Theo Sem.)  
 John Vissers; B.A.(Tor.), M.Div.(Knox, Tor.), Th.M.(Princeton), Th.D.(Knox, Tor.) (PT)

**Religious Studies Programs in Arts**

Available within the Faculty of Arts are a Major Concentration and a Minor Concentration in World Religions, a Major Concentration in Scriptures and Interpretations, and a Minor Concentration in Scriptural Languages as well as an Honours and a Joint Honours Program with two options: Western Religions and Asian Religions. These programs are administered by the Faculty of Arts and the general rules, regulations and requirements of that Faculty apply to them.

Students interested in these programs can obtain information from the Faculty of Arts Website at [www.mcgill.ca/arts](http://www.mcgill.ca/arts) and the Religious Studies Website or from a Religious Studies B.A. Adviser. For general information on Religious Studies programs, make an appointment to see an adviser by telephoning (514) 398-4121 or visiting the Reception office in the Birks Building.

Students in these programs must consult an Adviser prior to registration each year.

Admission to the B.A. program is granted according to criteria established by the Faculty of Arts.

*Students interested in theology programs will find information about the Bachelor of Theology (B.Th.) on page286 and the Master of Divinity (M.Div.) on page285.*

**MINOR CONCENTRATION IN WORLD RELIGIONS (18 credits)**  
 (Expandable to Major Concentration in World Religions)

The Minor concentration in World Religions introduces students to the major world religions and to the academic study of religion.

**Complementary Courses (18 credits\*)**

12 credits in Religious Traditions, chosen from the following:  
*Judaism and Christianity*

RELG201	(3)	Religions/Ancient Near East
RELG202	(3)	Religion of Ancient Israel
RELG203	(3)	Bible and Western Culture
RELG204	(3)	Judaism, Christianity and Islam
RELG210	(3)	Jesus of Nazareth
RELG302	(3)	Old Testament Studies 1
RELG303	(3)	Literature of Ancient Israel 2
RELG306	(3)	Rabbinic Judaism
RELG311	(3)	New Testament Studies 1
RELG312	(3)	New Testament Studies 2
RELG320	(3)	History of Christian Thought 1
RELG322	(3)	The Church in History 1
RELG323	(3)	The Church in History 2
RELG324	(3)	Armenian Apostolic Tradition
RELG325	(3)	Varieties Religious Experience in Christianity
RELG326	(3)	Relig06 (3)
		RELG3203)R









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*Associate Professors*

Paul M. Austin; M.A.(C'nell), B.A., Ph.D.(Tor.)

Laura Beraha; B.A., M.A., Ph.D.(McG.)

Tatiana Patera; M.Sc.(Moscow), M.A., Ph.D.(McG.)

*Assistant Professor*

Lyudmila Parts; M.A., Ph.D.(Columbia)

Many opportunities are open to students with qualifications in

- HIST236 (3) Russia from 1801 to 1991
- HIST306 (3) East Central Europe since 1944
- HIST312 (3) East-Central Europe: 1453-1740
- HIST313 (3) East-Central Europe: 1740-1914
- HIST316 (3) Russia: Revolutions 1905 and 1917
- HIST326 (3) Russia from 1905 to Present
- HIST329 (3) Eastern Europe: 4th Century - 1453
- HIST387 (3) The First World War
- HIST388 (3) The Second World War
- HIST406 (3) Petrine and Catherinian Russia
- HIST436 (3) Topics: East European History
- HIST446 (3) Russian Thought to 1825
- HIST456 (3) Russian Intellectual History 1825-1917
- JWST303 (3) The Soviet Jewish Experience
- POLI329 (3) Russian and Soviet Politics
- RUSS199 (3) FYS: Patterns - Russian Culture
- RUSS217 (3) Russia's Eternal Questions
- RUSS221 (3) Russian Prose: 1980s and 1990s
- RUSS510 (3) High Stalinist Culture

**MAJOR CONCENTRATION IN RUSSIAN (36 credits)**

Enrolment in courses above the 200 level is by permission of the Department only.

**Required Courses (18 credits\*)**

- RUSS210 (3) Elementary Russian Language 1
- RUSS211 (3) Elementary Russian Language 2
- RUSS310 (3) Intermediate Russian Language 1
- RUSS311 (3) Intermediate Russian Language 2
- RUSS400 (3) Advanced Russian Language 1
- RUSS401 (3) Advanced Russian Language 2

\* The required courses are designed to give students a basic working knowledge of Russian. Students who can demonstrate to the Department that they have acquired the equivalent competence elsewhere will replace these credits with courses from the Complementary Course list.

**Complementary Courses (18 credits)**

12 credits to be selected from the following:

- RUSS199 (3) FYS: Patterns - Russian Culture
- RUSS217 (3) Russia's Eternal Questions
- RUSS218 (3) Russian Literature in Revolution
- RUSS219 (3) Russian Literature in Recovery
- RUSS221 (3) Russian Prose: 1980s - 1990s
- RUSS223 (3) Russian Writers - 19th Century
- RUSS224 (3) From War to Revolution
- RUSS327 (3) Outlines 19th Century Russian Literature: Romantic Period
- RUSS328 (3) Outlines 19th Century Russian Literature: Russian Realism
- RUSS330 (3) Introduction to Soviet Russian Literature before WWII
- RUSS331 (3) Introduction to Soviet Russian Literature after WWII

6 credits to be selected from the following:

- RUSS410 (3) Drama in Russian Literature before 1850
- RUSS411 (3) Drama in Russian Literature after 1850
- RUSS450 (3) 20th-Century Russian Language and Literature before WWII
- RUSS451 (3) 20th-Century Russian Language and Literature after WWII
- RUSS455 (3) History of the Russian Language 1
- RUSS456 (3) History of the Russian Language 2
- RUSS458 (3) Development Russian Novel before Turgenev
- RUSS459 (3) Russian Novel Pushkin - Gogol
- RUSS460 (3) Russian Novel 1860-1900 1
- RUSS461 (3) Russian Novel 1860-1900 2
- RUSS462 (3) Soviet Literature: Thaw - Early 70s
- RUSS463 (3) Soviet Literature: Early 70s - Perestroika
- RUSS465 (3) Russian Modernism 1

- RUSS466 (3) Russian Modernism 2
- RUSS468 (3) Pushkin and Contemporaries 1
- RUSS469 (3) Pushkin and Contemporaries 2
- RUSS510 (3) High Stalinist Culture

By arrangement with the Department and subject to University approval, transfer credits will be accepted from Department-approved exchange/immersion programs.

**HONOURS IN RUSSIAN (60 credits)**

The Department offers a full Honours Program in Russian for students intending to pursue graduate studies or advanced careers in the field. Students must complete 60 credits in the Program, as well as maintaining a CGPA in accordance with Faculty requirements. All students applying for an Honours in Russian must consult with an academic adviser in the Department for approval of their program. Normally, 200-level courses are taken in U1, 300 in U2 and 400 in U3. By arrangement with the Department and subject to University approval, transfer credits will be accepted from Department-approved exchange/immersion programs. Up to 9 credits, in total, can be taken toward a student's Honours program from courses offered in other departments in the Faculty, listed at the end of this section. Students who have acquired competency elsewhere will replace lower-level courses with upper-level courses.

In addition to the completion of the Honours requirements, students must also complete at least one Minor Concentration (18credits) in an academic d3.t other than the one in which the Honours requirements are satisfied.

Students wishing to enrol in Russian-language courses require Departmental approval.

**U1 Required Courses (12 credits)**

- RUSS215 (6) Elementary Russian Language Intensive 1
- RUSS316 (6) Intermediate Russian Language Intensive 2

**U1 Complementary Courses (6 credits)**

selected from:

- RUSS199 (3) FYS: Patterns - Russian Culture
- RUSS218 (3) Russian Literature in Revolution
- RUSS219 (3) Russian Literature in Recovery
- RUSS221 (3) Russian Prose: 1980s and 1990s
- RUSS223 (3) Russian Writers - 19th Century
- RUSS224 (3) From War to Revolution

**U2 Required Courses (24 credits)**

- RUSS415 (6) Advanced Russian Language Intensive 1
- RUSS416 (6) Advanced Russian Language Intensive 2
- RUSS327 (3) Outlines 19th Century Russian Literature: Romantic Period
- RUSS328 (3) Outlines 19th Century Russian Literature: Russian Realism
- RUSS330 (3) Introduction to Soviet Russian Literature before WWII
- RUSS331 (3) Introduction to Soviet Russian Literature after WWII

**U3 Required Courses (12 credits)**

- RUSS452 (3) Advanced Russian Language and Syntax 1
- RUSS453 (3) Advanced Russian Language and Syntax 2
- RUSS490 (3) Honours Seminar
- RUSS491 (3) Honours Seminar

**Additional Complementary Courses (6 credits)**

selected from:

- RUSS217 (3) Russia's Eternal Questions
- RUSS410 (3) Drama in Russian Literature before 1850
- RUSS411 (3) Drama in Russian Literature after 1850
- RUSS450 (3) 20th-Century Russian Language and Literature before WWII
- RUSS451 (3) 20th-Century Russian Language and Literature after WWII
- RUSS455 (3) History of the Russian Language 1
- RUSS456 (3) History of the Russian Language 2
- RUSS458 (3) Development Russian Novel before Turgenev

RUSS459	(3)	Russian Novel Pushkin - Gogol
RUSS460	(3)	Russian Novel 1860-1900 1
RUSS461	(3)	Russian Novel f860-1900 2
RUSS462	(3)	Soviet Literature: Thaw - Early 1970s
RUSS463	(3)	Soviet Literature: Early 1970s - Perestroika
RUSS465	(3)	Russian Modernism 1
RUSS466	(3)	Russian Modernism 2
RUSS468	(3)	

According to Faculty regulations, Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

#### **JOINT HONOURS – RUSSIAN COMPONENT (36credits)**

Students must maintain a CGPA in accordance with Faculty requirements. 12credits in Russian and 12credits in the cooperating department are normally taken each year. For information telephone (514) 398-3639.

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours program components from any two Arts disciplines, see section 11.4 "Joint Honours Programs" for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

According to Faculty regulations, Joint Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

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### **12.47 Science for Arts Students**

*Director —*

Professor Louis Lefebvre (*Biology*) (514) 398-6457

The following courses offered by the Faculty of Science may be of interest to Arts students. Not all courses are available in any given year.

#### **Atmospheric and Oceanic Sciences**

#### **MINOR CONCENTRATION IN SCIENCE FOR ARTS STUDENTS (18 credits)**

[Program revisions are under consideration for September 2004. Go to [www.mcgill.ca](http://www.mcgill.ca) (Course Calendars) in July for details.]

Freshman students interested in this Minor Concentration should seek advice at the earliest opportunity, either through the Freshman Advisers or by contacting the Program Director. In general, students should declare their intention to obtain this Minor Concentration during their U1 year and consult the Program Director regarding approval of courses to meet the requirements.

This Minor Concentration is administered by the Department of Biology. For more information contact Ms. Anne Comeau in the departmental Undergraduate Affairs Office, Room W4/8 Stewart Biological Sciences Building, (514) 398-4109; or the Program Director, Professor Louis Lefebvre, Room W6/10 Stewart Biological Sciences Building, (514) 398-6457.

#### **Required Courses (6 credits)**

#### **Complementary Courses (12 credits)**

#### **DISCIPLINARY AREAS**

##### **Atmospheric and Oceanic Sciences**

Students should note that MATH133 (or its CEGEP equivalent) is not essential as a prerequisite for these courses.

##### **Biochemistry**

Prerequisites which cannot be counted towards the Minor Concentration: BIOL111 and BIOL112 plus CHEM120 (or CHEM121) or their CEGEP equivalents.

12 credits taken from the following courses and their associated 200 or 300-level prerequisites:



**Mathematics and Statistics**

[Students in any Minor or Major Concentration or Honours Pro-

Faith Wallis; M.A., M.L.S.(McG.), Ph.D.(Tor.)

*Assistant Professor*

Thomas Schlich; M.D.(Marburg), Ph.D.(Freiburg)

The Minor Concentration in Social Studies of Medicine is an interdisciplinary concentration of courses designed to address the needs of (1) undergraduates preparing for one of the health professions, and (2) social sciences and humanities undergraduates who wish to gain a broader interdisciplinary understanding of medicine and health issues.

The courses present medicine as a complex network of institutions, cultures and political relations embedded in the institutions, cultures and political relations of the larger society. Courses are divided into three groups: History of Medicine, Anthropology of Medicine, and Medical Humanities and Social Sciences.

The Minor consists of 18 credits. Students are required to take six credits from each of the three groups. **Note: No overlap** is permitted with courses counting towards the student's Major Concentration. A maximum of 6 credits can be taken at another university; the approval of the student's adviser is required.

**MINOR CONCENTRATION IN SOCIAL STUDIES OF MEDICINE** (18 credits)

[Additions to the Complementary Course lists are under consideration for September 2004. Go to [www.mcgill.ca](http://www.mcgill.ca) (Course Calendars) in July for details.]

**Complementary Courses** (18 credits)

**12.49 Social Work (SWRK)**

School of Social Work

Wilson Hall

3506 University Street

Montreal, QC H3A2A7

Telephone: (514) 398-7070

Fax: (514) 398-4760

E-mail: [undergraduate.socialwork@mcgill.ca](mailto:undergraduate.socialwork@mcgill.ca)

Website: [www.mcgill.ca/socialwork](http://www.mcgill.ca/socialwork)

*Acting Director* — Estelle Hopmeyer

*Emeritus Professor*

David E. Woodsworth; B.A., Dipl.S.W.(Tor.), M.A.(Mich.), Ph.D.(Brandeis)

*Professors*

Peter Leonard; B.Sc., M.Sc., Dip. Mental Health (Lond.)

James Torczyner; B.H.L.(Yeshiva), M.S.W., D.S.W.(Calif.)

*Associate Professors*

Ben Zion Dalfen; B.A., M.S.W., Dip.Adv.Soc.Wk.Pr.(McG.)

Linda Davies; B.S.W., M.S.W.(McG.), Ph.D.(North Lond.Poly.)

Sydney Duder; B.Sc., M.S.W., Dip.Adv.Soc.Wk.Pr., Ph.D.(McG.)

Estelle Hopmeyer; B.A., M.S.W.(McG.)

Julia Krane; B.A.(Ott.), B.S.W.(McG.), M.S.W., Ph.D.(Tor.)

Carol Cumming Speirs; B.A.(Sir G.Wms.), M.S.W.(McG.)

Ingrid Thompson; B.A.(Sir G.Wms.), M.S.W.(McG.), Ph.D.(Can.)

*Assistant Professors*

Shari Brotman; B.S.W., M.S.W.(McG.), Ph.D.(Tor.)

Amanda Grenier; B.S.W.(Windsor), M.S.W., Ph.D.(McG.)

Lindsay John; B.A.(Guelph), M.S.W.(W. Laur.), M.Sc.(McM.), Ph.D.(Tor.)

Lucyna Lach; B.A., M.S.W., Ph.D.(Tor.)

Margaret-Ann Smith; B.A.(Montr.), M.S.W.(McG.)

Samantha Wehbi; B.A.(York); M.S.W.(Tor.); Ph.D.(McG.)

Robin Wright; B.A./B.S.W.(McM.), M.S.W., Ph.D.(Tor.)

*Coordinator of Field Education* — Francine Granner

The Faculty of Arts, through the School of Social Work, offers an undergraduate program of professional studies in Social Work, leading to the degree of Bachelor of Social Work (B.S.W.). The B.S.W. degree course has the following principal educational objectives:

1. To prepare students for professional practice in any one of a range of social service positions. (The B.S.W. degree represents the point of admission into the Ordre Professionnel des Travailleurs Sociaux du Québec\* and the Canadian Association of Social Workers)





opportunity for students to consolidate past experience related to social work or, for some, to change career directions.

The minimum requirements for admission to the Special B.S.W. are as follows:

1. Bachelor's degree with a high B average.  
A Bachelor's degree is defined as being either a three-year degree following a CEGEP Diploma (or equivalent advanced standing) or a four-year degree following high school.
2. Completion of at least five courses (15 credits) in the social sciences.
3. An introductory course in statistics (either CEGEP or university level).
4. Paid and/or volunteer work experience.

Normally, candidates will not be considered unless their GPA is 3.00 or better. Within the group of applicants who meet this requirement, preference will be given to those who have had social work-related experience, paid or volunteer, and also to those who demonstrate personal suitability for the profession of social work.

While not a prerequisite for admission, possession of a working knowledge of the French language is important not only to candidates who intend to seek admission to the Quebec professional corporation after graduation but also to those who wish to maximize their field placement opportunities during their program. Students, however, have the option of completing their field requirements at an approved social service agency outside of Quebec once course work is completed.

The Special B.S.W. is usually a full-time program of study. Those wishing to pursue this program follow a prescribed pattern of study starting with the initial summer session in May-June (7 weeks), the academic session (September-April), and the second summer session (April-June of the following year). In some instances, part-time study can be arranged.

More details on entrance requirements are available on the Web, at [www.mcgill.ca/applying](http://www.mcgill.ca/applying). The application deadline is December 1.

#### **SPECIAL B.S.W. (BACHELOR OF SOCIAL WORK) – PLAN OF STUDY**

The Special B.S.W., for those holding an undergraduate degree, will be offered in three time blocks: a summer session of 7 weeks, May - June, one regular academic year, and a summer session of 12 weeks, April - June. Students in this program will take 48 Social Work credits, including courses in social work practice, field practice, and policy.

**Required Courses** (33 credits)

**\*1557 Tw (1foutside of )h(33 cred.aEifouts4er sessi in threes)**

the professions, management, education, law, medicine and health-related areas, social work, and communications in both the public sector and private industry.

The Department offers a Minor Concentration, a Major Concentration, and an Honours Program in Sociology. Although students from outside the Department may take courses in the Department without having had SOCI 210 Sociological Perspectives (except where noted otherwise), nevertheless the course is recommended. The purpose of the Minor Concentration is to give the student a basic understanding of the field of Sociology, while the Major Concentration will provide a more comprehensive coverage of the field. The purpose of the Honours Program is to permit a student to study the field in depth, and to do an Honours Project – a research paper under the supervision of a faculty member, the topic and supervisor chosen by mutual agreement between the student and the professor.

**Undergraduate Program Director:**

Jack Sandberg, Leacock 729

Telephone: (514) 398-2946

E-mail: john.sandberg@mcgill.ca

**Honours Undergraduate Adviser:**

500-level seminars are open to Honours students and social science Major Concentration students in their final year, and Minor Concentration students only with permission of the instructor.

**MAJOR CONCENTRATION IN SOCIOLOGY** (36 credits)

The purpose of the Major Concentration is to give the student a comprehensive understanding of the field of sociology.

**U1 Required Courses** (6 credits)

**U2 Required Courses** (6 credits)

**Complementary Courses** (24 credits\*)

**Seminars at the 500-level** are open to Honours students and social science Major Concentration students in their final year, and Minor Concentration students only with permission of the instructor.

**Graduate Seminars** listed below are open to final-year Honours students with adequate preparation:

- SOC1612 Industrial Sociology
- SOC1627 Political Sociology
- SOC1629 Ethnicity and Public Policy
- SOC1652 Current Sociological Theory
- SOC1661 Seminar: Sociology of Knowledge.

**HONOURS IN SOCIOLOGY** (51 credits)

Students may register for the Honours Program at the beginning of their second year (U2).

To remain in the Honours Program and receive an Honours degree, students must maintain a cumulative grade point average (CGPA) of 3.00, as well as a program GPA of 3.30. For more information see section 3.5 "Program Requirements".

A Minor Concentration outside Sociology must be taken.

**Required Courses** (18 credits)

**Complementary Courses** (33 credits\*)

**JOINT HONOURS – SOCIOLOGY COMPONENT** (36 credits)

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours program components from any two Arts disciplines, see section 11.4 "Joint Honours Programs" for a list of available programs.

Students may register for the Joint Honours program at the beginning of their second year (U2).

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

Joint Honours students must maintain a minimum CGPA of 3.00 as well as a minimum GPA of 3.30 in this component.

**Required Courses** (18 credits)

**Complementary Courses** (18 credits)

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**12.51 Women's Studies (WMST)**

McGill Centre for Research and Teaching on Women (MCRTW)  
3487 Peel Street, Second Floor  
Montreal, QC H3A 1W7

Telephone: (514) 398-3911

Website: www.mcgill.ca/mcrtw

*Chair, Women's Studies Advisory Committee* —

Professor Elizabeth Elbourne (*on leave Fall 2004; Acting Chair - TBA*)

Telephone: (514) 398-3911 ext. 4 / (514) 398-4856

*Minor Program Adviser* — Monica Hotter

(514) 398-3911 ext. 3

*Major/Honours/Joint Honours Adviser* — Professor Elizabeth Elbourne

**Women's Studies Advisory Committee (WSAC) 2004-2005**

*Chair* — Professor Elizabeth Elbourne (*History*)

*Minor Program Adviser/Secretary* — Monica Hotter

*Faculty of Arts Representatives*

Professor Sajida Alvi (*Islamic Studies*)

Professor Trudis Goldsmith-Reber (*German Studies*)

Professor Michelle Hartman (*Islamic Studies*)

Professor Sam Noumoff (*Political Science*)

Professor Eliane Weiner (*Sociology*)

*Representatives from other Faculties*

**MINOR CONCENTRATION IN WOMEN'S STUDIES** (18 credits)  
(Expandable)

Adviser: Monica Hotter

**Required Courses** (6 credits)WMST200 (3) Introduction to Women's Studies  
WMST303 (3) Feminist Theory and Research**Complementary Courses** (12 credits)

12 credits from the three Women's Studies Complementary Course Groups: Historical and Non-European; Literature and the Arts; Science and Social Studies.

9 credits to be chosen from one group,

3 credits to be chosen from a second group.

By arrangement with the Chair of the Women's Studies Advisory Committee and subject to University approval, transfer credits will be accepted from approved exchange programs for a total of no more than 6 credits.

**MAJOR CONCENTRATION IN WOMEN'S STUDIES** (36 credits)

Adviser: Chair, Women's Studies Advisory Committee

**Required Courses** (6 credits)WMST200 (3) Introduction to Women's Studies  
WMST303 (3) Feminist Theory and Research**Complementary Courses** (30 credits)

30 credits from the three Women's Studies Complementary Course Groups: Historical and Non-European; Literature and the Arts; Science and Social Studies.

At least 6 of the 30 credits must be at the 400 or 500 level.

12 credits to be chosen from one group,

12 credits to be chosen from a second group,

6 credits to be chosen from the remaining group.

By arrangement with the Chair of the Women's Studies Advisory Committee and subject to University approval, transfer credits will be accepted from approved exchange programs for a total of no more than 12 credits.

**HONOURS IN WOMEN'S STUDIES** (57 credits)[Program revisions - including a reduction in credit weight for the Honours Thesis - are under consideration for September 2004. Consult the Honours Adviser or go to [www.mcgill.ca](http://www.mcgill.ca) (Course Calendars) in July for details.]

Adviser: Chair, Women's Studies Advisory Committee

Honours students are encouraged to take at least one course in a non-European tradition. Honours students must maintain a program GPA of 3.30 and a CGPA of 3.00.

Honours students must write a thesis, to be developed within the framework of the Honours/Joint Honours Colloquium. The thesis will be supervised by an appropriate faculty member with the approval of the Women's Studies Honours Thesis Committee; students should secure the approval of a potential adviser during the year before undertaking the thesis.

It is suggested that students develop a theme or focus for their Honours thesis by concentrating in one component or by integrating two.

**Required Courses** (12 credits)WMST303 (3) Feminist Theory and Research  
WMST495D1 (1.5) Honours/Joint Honours Colloquium  
WMST495D2 (1.5) Honours/Joint Honours Colloquium  
WMST496D1 (3) Honours Thesis  
WMST496D2 (3) Honours Thesis**Complementary Courses** (45 credits)

45 credits from the three Women's Studies Complementary Course Groups: Historical and Non-European; Literature and the Arts; Science and Social Studies.

At least 9 of the 45 credits must be at the 400 or 500 level; no more than 18 credits can be at the 200 level.

at least 15 credits to be chosen from one group,

at least 15 credits to be chosen from a second group,

at least 6 credits to be chosen from the remaining group.

**JOINT HONOURS IN WOMEN'S STUDIES** (36 credits)[Program revisions are under consideration for September 2004. Consult the Honours Adviser or go to [www.mcgill.ca](http://www.mcgill.ca) (Course Calendars) in July for details.]

Adviser: Chair, Women's Studies Advisory Committee

Joint Honours students must maintain a program GPA of 3.30 and a CGPA of 3.00.

Joint Honours students must write a thesis, to be developed within the framework of the Honours/Joint Honours Colloquium. The thesis will be supervised by an appropriate faculty member with the approval of the Women's Studies Honours Thesis Committee; students should secure the approval of a potential adviser during the year before undertaking the thesis. Three credits will be accorded to the thesis (to be graded by the supervisor), and 3 credits to work undertaken in the Colloquium, which requires supplemental reading and writing assignments, participation in seminars by visiting speakers, training in research and thesis writing methods, presentation to the group of theses in progress, and response to the work of others.

**Required Courses** (9 credits)WMST303 (3) Feminist Theory and Research  
WMST495D1 (1.5) Honours/Joint Honours Colloquium  
WMST495D2 (1.5) Honours/Joint Honours Colloquium  
WMST497D1 (1.5) Joint Honours Thesis  
WMST497D2 (1.5) Joint Honours Thesis**Complementary Courses** (27 credits)

27 credits from the three Women's Studies Complementary Course Groups: Historical and Non-European; Literature and the Arts; Science and Social Studies.

At least 6 of the 27 credits must be at the 400 or 500 level; no more than 9 credits can be at the 200 level.

12 credits to be chosen from one group,

12 credits to be chosen from a second group,

3 credits to be chosen from the remaining group.

**COMPLEMENTARY COURSE LISTS**[Additions are under consideration for September 2004. Go to [www.mcgill.ca](http://www.mcgill.ca) (Course Calendars) in July for details.]**Notes:**

Courses that appear in more than one component may not be double counted.

\* indicates courses that are acceptable ONLY when the topic is appropriate for Women's Studies.

**(1) Historical and Non-European Group***Anthropology***(2) Literature and the Arts Group**

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## B.A. & SC. DEGREE

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Special requests can be made, in writing, to the Associate Dean (Student Affairs) of Science, who is responsible for students pursuing a B.A. & Sc.





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B.A. & Sc.". As a result, the students' expected date of graduation may be delayed.

Some courses may require special permission. Students should consult this Calendar and/or the Class Schedule well in advance of the course change, (drop/add) period to determine if permission is required of the instructor, the department, or the Faculty for any course they wish to take.

Students who believe they have valid reasons to take a course that may not be credited towards the B.A. & Sc. must obtain the permission of the Associate Dean (Student Affairs) of Science.

### **5.2.1 Registration for First-Year Seminars**

Registration for First-Year Seminars is limited to students in their first year of study at McGill, i.e., newly admitted students in U0 or U1. These courses are designed to provide a closer interaction with professors and better working relations with peers than is available in large introductory courses. These seminars endeavour to teach the latest scholarly developments and expose participants to advanced research methods. Registration is on a first-come, first-served basis. The maximum number of students in each of these courses is limited to 15.

- in courses in which both a supplemental examination and additional work are available, students may choose the additional work or the examination or both; where both are written, only one supplemental mark will be submitted, reflecting marks for both the supplemental examination and the additional work;
- additional credit will not be given for a supplemental exam where the original grade for the course was a D and the student already received credit for the course;
- supplemental examinations in courses outside the Faculties of Arts or Science are subject to the deadlines, rules, and regulations of the relevant faculty;
- no supplemental examinations are available for students who fail to achieve satisfactory grades in a course with a deferred examination.

For courses in the Faculties of Arts and of Science, the supplemental examination period for fall courses is during the months of April and May, and for winter courses and courses spanning fall/winter during the last week of August. Supplemental applications are available at [www.mcgill.ca/artscisao](http://www.mcgill.ca/artscisao). The deadline for submission of applications is March 1 for fall courses and July 15 for winter courses and courses spanning fall/winter. A non-refundable fee for each supplemental paper is payable at the time of application. Students who register for a supplemental examination and subsequently find themselves unprepared for it should not write it; except for the loss of the registration fee, there is no penalty for not writing a supplemental examination. Students should consult the Student Affairs Office for further information.

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## 8.2 Additional Work

Instructors of courses that include graded written term work may choose to provide the option of additional work to eligible students. The following conditions apply:

- if there is an option for additional work, it must be announced in the course outline at the beginning of the course;
- additional work involves revising one or more previously submitted papers or submitting new written work to replace the original work;
- students must be in satisfactory or probationary standing;
- students must have received a final grade of D, J, F, or U in the course;
- the mark resulting from the revised or additional work will be recorded as a supplemental mark;
- the supplemental result will not erase the grade originally obtained; both the original mark and the supplemental mark will count in calculating the CGPA;
- the weight of the additional work, in calculating the supplemental mark, will be equal to the weight given the work revised or replaced when the original mark was submitted;

in 2004-2005 Undergraduate Programs, McGill University



## 11 Programs in the B.A. & Sc.

### 11.1 Major Concentrations

#### 11.1.1 Arts

The Arts Major Concentrations available to B.A. & Sc. students are listed here and are described in detail in the Faculty of Arts section of the Calendar.

African Studies  
 Anthropology  
 Art History  
 Canadian Studies  
 Classics  
 Contemporary German Studies  
 East Asian Studies  
 Economics  
 English - Literature  
 English - Drama and Theatre  
 English - Cultural Studies  
 Langue et littérature françaises - Lettres  
 Langue et littérature françaises - Lettres et traduction  
 Langue et littérature françaises - Linguistique du français  
 Geography  
 Geography (Urban Systems)  
 German Language and Literature  
 German Literature and Culture  
 Hispanic Literature and Culture  
 Hispanic Languages  
 History  
 Humanistic Studies  
 International Development Studies  
 Italian Studies  
 Jewish Studies  
 Latin-American Studies  
 Linguistics  
 Middle East Studies  
 Music  
 North American Studies  
 Philosophy  
 Political Science  
 Québec Studies  
 Religious Studies - Scriptures and Interpretations  
 Religious Studies - World Religions  
 Russian  
 Sociology  
 Women's Studies

#### 11.1.2 Science

The Science Major Concentrations available to B.A. & Sc. students are listed here and are described in detail either below in the Arts & Science (AS) section or in the Faculty of Arts (A) section of the Calendar as indicated.

Biology - Organismal Option (AS)  
 Biology - Cell/Molecular Option (AS)  
 Biomedical Sciences (AS)  
 Chemistry (AS)  
 Computing, Foundations of (A)  
 Earth, Atmosphere and Ocean Sciences (AS)  
 Geography - Physical Option (AS)  
 Mathematics (A)  
 Physics (AS)  
 Psychology (A)

### 11.2 Faculty Programs

The Faculty Programs available to B.A. & Sc. students are listed here and are described in detail either below in the Arts & Science

(AS) section or in the McGill School of Environment (E) section of the Calendar as indicated.

Cognitive Science (AS) (under development)  
 Environment programs (E) (under development)

### 11.3 Honours Programs

There are currently no Honours programs approved for B.A. & Sc. students. Students interested in an Honours degree should consider the Joint Honours Programs in the next section.

### 11.4 Joint Honours Programs

Joint Honours programs in the B.A. & Sc. are created by combining a Joint Honours Program component from an Arts discipline with one from a Science discipline. Students must register for both Joint Honour Program components. Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

#### 11.4.1 Arts

The Arts Joint Honours components available to B.A. & Sc. students are listed here and are described in detail in the Faculty of Arts section of the Calendar.

Anthropology  
 Art History  
 Canadian Studies  
 Classics  
 East Asian Studies  
 Economics  
 English - one of:  
 Cultural Studies, Drama and Theatre, or Literature  
 Langue et littérature françaises - one of:  
 Lettres, or Lettres et traduction  
 Geography  
 German Studies  
 Hispanic Studies  
 History  
 International Development Studies  
 Italian Studies  
 Jewish Studies  
 Linguistics  
 Middle East Studies  
 Philosophy  
 Political Science  
 Religious Studies  
 Russian  
 Sociology  
 Women's Studies

#### 11.4.2 Science

There are currently only two Science Joint Honours components available to B.A. & Sc. students, which are listed here and are described in detail in the Faculty of Arts section of the Calendar.

Mathematics  
 Psychology (pending University approval)

### 11.5 Minor Concentrations or Minors

#### 11.5.1 Arts

The Arts Minor Concentrations available to B.A. & Sc. students are listed here and are described in detail in the Faculty of Arts section of the Calendar.

African Studies  
 Socio-Cultural Anthropology - see Anthropology  
 Anthropological Archaeology - see Anthropology  
 Art History  
 Canadian Ethnic Studies  
 Canadian Studies  
 Catholic Studies

## 11.6 Integrative Courses

### 11.6.1 Required Integrative Course

All students pursuing a B.A. & Sc. must take BASC 201, normally in U1.

### 11.6.2 Complementary Integrative Course

Students in the B.A. & Sc. are required to complete at least one other integrative course (at least 3 credits), possibly within one of their programs, chosen from the following:

ANTH 201 Prehistoric Archaeology  
 ANTH 203 Human Evolution  
 ANTH 227 Medical Anthropology  
 ANTH 312 Zooarchaeology  
 ATOC/EPSC 250 Natural Disasters  
 ECON 347 Economics of Climate Change  
 ENGC 200 Communications - Pre-Electronic Age  
 ENGC 210 History of Communication - Electronic Age  
 ENVR 200 The Global Environment  
 ENVR 201 Society and Environment  
 ENVR 202 The Evolving Earth  
 ENVR 203 Knowledge, Ethics and Environment  
 GEOG 200 Geographical Perspectives: World Environmental Problems  
 GEOG 203 Environmental Systems  
 GEOG 302 Environmental Management 1  
 GEOG 350 Ecological Biogeography  
 LING 390 Neuroscience of Language  
 LING 555 Language Acquisition 2  
 MATH 328 Computability and Mathematical Linguistics  
 MATH 330 Mathematical Finance  
 MATH 338 History and Philosophy of Mathematics  
 PHIL 220 Introduction to History and Philosophy of Science 1  
 PHIL 221 Introduction to History and Philosophy of Science 2  
 PHIL 341 Philosophy of Science 1  
 PHIL 350 History and Philosophy of Ancient Science  
 PHIL 411 Topics in Philosophy of Logic and Mathematics  
 PHIL 441 Philosophy of Science 2  
 SOCI 225 Medicine & Health in Modern Society  
 SOCI 234 Population and Society  
 SOCI 235 Technology and Society  
 SOCI 338 Intro to Biomedical Knowledge

As a substitute, students can fulfill the requirement for a complementary integrative course by conducting library or empirical research that integrates the components of their program as a 3- or 6-credit independent study course, thesis course, or research course.

### 11.5.2 Science

The Science Minors (M) or Minor Concentrations (MC) available to B.A. & Sc. students are listed here and are described in detail either in the Faculty of Science (S) or Faculty of Arts (A) section of the Calendar as indicated.

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Saturday

11:00 – 17:00

**Programs of Professional Development**

For qualified teachers wishing to enhance their knowledge and

All graduates of the 120-credit Bachelor of Education programs may apply for a permanent Teaching Diploma (Brevet) immediately upon graduation.

**In order to be eligible for a “Permit to Teach” or a permanent Quebec Diploma, candidates must be either Canadian citizens or Permanent Residents.**

In addition to meeting these requirements, candidates for Teacher certification must be recommended by McGill University in a series of core professional competencies specified in “Teacher Training Orientations – Professional Competencies” (MEQ 69-2099A).

Holders of a temporary Permit or of a permanent Diploma wishing to teach in another province or in another country must apply directly to the Teacher Certification Agency in the relevant province or country. Similarly, teachers from other provinces or countries who wish to teach in Quebec must apply to the:

Ministère de l'Éducation  
600 Fullum, 2e étage  
Montréal, QC H2K 4L1  
Telephone: (514) 873-8208

It is recommended that applicants intending to teach in other provinces obtain information beforehand concerning the requirements for certification in the appropriate province.

Fluency (oral and written) in English is a requirement for all those seeking certification as a teacher in the province of Quebec. Students who cannot demonstrate such fluency will be required to withdraw from the Faculty.

**For students in the B.Ed. Teaching French as a Second Language (TFSL) and the Baccalauréat en enseignement du français langue seconde, fluency (oral and written) in French is also required for those seeking certification as a teacher in the province of Quebec and those who cannot demonstrate such fluency will be required to withdraw from the Faculty.**

### **2.1.3 General Admission Requirements – Undergraduate Programs**

Except for the Concurrent Bachelor of Education in Music and Bachelor of Music (Music Education) program for which application should be made to the Faculty of Music (refer to section 2.1.4

“Additional Admission Requirements” in the p-0.D /F1 8.25 Tf f ur0.1181 istsee province3/F1 8.25g 8.25 Tf 0.0804 Tc 0 Tw (2.1.35 0 TD 0Fv tion s University

## 2.2 Programs of Professional Development

The Faculty of Education offers programs of professional development in several fields. All such programs are 30 credits, unless otherwise indicated, and may be completed through part-time study. They are intended to provide an opportunity for teachers and other educators to enhance their existing knowledge and skills or to develop new ones, and thus are normally available only to those who are already certified as teachers.

Detailed information regarding general regulations, admission requirements and program profiles for the following certificates and diplomas may be found in the *2004-05 Centre for Continuing Education Calendar*. Additional information about these programs may be obtained from the offering departments.

Faculty of Education  
Office of Continuing Education  
3700 McTavish Street, Room 243  
Montreal, QC H3A 1Y2  
Telephone: (514) 398-7043 Fax: (514) 398-4679  
Website: [www.education.mcgill.ca/conted](http://www.education.mcgill.ca/conted)

### 2.2.1 Certificate Programs

The Faculty of Education currently offers, through the Centre for Continuing Education or Distance Education, 30-credit certificate programs to university graduates. Certificate programs are available in the following fields:

#### Department of Educational and Counselling Psychology

Certificate in Educational Technology  
Admission to this Certificate is temporarily suspended.  
For current students only, courses will be available through Continuing Education and/or Distance Education.  
Further information is available from the Program Secretary at (514) 398-4248.

Certificate in Inclusive Education  
Program Secretary (514) 398-4248

#### Department of Integrated Studies in Education

This program will not accept students in 2004-05.  
Certificate in Teaching English as a Second Language (TESL)

#### Office of First Nations and Inuit Education (OFNIE)

Certificate in Aboriginal Education for Certified Teachers  
For information see section 2.3 "Programs for First Nations and Inuit".

### 2.2.2 Diploma Programs

The Faculty of Education currently offers, through the Centre for Continuing Education, 30-credit Diploma programs to university graduates. Diploma programs are available in the following fields:

#### Department of Educational and Counselling Psychology

Diploma in Human Relations and Family Life Education  
Further information is available from the Program Secretary at (514) 398-4248.

Diploma in Psychology and Education of the Gifted  
Admission to this Diploma is temporarily suspended. Interested students are referred to the M.Ed. (Educational Psychology) Concentration in the Education of the Gifted. Please consult the *2004-05 Graduate and Postdoctoral Studies Calendar*.

## 2.3 Programs for First Nations and Inuit

The following programs are offered for Aboriginal teachers by the Faculty of Education through the Centre for Continuing Education. Information can be obtained by contacting:

Office of First Nations and Inuit Education (OFNIE)  
3700 McTavish Street, Room 614  
Montreal, Quebec, H3A 1Y2  
Telephone: (514) 398-4533 Fax: (514) 398-2553  
Website: [www.education.mcgill.ca/ofnie](http://www.education.mcgill.ca/ofnie)

Detailed information about the following programs may be found in section 5.2 "Programs for First Nations and Inuit".

B.Ed. for Certified Teachers (Elementary Education)  
Certificate in Aboriginal Literacy Education  
Certificate in Education for First Nations and Inuit  
(This program replaces the former Certificate in Native and Northern Education.)  
Certificate in First Nations and Inuit Student Personnel Services  
(This program is offered by the Department of Educational Psychology and Counselling through the Office of First Nations and Inuit Education. Restrictions apply to enrolment.)  
Certificate in Middle School Education in Aboriginal Communities  
Certificate in First Nations and Inuit Educational Leadership

## 3 Faculty Regulations Undergraduate Programs

Please consult the General University Information section for regulations and procedures regarding registration, fees, course load, course change (drop/add), withdrawal, verification, examinations, inter-university transfer, and graduation. In addition, the following section provides regulations specific to Faculty of Education students.

**Note:** Each student in the Faculty of Education must be aware of and comply with the Faculty regulations as stated in this Calendar. While departmental and Faculty advisers and staff are always available to give advice and guidance, the ultimate responsibility for complete and correct course selection and registration, for compliance with and completion of program and degree requirements, and for the observance of regulations and deadlines, and for academic records, rests with the student. It is the student's responsibility to seek guidance. Misunderstanding will not be accepted as cause for dispensation from any regulation, deadline, program or degree requirement.

**Note:** Faculty of Education Students

### English Language Requirement

The Quebec Ministry of Education and the Faculty of Education require that all students in teacher education programs demonstrate their proficiency in the language of instruction. To fulfill this obligation all students must successfully pass an English Language Proficiency Test which will be administered in the December examination period of their first term.

Students who fail the Test the first time and who wish to remain in the program will have adequate opportunities to improve the quality of their English language skills. All students who were unsuccessful in their first Test will be required to take the Test a second time the following December. Students who fail the second Test will be placed in unsatisfactory standing and must withdraw from the program.

### Language Requirement for Applicants to B.Ed., TESL, TFSL Programs

Applicants to the B.Ed. TESL or TFSL programs are required to pass written and oral language tests in order to fulfill the admission requirements of these two programs.

### Advising

Students must consult an academic adviser to obtain advice and approval of their course selection. Students accepted with advanced standing must present their transcripts and letters of admission at the Advising session. For a detailed description of advising and registration procedures, students should refer to two booklets which will be sent to them upon their acceptance: *Welcome to McGill*, sent by the Admissions, Recruitment and Registrar's Office, and the "Undergraduate Handbook for New Students", sent by the Faculty. (This document is also available on the website [www.mcgill.ca/edu-sao](http://www.mcgill.ca/edu-sao))



Advising for returning students takes place in March for the coming academic year. Students should refer to the department handbooks for returning students, available in early March.

**Note:** Students are reminded that advisors are available to assist them with program planning; however, students are ultimately responsible for their academic record.

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### 3.1 Course Information

#### Course Load

Undergraduate Education programs leading to certification can only be followed on a full-time basis and part-time study is not normally permitted. Students must take a minimum of twelve (12) credits per term unless the Associate Dean (Student Affairs and Physical Resources) gives them special permission. Special permission must be requested prior to the end of Course Add/Drop period.

Any absence or reduction in course load that may impact the regular progression of a student's program must have written approval by the Associate Dean (Student Affairs and Physical Resources).

For Bachelor of Education students, the normal course load per term is 15 credits. Students whose GPA is above 3.00 may take up to 18 credits per term. Overloads are not allowed in major field experience terms.

#### Time Limit for Completion of Degrees

Students are expected to complete their program in no more than five (5) years after their initial registration for the degree. Students who enter in a freshman year become subject to these regulations one year after their initial registration. Students who exceed these limits must apply to the Faculty for permission to continue.

#### Course Requirements

All required and complementary courses used to fulfill program requirements must be completed with a grade of C or better. A failure (F, J, KF, WF) in any level of student teaching/field experience places a student in unsatisfactory standing requiring withdrawal from the University. Further details on requirements for student teaching/field experience are listed in section 3.3 "Student Teaching/Field Experience".

#### Course Registration

Students must register on-line using Minerva, McGill's Web-based information system. The registration system is unable to verify whether or not Faculty regulations are respected; therefore, if in doubt, students must meet with their adviser within the course change deadlines.

**Note:** Students must register for both Fall and Winter terms at the same time. Students are required to be registered for Field Experience courses at least two months prior to commencement of the term. Students who are not officially registered by this date risk the



- Education Undergraduate Student Society will participate in communicating the Code of Ethics for Student Teachers to all undergraduate students.
- Orientation Sessions and Discover McGill offer ideal venues for wide distribution of information about the Code of Ethics.

Students must be in satisfactory academic standing in order to do any level field experience course. Before students can be placed for their third- and fourth- year field experiences, they must have completed all required courses for these field experiences. Field experience courses can only be done in sequence.

Students are required to be registered on Minerva for Field



Normally supplemental examinations are not permitted; however, students in unsatisfactory standing may appeal to the Associate Dean for permission to write a supplemental examination, clearly stating the reasons for special consideration and providing proof as appropriate.

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## 4 Department of Educational and Counselling Psychology

Faculty of Education  
3700 McTavish Street, Room 513  
Montreal, QC H3A 1Y2  
Telephone: (514) 398-4248  
Fax: (514) 398-6968  
Website: www.education.mcgill.ca/ecp

Chair — Susanne P. Lajoie

### Emeritus Professors

Eigil Pedersen; B.A.(Sir G. Wms.), M.A.(McG.), Ed.D.(Harv.)  
Howard A. Stutt; B.A.(Queen's), B.Ed., M.Ed.(Montr.), F.C.C.T.

### Professors

Mark W. Aulls; B.S.(Ball St.), M.Ed.(Ind.), Ed.D.(Georgia)  
Jacob A. Burack; B.A.(Col.), M.S., M.Phil., Ph.D.(Yale)  
Glenn F. Cartwright; B.A.(Sir G. Wms.), M.A.(McG.), Ph.D.(Alta.),  
F.A.A.S.P., F.C.C.T.  
Jeffrey L. Derevensky; B.A.(C. W. Post), M.A., Ph.D.(McG.)  
Janet G. Donald; B.A., M.A.(W. Ont.), Ph.D.(Tor.) (*joint appoint.*  
*with the Centre for University Teaching and Learning*)  
Florent R. Dumont; A.B.(Col.), M.S.(S. Conn. St.), Ed.D.(Mass.)  
Carl H. Frederiksen; B.A.(Harv.), M.A., Ph.D.(Ill.)  
Susanne P. Lajoie; B.A., M.A.(McG.), Ph.D.(Stan.)  
Lynn McAlpine; B.A.(McG.), M.A.(C'dia), Ph.D.(Tor.) (*joint*  
*appoint. with Centre for University Teaching and Learning*)  
Bruce M. Shore; B.Sc., M.A.(McG.), Ph.D.(Calg.)  
Cynthia B. Weston; B.A. (Georgetown), M.L.S.(S.U.N.Y.),  
D.Ed.(Wash.) (*joint appoint. with Centre for University Teaching*  
*and Learning*)

### Associate Professors

Antonio Bernardelli; B.Sc.(Loy. Coll. Montr.), M.Ed., Ed.D.(McG.)  
(PT)  
Robert J. Bracewell; B.Sc., M.A.(McM.), Ph.D.(Tor.)  
F. Gillian Bramwell; B.A., M.A.(Sask.), Ph.D.(C'dia)  
Alain Breuleux; B.Sc., M.Sc., Ph.D.(Montr.)  
Kim Cornish; B.Sc., Ph.D.(Lond.)  
Jack de Stefano; B.A.(Loy. Coll., Montr.), M.A., Ed.D.(McG.) (PT)  
Janet Donin; B.A.(Tor.), M.A.(Ill.), Ph.D.(Cal.) (*joint appoint. with*  
*Integrated Studies in Education*)  
James P. Hanrahan; B.A., B.Ed.(St. F. X.), M.A.(McG.),  
Ph.D.(Lond.)  
Nancy L. Heath; B.A.(McG.), M.Ed.(Ott.), Ph.D.(Tor.) (*Frank*  
*Dawson Fellow*)  
Michael L. Hoover; B.S.(Tulane), M.A., M.Phil., Ph.D.(Col.)  
Robert A. Lavers; B.A.(Bishop's), M.Sc., Ph.D.(McG.)  
Evelyn Lusthaus; B.S., M.S., Ph.D.(S.U.N.Y. Buffalo)  
Theodore J. Maroun; B.S.(S.U.N.Y. Potsdam), M.S.(Canisius),  
M.Ed.(S.U.N.Y. Buffalo), Ed.D.(Ind.)  
David D. McWethy; B.S., M.A.(Mich. St.), Ph.D.(Iowa St.) (*joint*  
*appoint. with Integrated Studies In Education*)  
Alenoush Saroyan; B.A.(Pahlavi), M.Ed.(Loy. U. Chic.),  
Ph.D.(McG.) (*joint appoint. with Centre for University Teaching*  
*and Learning*)  
Ada L. Sinacore; B.A.(Montclair St.), M.A., M.Ed., Ph.D.(Col.)  
Ingrid E. Sladeczek; B.A., M.S., Ph.D.(Ariz.), A.A.(Maryland)  
Renée Stevens; B.A.(U.C.L.A.), M.A., Ph.D.(McG.) (PT)  
Barbara Wainrib; B.A.(Brooklyn Coll.), M.Sc.(McG.),  
D.Ed.(Mass.)(PT)

### Assistant Professors

Martin Drapeau; B.A.(UdeM), B.A. Ps.(UQTR), M.Ps.(Laval),  
Ph.D.(UdeM)  
Marilyn Fitzpatrick; B.A.(Tor.), M.Ed., Ph.D.(McG.)  
Jeeseon Park; B.A., M.A.(Yonsei), Ph.D.(Penn State)  
Robert Savage; B.A.(Oxford), M.Sc.(Cambridge), M.Sc.,  
Ph.D.(Lond.)  
Ronald Stringer; B.Sc., M.A., Ph.D.(Tor.)

### Adjunct Professors

Annie Alaku; B.Ed.(McG.) (*Kativik School Board*)

H. Don Allen; B.Sc.(McG.), M.S.T.M.(Santa Clara), Ed.M.,  
Ed.D.(Rutgers)  
Joyce F. Benenson; B.Sc.(Duke), Ph.D.(Harv.)  
Franco Carnevale; B.Sc.N, MSCA, M.Ed., M.Sc., Ph.D.(McG.)  
Bertha Dawang; B.A.(Sir G. Wms.), M.Ed.(McG.)  
Marcia A. B. Delcourt; M.A.B., B.Sc.(Bloomsburg), M.A.,  
Ph.D.(Conn.) (*Western Connecticut*)  
Michael J. Dixon; B.A., B.Sc.(Trent), M.A., Ph.D.(C'dia) (*Douglas*  
*Hospital*)  
Peter J. Doehring; B.A.(McG.), M.A., Ph.D. (C'dia) (*Douglas*  
*Hospital*)  
Mary Elijassiapik; B.Ed.(McG.) (*Kativik School Board*)  
Micki Lane; A.B.(U.C. Berkeley), M.A., Ph.D.(U.C.L.A.) (*MVM*  
*Communications*)  
Elsa Lo; B.A.(Queen's), B.A.(Dalhousie), M.A., Ph.D.(McG.)  
Henry Markovits; B.Sc.(McG.), M.Sc.(Sussex), Ph.D.(Montr.)  
Judith A. MacArthur; B.A.(Sir G. Wms.), M.Ed.(McG.) (*Kativik*  
*School Board*)  
Margaret O'Byrne; B.A.(C'dia), M.Ed.(McG.), Ph.D.(Montr.)  
Leonard Shenker; B.Sc.(C.C.N.Y.), Ph.D.(McG.)  
Michael Thomas; B.A.(Univ.Coll. Wales), M.A.(Montr.)  
Vicki Zack; B.A., M.A. (Montr.), Ph.D.(McG.) (*St. George's School*)  
Laura Winer, B.A., M.A., Ph.D.(C'dia)  
*Associate Members*  
Terry Gandell; B.A, M.Ed., Ph.D.(McG.)  
Mary H. Maguire; B.A., B.Ed., M.A.(Montr.), M.Ed.(McG.),  
Cert.Reading(McG.), Ph.D.(Ariz.)  
Joseph Rochford; B.A.(McG.), M.A.(Queen's), Ph.D.(C'dia)  
Lalit K. Srivastava; B.Sc., M.Sc.(U of Allahabad, India),  
Ph.D.(Jawaharlal U., New Delhi)  
Claire-Dominique Walker; B.Sc.(College Calvin, Geneva);  
Ph.D.(Salk Institute and U. of Geneva)

### Part-time Instructors

Maureen Baron, Dianne Bateman, Penny Bloch, Sam Bruzzese,  
Mike Chicelle, Andrew Chiarella, Phil Clavel, Scott Conrad,  
Dawn Cruchet, Karen Gazith-Cohen, Andrew Hum,  
Judy McBride, Sharon Miller, Judith Norton, Rosemary Reilly,  
Lisa Reisinger, Andre Renaud, Kieron Rogan, Tina Roth,  
Christina Rudd, Joan Stafford, Diana Tabatabai, Scott Waugh,  
Caroline Zanni-Dansereau

Educational Psychology encompasses a) the theoretical and applied study of learning, cognition, and instruction in a variety of educational settings across ages and domains; b) instructional technology and computers as cognitive tools in learning; c) cognitive and social processes in learning; d) evaluation and enhancement of learning and teaching; e) education of learners with special needs or difficulties; f) relationships of these or related phenomena to issues in human development, especially for children and adolescents; and g) the impact of family and community on children's learning and development.

At the undergraduate level, the Department of Educational and Counselling Psychology is responsible for the B.A. Educational







school-based field experiences which are supported by studies in pedagogy and educational foundations.

**Baccalauréat en enseignement du français langue seconde (120 credits)**

This four-year program prepares specialist teachers to teach French as a second language, in Core French programs, immersion programs, intensive programs and *class d'accueil*, at both the elementary and the secondary levels. Offered by the Department of Integrated Studies in Education jointly with the Université de Montréal.

**Bachelor of Education in Teaching English as a Second Language (120/121 credits)**

This program prepares specialist teachers to teach English as a second language at both the elementary level (including regular and intensive ESL) and the secondary level (including regular ESL and ESLA – English Second Language Arts). This integrated 120-credit program (150 credits for out-of province students) consists of academic and professional components. The academic components provide students with opportunities to develop a broad liberal education and to study language and language learning from linguistic, social, cultural and psychological perspectives. The professional components revolve around school-based field experiences which are supported by studies in pedagogy and educational foundations.

**GRADUATE PROGRAMS**

At the Graduate level, the Department offers M.A. programs with thesis and non-thesis options in the following areas: Culture and Values in Education, Educational Studies (Curriculum), Educational Studies (Leadership), and Second Language Education.

**IN-SERVICE PROGRAMS**

The Department of Integrated Studies in Education offers three in-service programs:

A 90-credit Bachelor of Education (Vocational) program offered through the Centre for Continuing Education for practising vocational teachers possessing a provisional teaching authorization in a vocational area. (This program will not accept students in 2004-2005.)

A 30-credit Certificate in Second Language Teaching (TESL) normally offered through Distance Education. (This program will not accept students in 2004-05.)

A Certificate in Aboriginal Education for Certified Teachers through the Office of First Nations and Inuit Education.

The Office of First Nations and Inuit Education also offers a Certificate in Education for First Nations and Inuit, a Certificate in Aboriginal Literacy Education, and a Certificate in Middle School Education in Aboriginal Communities.

The Department is also involved in a variety of in-service activities with administrators, teachers, consultants and other educational leaders through the Centre for Educational Leadership (CEL).

**5.1 Bachelor of Education Programs**

**5.1.1 Bachelor of Education Secondary Program**

	<b>CREDITS</b>
<b>ACADEMIC COMPONENTS</b>	<b>54</b>
A sequence of courses normally to be taken in the Faculties of Arts, Science and Education showing a sequence of levels and totalling 54 credits, including required and complementary courses, and at least 36 credits in one "teachable" academic subject.	
<b>PROFESSIONAL COMPONENTS</b>	<b>60</b>
<i>PROFESSIONAL SEMINARS</i>	<b>7</b>
<b>Required Courses</b>	
EDEC201 First Year Professional Seminar	1
EDEC306 Third Year Professional Seminar	3
EDEC404 Fourth Year Professional Seminar	3

<b>FIELD EXPERIENCES</b>	<b>20</b>
<b>Required Courses</b>	
EDFE200 First Year Field Experience	2
EDFE254 Second Field Experience (Sec)	3
EDFE351 Third Year Field Experience (Sec.)	8
EDFE451 Fourth Year Field Experience (Secondary)	7
<b>FOUNDATION COURSES</b>	<b>9</b>
<b>Required Courses</b>	
EDEC215 English Language Requirement	0
EDEC247 Policy Issues in Quebec Education	3
EDPE300 Educational Psychology	3
<b>Complementary Course</b>	<b>3</b>
one of:	
EDER400 Philosophical Foundations of Education	
EDER398 Philosophy of Catholic Education	
<b>PEDAGOGY COURSES</b>	<b>12</b>
<b>Required Courses</b>	
EDPI309 Exceptional Students	3
EDPI341 Instruction in Inclusive Schools	3
<b>Complementary Courses</b>	
Two methodology courses chosen from the following list, depending on the teaching profile	6
EDEC334 Teaching Secondary Social Studies	
EDEC335 Teaching Secondary Science	
EDEC338 Secondary School - Mathematics 2	
EDER340 Moral Education Curriculum and Instruction	
EDER372 Human and Religious Values in Secondary School	
EDER392 Guiding Religious Response - Secondary	
EDES353 Secondary School Mathematics 1	
EDES361 Secondary School English 1	
EDES370 Teaching General Science	
EDES389 Issues in Social Studies	
EDES461 Secondary School English 2	
<b>PEDAGOGICAL SUPPORT COURSES</b>	<b>12</b>
<b>Required Courses</b>	
EDPE304 Measurement and Evaluation	3
EDES350 Classroom Practices (Secondary)	3
<b>Complementary Courses</b>	
one 3-credit course in Multicultural Education from the following list:	3
EDEC410 Multi-cultured/Multi-racial Class	
EDEE441 First Nations and Inuit Education	
EDER464 Intercultural Education	
one 3-credit course in Media, Technology, Computers and Education from the following list:	3
EDPE310 Educational Computer Applications	
EDPT200 Applications Software	
EDPT204 Educational Media 1	
EDEC402 Media, Technology and Education	
For students with a background in computers or other media applications in education, the following courses may be substituted for the above:	
EDPT341 Instructional Programming 1	
EDPT420 Media Literacy for Education	
<b>ELECTIVE COURSES</b>	<b>6</b>
<b>TOTAL CREDITS</b>	<b>120</b>

**B.Ed. Secondary Program – Four-Year Overview**

<b>Year 1 – Fall Term</b>	
EDEC201 First Year Professional Seminar	1
EDFE200 First Year Field Experience	2
EDER400 Philosophical Foundations of Education or EDER398 Philosophy of Catholic Education	3
EDPE300 Educational Psychology	3
EDEC402 Media, Technology and Education (orequivalent)	3



MUGT401	Issues in Music Education (see Note 1 above)	3
MUIT356	Jazz Instruction: Philosophy and Techniques (see Note 2 above)	3
<b>COMPLEMENTARY MUSIC EDUCATION COURSES</b>		<b>9</b>
MUIT201	String Techniques	3
or MUIT250	Guitar Techniques	
MUCT315	Choral Conducting 1	3
or MUIT315	Intrumental Conducting	
EDEA362	Movement, Music and Communication	3
or any course with a prefix of MUIT or MUGT		
<b>ELECTIVE</b>		<b>12</b>
<b>PROFESSIONAL COMPONENTS</b>		<b>53-54</b>
<b>PROFESSIONAL SEMINARS</b>		<b>4</b>
<b>Required Courses</b>		
EDEA206	1st Year Professional Seminar	1
EDEA407	Final Year Professional Seminar Music	3
<b>FIELD EXPERIENCE</b>		<b>20</b>
<b>Required Courses</b>		
EDFE205	First Year Field Experience (Music)	2
EDFE207	2nd Field Experience Music	4
EDFE305	Third Year Field Experience (Music)	7
EDFE407	4th Field Experience Music	7
<b>FOUNDATION COURSES</b>		<b>12</b>
<b>Required Courses</b>		
EDEC215	English Language Requirement	0
EDEC247	Policy Issues in Quebec Education	3
EDPE300	Educational Psychology	3
EDPI309	Exceptional Students	3
<b>Complementary Courses</b>		<b>3</b>
EDER400	Philosophical Foundations of Education	
or EDER398	Philosophy of Catholic Education	
<b>PEDAGOGY COURSES</b>		<b>6</b>
<b>Required Courses</b>		
EDEA442	Elementary Music Curriculum and Instruction	3
EDEA472	Secondary Music Curriculum and Instruction	3
<b>PEDAGOGICAL SUPPORT COURSES</b>		<b>11-12</b>
one of:		<b>3</b>
EDEC410	Multi-cultured/Multi-racial Class	
EDEE441	First Nations and Inuit Education	
EDER464	Intercultural Education	
one of:		<b>2 - 3</b>
EDEE352	Classroom Practices (2 credits)	
EDES350	Classroom Practices (Secondary)	
one of:		<b>3</b>
EDEC402	Media, Technology and Education	
EDPT200	Applications Software	
EDPT204	Educational Media 1	
EDPT341	Instructional Programming 1	
MUGT301	Technology and Media for Music Education	
one of:		<b>3</b>
EDPE304	Measurement and Evaluation	
EDEE355	Classroom-based Evaluation	
<b>TOTAL CREDITS</b>		<b>143/144</b>

**5.1.3 Concurrent Bachelor of Science (Major or Major Concentration with a Minor for Teachers) and Bachelor of Education Secondary Program**

Coordinator, Faculty of Education — Professor Marc Schwartz  
 Coordinator, Faculty of Science — Professor Richard Harris

Students entering the Concurrent B.Sc./B.Ed. Program in September 2004 will follow the program described below. Students registered in the Concurrent B.Sc./B.Ed. Program before September 2004 should refer to the program described in the 2003-04 Undergraduate Programs Calendar.

This program has been designed to provide students with the opportunity to attain a Bachelor of Science degree and a Bachelor of Education degree after **135 credits of study (165 credits for students who have not completed the basic sciences, see Note below)**.

To be admitted to the Concurrent program, students must satisfy the regular admission requirements of the Faculties of Science and Education. Normally, students will be admitted to both components of the Concurrent program simultaneously, however, it is possible for students in a B.Sc. or B.Ed. program to transfer into the Concurrent program at any time. Students in the Concurrent program may change to either a B.Sc. or a B.Ed., but may not subsequently switch back to the Concurrent program.

**Note:** Science students are normally admitted to a four-year program requiring the completion of 120 credits, but advanced standing of up to 30 credits may be granted to students who obtain satisfactory results in International Baccalaureate, French Baccalaureate, Advanced Levels, Advanced Placement tests, or the Diploma of Collegial Studies (DCS). Quebec students with a DCS in Science are granted 30 credits advanced standing and will have normally completed the equivalent of, and are therefore exempt from, the basic science courses in biology, chemistry, mathematics and statistics, and physics. Students with satisfactory results in International Baccalaureate, French Baccalaureate and Advanced Levels, and Advanced Placement tests may be exempt from some or all of the basic science courses.

Students in the Concurrent B.Sc./B.Ed. who receive an F or J in any Field Experience course are placed in unsatisfactory standing. Although they may complete their term, they are required to withdraw from the Concurrent Program. However, they may apply to transfer to the conventional B.Sc. program as outlined in Faculty of Science, "Science for Teachers" on page347.

The two degrees are awarded during the same convocation period.

The two components of the Concurrent Program are the B.Ed. Secondary Program and one of the B.Sc. programs described in the Faculty of Science, "Science for Teachers" on page347:

- biology, with chemistry
- biology, with physics
- chemistry, with biology
- chemistry, with physics
- physics, with biology
- physics, with chemistry
- mathematics

The requirements for the B.Ed. component are as described in the "Bachelor of Education Secondary Program" on page187, with the following exceptions:

- A. Students in the Concurrent B.Sc./B.Ed. program must choose their 54 academic credits from the lists of required and complementary courses in their respective B.Sc. Major or Major Concentration with a Minor.
- B. Students in the Concurrent B.Sc./B.Ed. program must take EDEC402 Media, Technology and Education.

**5.1.4 Bachelor of Education Kindergarten and Elementary Program**

The four-year program begins with the foundation courses in the first term and has a higher concentration of academic courses in the first two years. The professional courses and practicum have a heavier weight in the final two years. The practicum consists of school-based experiences and a series of professional seminars that provide an opportunity for students to reflect on that experience in a systematic way and with the guidance of a tutor.

**CREDITS**

**ACADEMIC COMPONENT**

<b>Required Courses</b>	<b>12</b>
EDEC203 Communication in Education	3
EDEE230 Elementary School Mathematics	3
EDEE270 Elementary School Science	3
EDEE280 Geography, History and Citizenship Education	3

<b>Complementary Courses</b>	<b>30</b>
a) one of:	3

- EDER209 Search for Authenticity
- EDER309 The Religious Quest
- EDER394 Philosophy of God
- EDER395 Moral Values and Human Action
- EDER473 Living with Insight
- EDER494 Ethics in Practice

- b) 18 credits from one of these areas:  
 English, Mathematics, Natural Sciences,  
 Social Sciences, TD 0c 0I9N2475 Tc (Y)sn Eln

**B.ED. KINDERGARTEN AND ELEMENTARY PROGRAM –  
 FOUR-YEAR PROGRAM OVERVIEW**

**5.1.5 Programme intensif de français Elementary Option**

This option is currently under revision. Admission is suspended for 2004-05.

**5.1.6 Bachelor of Education Kindergarten and Elementary Program (Jewish Studies Option)**

Students who have already been accepted into the B.Ed. (Kindergarten/Elementary) program may apply for the Jewish Studies Option. This Option allows qualified candidates an opportunity to select specific Jewish Studies courses in place of selected education electives and academic courses. Additionally, students will have an opportunity to have one of their major field placements in a Jewish school environment. Students are encouraged to acquire a strong general background in Bible, Jewish prayer, Jewish Holidays and Jewish history prior to registering in the program.

Students who wish to follow this option should contact:  
Professor Eric Caplan

**5.1.5**

McGill University, Undergraduate Programs 2004-2005

**Ele Optio147anElelevels progract:**

### 5.1.8 Bachelor of Education in Teaching English as a Second Language

The B.Ed. in Teaching English as a Second Language (TESL) program prepares specialists to teach English as a second language (ESL) at both the elementary school and secondary school levels.

This integrated 120/121-credit program (150/151 credits for out-of-province students) includes studies in language and language learning from linguistic, literary, social, cultural, and psychological perspectives, accompanied by field experiences. The academic components aim to increase students' academic knowledge, with emphasis on language, linguistics and literature. Complementary courses address both academic and professional concerns. The professional components revolve around school-based field experiences which are supported by studies in pedagogy and educational foundations. These prepare students to teach ESL at both the elementary school level (including regular and intensive ESL) and the secondary school level (including regular ESL and ESLA - English Second Language Arts), and provide a base for adult and other ESL teaching.

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### 5.2 Programs for First Nations and Inuit

The following programs are offered in Aboriginal communities for Aboriginal teachers through the:

Faculty of Education

Office of First Nations and Inuit Education (OFNIE)

3700 McTavish Street, Room 614

Montreal, Quebec H3A 1Y2.5 741.75 TD 0 0 v5 re f q 51 37.s72Lielphone: (51

Cree, Inuit, Mi'kmaq and Mohawk people to become qualified as teachers. It is offered on a part-time basis in Aboriginal communities throughout Quebec in collaboration with the Cree School Board, the Kativik School Board, and various Mi'kmaq, Mohawk and

program is also available to Inuit in Nunavut, in collaboration with the Inuit Education Council, Iqaluit, NU.

MEQ) cer-  
**Admission to the Certificate in Education for First Nations and Inuit**  
 means to teach at the elementary level in Aboriginal schools.

An

room assistant, have a valid teaching authorization from the appropriate teaching authority or a community education committee, be recommended by the school principal and an officer of the education authority, be recommended by a local community edu-

cants



**COMPLEMENTARY COURSE LIST****5.2.3****Bachelor of Education (Certificate in Aboriginal Literacy Education)** (30 credits)

On completion of the Certificate requirements, trainees may apply for admission to the B.Ed. for Certified Teachers program with up to 30 credits advanced standing. Certain non-credit academic upgrading courses may be required of B.Ed. applicants.

**5.2.2 Certificate in Aboriginal Literacy Education**

This 30-credit program is designed for Algonquin, Cree, Inuit, Mi'kmaq and Mohawk people who wish to gain a deeper understanding of their Aboriginal language, especially in its written form. It is aimed mainly at those who will be teaching their Aboriginal language and is only available through partnerships with the communities concerned.

**Admission to the Certificate in Aboriginal Literacy Education**

Students admitted to this program will be recommended by their communities (as is presently the case with the Certificate in Education for First Nations and Inuit). If the program is used for professional development, students will be Aboriginal teachers employed in local schools. As with the Certificate in Education for First Nations and Inuit, they must be mature students, or hold a Secondary V diploma or equivalent.

This certificate may be taken concurrently and completed within the B.Ed. for Certified Teachers if the required B.Ed. profile is fulfilled. See section 5.2.5 "Bachelor of Education for Certified Teachers (Elementary Education)".





taken concurrently and completed within the B.Ed. for Certified Teachers if the required B.Ed. profile is fulfilled.

**This program does not lead to further certification.**

**5.2.6 Certificate in Aboriginal Education for Certified Teachers**



**Graduation Requirement**

All students in Physical Education programs are required, before graduation, to show proof of certification in Standard Level Safety Oriented First Aid, and Level C in Cardiopulmonary Resuscitation, or equivalencies.

**PROGRAM PROFILE – B.ED. PHYSICAL AND HEALTH EDUCATION (120 credits)**

**ACADEMIC COMPONENTS**

**Required Courses**

	<b>CREDITS</b>
	<b>36</b>
EDKP204 Health Education	3
EDKP206 Biomechanics of Human Movement	3
EDKP261 Motor Development	3
EDKP292 Nutrition and Wellness	3
EDKP293 Anatomy and Physiology	3
EDKP307 Evaluation in Physical Education	3
EDKP330 Physical Activity and Health	3
EDKP391 Ergo-physiology	3
EDKP393 Skill Learning and Expertise	3
EDKP394 Historical Perspectives	3
EDKP396 Adapted Physical Activity	3
EDKP498 Sport Psychology	3

**PROFESSIONAL COMPONENTS**

**PHYSICAL ACTIVITY COURSES**

**Required Courses**

	<b>66</b>
	<b>19</b>
EDKP213 Aquatics 1	1
EDKP214 Basketball 1	1
EDKP217 Track and Field/Cross Country	2
EDKP218 Volleyball 1	1
EDKP223 Basic Games	2
EDKP233 Soccer	1
EDKP252 Racquet Sports	2
EDKP253 Gymnastics	2
EDKP254 Principles of Dance	2

**Complementary Courses**

five physical activity credits offered by the Department of Kinesiology and Physical Education

**FIELD EXPERIENCES**

**Required Courses**

	<b>20</b>
EDFE246 First Year Field Experience (Elem.)	3
EDFE373 Second Year Field Experience Physical Education (Sec)	3
EDFE380 3rd Year Field Experience Physical Education	7
EDFE480 4th Year Field Experience Physical Education	7

**FOUNDATION COURSES**

**Required Courses**

	<b>12</b>
EDEC215 English Language Requirement	0
EDEC247 Policy Issues in Quebec Education	3
EDER400 Philosophical Foundations of Education	3
EDPE208 Personality and Social Development	3
EDPE300 Educational Psychology	3

**PEDAGOGY COURSES**

**Required Courses**

	<b>9</b>
EDKP342 Physical Education Methods	3
EDKP442 Physical Education Pedagogy	3
EDKP494 Physical Education Curriculum Development	3

**PEDAGOGICAL SUPPORT COURSES**

**Complementary Courses**

A 3-credit course in Multicultural Education from the following list	<b>3</b>
EDER464 Intercultural Education	
EDEE441 First Nations and Inuit Education	
EDEC410 Multi-cultured/Multi-racial Class	
A 3-credit course in Media, Technology, Computers and Education from the following list:	<b>3</b>
EDPE310 Educational Computer Applications	
EDPT200 Applications Software	

EDPT204 Educational Media 1  
 EDEC402 Media, Technology and Education  
 For students with a background in computers or other media applications in education, the following courses may be substituted for the above:

- EDPT341 Instructional Programming 1
- EDPT420 Media Literacy for Education

**ELECTIVE COURSES**

18 credits chosen from any of the University's offerings to contribute to the student's academic proficiency and professional preparation.

**TOTAL CREDITS**

**120**

**6.1.3 Bachelor of Education Kinesiology**

**This program is exclusive to students previously registered in the program.**

The focus of the 90-credit (120-credit for out-of-province students) Bachelor of Education Kinesiology three-year program is to provide a scientific and professional study of the assessment, maintenance and enhancement of human health and well-being. Students will gain experience for careers in health instruction, fitness consulting and administration, exercise and sport leadership, as well as preparation for further study in other allied health fields and graduate research. Within this program, students may seek professional certification in one or more of the careers defined above, but excluding teacher certification.

**Graduation Requirement**

All students in this program are required, before graduation, to show proof of certification in Standard Level Safety Oriented First Aid, and Level C in Cardiopulmonary Resuscitation, or equivalencies.

**PROGRAM PROFILE – B.ED. KINESIOLOGY**

**KINESIOLOGY THEORY**

**Required Courses**

	<b>CREDITS</b>
	<b>45</b>
PSYC215 Social Psychology	3
EDKP205 Structural Anatomy	3
EDKP206 Biomechanics of Human Movement	3
EDKP261 Motor Development	3
EDKP292 Nutrition and Wellness	3
EDKP311 Athletic Injuries	3
EDKP330 Physical Activity and Health	3
EDKP331 Homeostatic Physiology	3
EDKP391 Ergo-physiology	3
EDKP485 Exercise Pathophysiology 1	3
EDKP492* Psychology of Motor Performance	3
EDKP493 Administration	3
EDKP495 Scientific Principles of Training	3
EDKP496 Adapted Physical Activity	3
EDKP498 Sport Psychology	3

Physical Activity and Health, Department of Education, University of Toronto, 120 St. George Street, Toronto, ON M5S 1A5, Canada

**B.ED. KINESIOLOGY OPTIONS**

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**6.2 Bachelor of Science (Kinesiology)**

The focus of the 90-credit (120-credit for out-of-province students) Bachelor of Science (Kinesiology) is a comprehensive understanding of human movement. Kinesiology is a multidisciplinary field viewing human movement from social, historical, psychological, or biological perspectives. The program provides students with a breadth of theoretical knowledge as well as an opportunity to explore related areas in greater depth, including Minor programs available elsewhere within the University.

Students may opt for either General or Applied emphasis, with an Honours program available for particularly strong students. Students must obtain a CGPA of 3.3 after two years in Kinesiology to qualify for the Honours Program, and must retain this CGPA until graduation.

Students admitted into 120-credit B.Sc.(Kinesiology) must register and successfully complete the Science Freshman Program, which is designed to provide the basic science foundation for the subsequent three-year Major program. The Science Requirement schedule follows: two years of each of 3A1, 3A2, 3A3, 3A4, 3A5, 3A6, 3A7, 3A8, 3A9, 3A10, 3A11, 3A12, 3A13, 3A14, 3A15, 3A16, 3A17, 3A18, 3A19, 3A20, 3A21, 3A22, 3A23, 3A24, 3A25, 3A26, 3A27, 3A28, 3A29, 3A30, 3A31, 3A32, 3A33, 3A34, 3A35, 3A36, 3A37, 3A38, 3A39, 3A40, 3A41, 3A42, 3A43, 3A44, 3A45, 3A46, 3A47, 3A48, 3A49, 3A50, 3A51, 3A52, 3A53, 3A54, 3A55, 3A56, 3A57, 3A58, 3A59, 3A60, 3A61, 3A62, 3A63, 3A64, 3A65, 3A66, 3A67, 3A68, 3A69, 3A70, 3A71, 3A72, 3A73, 3A74, 3A75, 3A76, 3A77, 3A78, 3A79, 3A80, 3A81, 3A82, 3A83, 3A84, 3A85, 3A86, 3A87, 3A88, 3A89, 3A90, 3A91, 3A92, 3A93, 3A94, 3A95, 3A96, 3A97, 3A98, 3A99, 3A100. For more information see the Science Freshman Program (Kinesiology) Freshman Students information available on the Undergraduate Website, [undergraduate.mcgill.ca](http://www.undergraduate.mcgill.ca)

Concentration. For list of approved Minors and Minor Concentrations, please refer to the Faculty of Science, "Minor Programs" on page300 and "Faculty of Arts Major and Minor Concentration Programs Available to Science Students" on page301.

**Graduation Requirement**

Students are required, before graduation, to show proof of certification in Standard Level Safety Oriented First Aid, and Level C in Cardiopulmonary Resuscitation, or equivalencies.

**B.SC.(KINESIOLOGY) – MAJOR IN APPLIED KINESIOLOGY**  
(90credits)

**Required Courses** (36 credits)

- EDKP206 (3) Biomechanics of Human Movement
- EDKP261 (3) Motor Development
- EDKP292 (3) Nutrition and Wellness
- EDKP330 (3) Physical Activity and Health
- EDKP391 (3) Ergo-Physiology
- EDKP393 (3) Skill Learning and Expertise
- EDKP394 (3) Historical Perspectives
- EDKP396 (3) Adapted Physical Activity
- EDKP443 (3) Research Methods
- EDKP485 (3) Exercise Pathophysiology 1
- EDKP495 (3) Scientific Principles of Training
- EDKP498 (3) Sport Psychology

**Complementary Courses** (33 credits)

- ANAT214 (3) Systemic Human Anatomy or equivalent

3 credits, one of the following courses:

- ANAT315 (4) Anatomy/Limbs and Back
- EDKP205 (3) Structural Anatomy

6 credits, one of the following course sets:

- PHGY 201 (3) Human Physiology: Control Systems
- and PHGY202 (3) Human Physiology: Integrative Control Systems

**B.SC. (KINESIOLOGY) – HONOURS IN KINESIOLOGY**  
(90credits)

Students must obtain a CGPA of 3.3 after two years in Kinesiology to qualify for the Honours Program, and must retain this CGPA until graduation.

**Required Courses** (36 credits)

**B.SC. (KINESIOLOGY) – MAJOR IN GENERAL KINESIOLOGY**  
(90credits)

**Required Courses** (36 credits)

EDKP443	(3)	Research Methods
EDKP453	(3)	Research Practicum in Kinesiology
EDKP485	(3)	Exercise Pathophysiology 1
EDKP495	(3)	Scientific Principles of Training
EDKP498	(3)	Sport Psychology

**Complementary Courses** (33 credits)

ANAT214	(3)	Systemic Human Anatomy or equivalent
---------	-----	--------------------------------------

3 credits, one of the following programs 0.293 T.44By-9 TD 0.2482 Tc 0 Tw (3) Research Structurj -9

33 credi18 0 TD 0.3656 Tcc

*Professional Associate*

Eric Bungay; B.Sc., B.A., B.Ed.(Memorial), M.L.I.S.(McG.)

*Faculty Lecturers*

Erica Burnham; B.A., M.L.I.S.(McG.)

Gordon Burr; B.A., M.L.I.S.(McG.)

Martin Cohen; B.A.(McG.), Ph.D.(Exeter), M.L.S.(McG.)

Joanne Cournoyer; B.A., M.L.S.(Montr.)

Jerry Fielden; B.A., M.L.I.S.(McG.)

Jocelyn Godolphin; B.A.(Man.), M.A.(Oregon), M.L.S.(U.B.C.)

ANAT 214, TD 0.445, Tcc (3) 0.180, TD 0.3656 Tcc

Lorie Kloda; B.A., M.L.I.S.(McG.)

Johanne Lessard; B.Ed.(UQAC), M.L.I.S.(McG.)

Valerie Nessel; B.A.(Queen's), M.L.I.S.(McG.)

Ruth Noble; B.Sc., M.L.I.S.(McG.)

Chukwemeka Nwakanma; B.Sc.(Abia State), M.L.I.S. (Ibadan)

Phyllis Rudin; B.A.(Pitts.), B.Ed.(Tor.), M.L.S.(McG.)

Richard Virr; B.A.(Tulane), M.A.(Queen's), Ph.D.(McG.)

The Graduate School of Library and Information Studies focuses upon the knowledge and skills necessary to identify, acquire, organize, retrieve and disseminate information so as to meet people's varied information needs.

The Graduate School of Library and Information Studies offers four programs at the graduate level. Its 48-credit Master of Library and Information Studies (MLIS), accredited by the American Library Association, prepares professionals to manage information resources and services in libraries and the wider information industries. Its 30-credit Graduate Diploma in Library and Information Studies, and 15-credit Graduate Certificate in Library and Information Studies, are designed to provide a formal environment in which information professionals can update, specialize, and redirect their careers for advanced responsibilities. Its Ph.D. (Ad Hoc) Program provides an opportunity to undertake research at the doctoral level in library and information studies within an interdisciplinary context.

For further information concerning programs, requirements, and courses, consult the Graduate School of Library and Information Studies section of the *2004-05 Graduate and Postdoctoral Studies Calendar* or the Website.

## 7 Graduate School of Library and Information Studies

McLennan Library Building, Room MS57F  
3459 McTavish Street  
Montreal, QC H3A 1Y1

Telephone: (514) 398-4204

Fax: (514) 398-7193

E-mail: [gslis@mcgill.ca](mailto:gslis@mcgill.ca)

Website: [www.gslis.mcgill.ca](http://www.gslis.mcgill.ca)

*Director* — Jamshid Beheshti

*Emeritus Professor*

Effie C. Astbury; B.A., B.L.S.(McG.), M.L.S.(Tor.)

*Professors*

J. Andrew Large; B.Sc.(Lond.), Ph.D.(Glas.), Dip.Lib.(Lond.)

(*CN-Pratt-Grinstad Professor of Information Studies*)

Peter F.McNally; B.A.(W. Ont.), B.L.S., M.L.S., M.A.(McG.)

*Associate Professors*

Jamshid Beheshti; B.A.(S. Fraser), M.L.S., Ph.D.(W. Ont.)

France Bouthillier; B.Ed.(UQAM), M.B.S.I.(Montr.), Ph.D.(Tor.)

John E. Leide; B.S.(M.I.T.), M.S.(Wis.), Ph.D.(Rutg.)

Diane Mittermeyer; B.A., B.L.S.(Montr.), M.L.S., Ph.D.(Tor.)

*Assistant Professors*

Kim Dalkir; B.Sc., M.B.A.(McG.), Ph.D.(C' dia)

Eun Park; B.A.(Pusan), M.L.I.S.(Illinois), M.B.A.(Pitts.), Ph.D.(UCLA)





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the creation of the Department. Continued growth led to the formation of the Faculty of Applied Science in 1878. By 1910 there were ten degree programs offered, including Architecture and Railroad Engineering. Subsequent changes in the overall pattern of the University led to the creation of the Faculty of Engineering in 1931 with a departmental structure very similar in name to that which exists at present.

---

## 1.4 The Faculty Today

The Faculty currently includes five engineering departments and two schools:

### The Departments

- Chemical Engineering
- Civil Engineering and Applied Mechanics
- Electrical and Computer Engineering
- Mechanical Engineering
- Mining, Metals and Materials Engineering

### The Schools

- Architecture
- Urban Planning

The Faculty serves approximately 2,300 undergraduate students and 700 graduate students in a wide variety of academic programs.

Undergraduate programs leading to professional bachelor degrees are offered in all Engineering Departments. These programs are designed to qualify the graduates for immediate employment in a wide range of industries and for membership in the appropriate professional bodies. Additionally, a non-professional undergraduate degree is offered in the School of Architecture for those who plan to work in related fields not requiring professional qualification. The curricula are structured to provide suitable preparation for those who plan to continue their education in post-graduate studies either at McGill or elsewhere. The professional degrees in Architecture and Urban Planning are offered at the Master's level and are described in the *Graduate and Postdoctoral Studies Calendar*.

The academic programs are divided into required and complementary sections. The required courses emphasize those basic principles which permit graduates to keep abreast of progress in technology throughout their careers. Exposure to current technology is provided by the wide variety of complementary courses which allow students to pursue in depth a particular interest. For program details refer to section 4 "Academic Programs".

An internship program involving a paid 8- to 16-month industrial work experience is available to Engineering and Science students. Generally, students will enter the internship program before starting their final year of undergraduate studies. Details can be found in section 2.9 "YES: Internship Year for Engineering and Science". In addition, CO-OP programs are offered in Mining Engineering and in Metals and Materials Engineering.

Postgraduate programs leading to Master's and doctoral degrees are offered in all sectors of the Faculty. Numerous areas of specialization are available in each of the departments and schools. All postgraduate programs including the professional degree programs in Architecture and in Urban Planning are described in the *Graduate and Postdoctoral Studies Calendar*.

---

## 1.5 Special Facilities and Related Programs

### 1.5.1 Engineering Microcomputing Facility

In addition to the services provided by the Computing Centre, the Faculty, in conjunction with its departments and schools, maintains specialized computing and information resources in support of teaching and research. These vary from desktop PCs distributed throughout the Engineering complex to very high performance scientific workstations found in the research laboratories. Each unit organizes and maintains facilities that are designed around specific roles, e.g., CAD/CAM, microelectronic design, software engineering, circuit simulation, process control, polymers, structural mechanics, metal processing, etc., in addition to systems dedicated to administrative support.

The role of the Faculty is to provide access to computing resources on a 24-hour basis and to provide services that are not covered by individual units. The Faculty works in close cooperation with the McGill Computing Centre, which provides remote access to the Faculty network.

### 1.5.2 Bioresource Engineering

The Faculty of Engineering cooperates with the Faculty of Agricultural and Environmental Sciences in providing courses of instruction for a curriculum in agricultural and biosystems engineering to meet requirements for a professional degree awarded in the Faculty of Agricultural and Environmental Sciences. The second term of the penultimate year of the program is given by the Faculty of Engineering on the downtown campus. Details of the curriculum can be found under the Department of Bioresource Engineering, see page 360.

Some of the courses offered by the Department of Bioresource Engineering (Subject Code ABEN) may be of interest to students in the Faculty of Engineering.

### 1.5.3 Department of Biomedical Engineering

Lyman Duff Medical Sciences Building  
3775 University Street  
Montreal, QC H3A 2B4

Telephone: (514) 398-8278

Engineering undergraduates who are interested in the biomedical applications of engineering techniques should contact the Chair of their department or the graduate Chair of Biomedical Engineering. Some of the courses offered by the Department (Subject Code BMDE) may be of interest to Engineering students, and may be approved as complementary courses. For more information, students should consult section "Course Information and Regulations" on page 402.

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## 1.6 Library Facilities

The University has numerous libraries. Specifically serving Engineering, Architecture, and Urban Planning is the Schulich Library of Science and Engineering. Other McGill libraries of interest to students in the Faculty of Engineering are: Blackader-Lauterman Library of Architecture and Art, Walter Hitschfeld Geographic Information Centre, Edward Rosenthal Mathematics and Statistics Library, and the Howard Ross Management Library. Further information is available on the Web at [www.library.mcgill.ca](http://www.library.mcgill.ca).

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## 2 General Information

### 2.1 Admission Requirements

The Faculty of Engineering offers programs leading to the degrees of B.Eng. and B.Sc.(Arch.). Enrolment in some programs is limited.

Specific information on admissions requirements for Quebec students, students from provinces of Canada other than Quebec, and applicants from outside of Canada can be found in "Admission Requirements" on page 26.

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### 2.2 Exchange Programs

The Faculty of Engineering participates in a number of bilateral exchange programs that provide undergraduates with an opportunity to study in Australia, Austria, Canada, Denmark, France, Germany, Hong Kong, Mexico, New Zealand, Singapore, Sweden, United Kingdom, and US. Applicants must have completed at least one year of study and have maintained an average of 3.00 or better. Further information may be obtained from the Faculty of Engineering Student Affairs Office, or the Exchange Officer, Admissions, Recruitment and Registrar's Office.

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### **2.3 Transfer Credits**

In certain cases, credit may be granted for courses passed with a grade of C or better at other universities, up to a maximum of 45 credits. (In certain cases, credit may be granted for courses passed with a grade of C or better at other universities, up to a maximum of 45 credits.)

Further information can be obtained from the website [www.mecc.mcgill.ca](http://www.mecc.mcgill.ca) or by sending an e-mail to [info@mecc.mcgill.ca](mailto:info@mecc.mcgill.ca).

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**2.10 Calculators in Faculty Tests and Examinations**

profession. The OIQ also has a student section. As soon as students have accumulated 60 credits in a B.Eng. program, they can join the Student Section of the OIQ. Registration is free.

For more information, visit the Websites of the Ordre des ingénieurs du Québec, [www.oiq.qc.ca](http://www.oiq.qc.ca), and of the Canadian Council of Professional Engineers, [www.ccpe.ca](http://www.ccpe.ca).

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### **3.3 Prerequisites and/or Corequisites**

Prerequisites and/or corequisites must be completed prior to course registration, if applicable. If a student has registered for a course and did not satisfy the prerequisites and/or corequisites, the course may be dropped from his/her record automatically by Minerva.

Those students who have received advance credits/exemptions or passed a placement exam, and are blocked from registration into a course due to a prerequisite and/or corequisite block, must complete a Course Authorization Form and submit it to the Faculty of Engineering Student Affairs Office. A Departmental advisor must sign and make a notation on the Course Authorization Form indicating that the prerequisite and/or corequisite has been satisfied.

Further information may be obtained from the Faculty of Engineering Student Affairs Office, Macdonald-Fheerling Building, Room 101.

Students **must** specify courses as S/U at the time of registration. The option **will not** be added manually to a student's record after the Drop/Add deadline or once a mark has been submitted by the Faculty. Once a mark has been submitted, this option will not be reversed.

1. "Elective" refers to that category of the complementary studies component of the program involving a Social Science/Humanities course, or a course dealing with the impact of technology on society; or to elective courses taken outside the School of Architecture by architecture students. It does not apply to the "technical complementaries" or "architectural complementaries", or to any other category of the Engineering or Architecture programs.
2. A C grade is considered a pass under the University Satisfactory/Unsatisfactory option. (Students should note that the Faculty of Engineering accepts a D grade as a pass when courses eligible for the S/U option are taken in the conventional manner.)
3. Only students in satisfactory standing will be permitted to take a course under the Satisfactory/Unsatisfactory option. Only one course (3 credits) per term, to a maximum of 10% of a student's credits taken at McGill, may be taken this way. Grades will be reported in the normal fashion by the instructor and the grades of C and above will be converted to Satisfactory(S) and grades of D and F will be converted to Unsatisfactory(U).
4. The courses taken under this option will be excluded from the GPA, but will be included in the number of credits.
5. Note For Faculty of Engineering Students Only: If the S/U option is selected for a core course and not removed by the Course Change deadline, the Student Affairs Office will remove the option and notify the student of the change.

**Note:** To be considered for scholarships/renewal of awards, students must complete at least 27 credits in the regular academic session. To be considered for awards, students must complete at least 27 credits in the regular academic session.

- Department of Mining, Metals and Materials Engineering: TGPA greater than or equal to 2.50
- School of Architecture:  
TGPA greater than or equal to 2.50

Students who fail to achieve the minimum TGPA required by their department will be required to permanently withdraw from the program with no chance of readmission. In addition, students who have returned to satisfactory standing, but whose CGPA falls below 2.00 in a subsequent term, will be required to permanently withdraw from the program with no chance of readmission.

### **3.5.7 Repeated Courses**

Students who fail to achieve the required results in a course must either repeat it successfully or complete a substitute course. TD sfully 3.53325 failwncwGPA required3696 Tw (. Fcess506 Tw (Studentsprehieveillee

Students granted a deferral will be given an "L" grade which will be replaced by a "J" should the students miss the next deferred or regular examination in the course, whichever occurs first. Students are to ONLY write the final examination but NOT redo or resubmit course material. If they wish to resubmit assignments and/or rewrite quizzes, class tests and/or mid-terms, they must appeal to the Associate Dean, Student Affairs.

If a deferral is granted, the maximum number of courses that a student may register for will be limited to ensure that no more than 18 credits of course work are to be satisfied in a single term or no more than 6 exams are to be written, whichever is greater. This will provide a student with sufficient time during the term and the exam period to properly prepare for deferred examinations.

For *Engineering* and *Management* courses, students granted a deferral MUST write the final exam the NEXT time it is offered. Students should be aware that am or no

v15Claadd Tw (proed a ) /F0 7.5l. 3.5l.1a, whichever to riche(one yeon .2884 Tc -0.1031Management) longer)9 TD 0.2846 97 Tc -0.3 5.25 0 orD /F2 2.5 Tf 0.





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**4.2**

ductory Organic Chemistry 1 and Selected Topics in Organic Chemistry), the corresponding courses are transferred from required courses to electives.

For appropriately qualified high school graduates from outside Quebec, an extended credit program is available, as described in section 3.1.2 "Basic Science Requirements for Students Entering from Outside Quebec".

In some cases students from university science disciplines have sufficient credits to complete the requirements for the B.Eng. (Chemical) program in two years. Those concerned should discuss this with their advisor.

Students must obtain a C grade or better in all core courses. For the Department of Chemical Engineering, core courses include all required courses (departmental and non-departmental) as well as complementary courses (departmental). A grade of "D" is a passing grade in other complementary courses and in any elective courses taken.

**CURRICULUM FOR THE B.ENG. DEGREE IN CHEMICAL ENGINEERING**

**REQUIRED COURSES**

**Non-Departmental Courses**

	<b>COURSE</b>	<b>CREDIT</b>
CHEM212	Introductory Organic Chemistry 1	4
CHEM233	Topics in Physical Chemistry	3
CHEM234	Topics in Organic Chemistry	3
COMP208	Computers in Engineering	3
MATH262		3

For students starting their B.Eng. studies in September who have completed the Quebec Diploma of Collegial Studies, a program for the first two terms of study is given below:

Project-Laboratory	3
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**Students entering their second year of study or who are starting in January must plan their program of studies in consultation with their Departmental advisor.**

**Additional information can be found on the Faculty Website at [www.mcgill.ca/engineering](http://www.mcgill.ca/engineering), as well as in section 3.1.2 "Basic Science Requirements for Students Entering from Outside Quebec".**

**TECHNICAL COMPLEMENTARIES**

A minimum of 9 credits of complementary courses must be chosen from a list of technical complementaries approved by the Department. The purpose of this requirement is to provide students with an area of specialization within the broad field of chemical engineering. Alternatively, some students use the technical complementaries to increase the breadth of their chemical engineering training.

At least two (2) technical complementary courses are to be selected from those offered by the Department (list below). Permission is given to take the third complementary course from other suitable undergraduate courses in the Faculty of Engineering.

The Technical Complementary courses currently approved by the Department are as follows::

Courses CHEE481 and CHEE581 comprise a Polymeric Materials sequence. Additional courses in this area are available in the Chemistry Department (e.g., CHEM455) or at the graduate level (CHEE681 to CHEE684). The Department has considerable expertise in the polymer area.

Courses CHEE370 and CHEE474 make up a sequence in Biochemical Engineering-Biotechnology. Students interested in this area may take additional courses, particularly those offered by the Department of Food Science and Agricultural Chemistry, Faculty of Agricultural and Environmental Sciences, and courses in biochemistry and microbiology. The food, beverage and pharmaceutical industries are large industries in the Montreal area and these courses are relevant to these industries and to the new high technology applications of biotechnology.

The third area in which there is a sequence of courses is Pollution Control. The Department offers two courses in this area: CHEE471 and CHEE472. As some water pollution control problems are solved by microbial processes, course CHEE474 is also relevant to the pollution control area. Likewise as the solution to pollution problems frequently involves removal of particulate matter from gaseous or liquid streams, course CHEE452 is also rele-



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To remain in the Honours program and to be awarded the Honours degree, a student must have completed at least 14 credits in each term since entering Electrical and Computer Engineering, except for the final two terms of their degree, and maintained a CGPA of at least 3.00 since entering Electrical and Computer Engineering. In either of their final two full terms (i.e., Fall and Winter, or Winter and Fall) students may drop below 14 credits, provided the combined load for the two terms is at least 16 credits. For more information, please contact the Departmental office at (514)398-7344.

**CURRICULUM FOR THE B.ENG. DEGREE IN ELECTRICAL ENGINEERING (HONOURS)**

**CURRICULUM FOR THE B.ENG. DEGREE IN ELECTRICAL ENGINEERING (REGULAR)**

**\* Enhanced Power Concentration**

The Institute for Electrical Power Engineering was recently established as a province-wide centre for electrical power engineering education. It is funded by industry, mostly Hydro-Quebec, and provides a comprehensive program and state-of-the-art laboratory facilities, and a point of contact between industry and universities involved in power engineering.

This program is open to students in the regular Electrical Engineering program only.

The benefits of the Concentration are:

- a complete and up-to-date final year program in electrical power engineering, with industry-sponsored and supported courses;
- access to industry-sponsored projects, internships and new employment opportunities.

**Eligibility criteria:** to be considered in September 2004, the applicant must:

- be registered in the B.Eng. program (regular Electrical Engineering);
- have a cumulative GPA of at least 2.70;
- have completed or be registered in ECSE361 (Power Engineering);
- be able to complete the degree requirements by Spring 2005;
- agree to follow the curriculum requirements set out below.

**Selection criteria:** The number of students selected, expected to be between 5 and 10, will be the subject of a specific agreement between the University and the Institute. Selection criteria to the Institute will be based on CGPA and on the curriculum vitae. The selection process for the scholarship may involve an interview with the committee presided by Hydro-Quebec. There is a possibility of an internship with Hydro-Quebec.

**Curriculum requirements for selected students:** Generally, unless the University has authorized specific substitutions, students must complete the degree requirements set out in the 2004-05 *Undergraduate Programs Calendar* with the following specifications:

**Technical Electives and Laboratories:** All students must take (or have taken) the following courses (18 credits):



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*Associate Members*

R.E. Kearney; B.Eng., M.Eng., Ph.D.(McG.), Biomedical Engineering Unit

B.H.K. Lee; B.Eng., M.Eng., Ph.D.(McG.)

M. Tanzer; M.D., Orthopaedic Surgery

*Adjunct Professors*

H. Attia, R.G. Edwards, S. Girgis, A. Hemami, Z. Liu,

K.Mackenzie, W.D. May, C.A. Rabbath, R.Sumner,

G.A.Wagner, T. Yee, D. Zorbas

Mechanical engineers are traditionally concerned with the conception, design, implementation and operation of mechanical systems. Typical fields of work are aerospace, energy, manufacturing, machinery, and transportation. Because of the very broad nature of the discipline there is usually a high demand for mechanical engineers.

Many mechanical engineers follow other career paths. Graduate studies are useful for the specialists working in research establishments, consulting firms or in corporate research and development.

To prepare the mechanical engineer for a wide range of career possibilities, there is a heavy stress in our curriculum on the fundamental analytical disciplines. This is balanced by a sequence of experimental and design engineering courses which include practice in design, manufacture and experimentation. In these courses students learn how to apply their analytical groundwork to the solution of practical problems.

Specialist interests are satisfied by selecting appropriate complementary courses from among those offered with a specific subject concentration, such as management, industrial engineering, computer science, controls and robotics, bio-engineering, aeronautics, combustion, systems engineering, etc.

The Department offers an Honours Program which is particularly suitable for those with a high aptitude in mathematics and physics and which gives a thorough grounding in the basic engineering sciences. The complementary courses in this program can be utilized to take courses with applied engineering orientation, such as those offered in the regular program, or if preferred, to obtain an even more advanced education in engineering science.

Concentrations in Aeronautical Engineering, Mechatronics and Design are available for students in either the Regular or Honours programs who wish to specialize in these areas.

While the program is demanding, there is time for many extracurricular activities. Students are active in such professional societies as CASI (Canadian Aeronautics and Space Institute), SAE (Society of Automotive Engineers), and ASME (American Society of Mechanical Engineers) and in various campus organizations.



**STREAM B:  
Term 1 (Fall)**

**For all Minors and Concentrations, students should complete a special form available from the Undergraduate Program Secretary indicating their intention to take the Minor or the Concentration.**

neering the Department has rock engineering laboratories to test the mechanical properties of both rock and backfill materials and computer-aided mine design facilities.

**Materials Engineering (CO-OP).** The Materials Engineering degree is a cooperative program leading to a B.Eng. and includes formal industrial work periods. It is built around a strong background of mathematics, basic sciences, computer skills and applications, and specific engineering and design courses to provide



analysis, design and implementation developed from an interdisciplinary synthesis of these various fields.

Today, urban planning can be described as the collective management of urban development. It is concerned with the welfare of communities, control of the use of land, design of the built environment, including transportation and communication networks, and protection and enhancement of the natural environment. It is at once a technical and a political process which brings together actors from the public, private and community spheres. Planners participate in that process in a variety of ways, as designers and analysts, advocates and mediators.

McGill University was the first institution in Canada to offer a full-time planning program. An interdisciplinary program was established in 1947, in which students combined a master's degree in Urban Planning with one in a related field. An autonomous program was established in 1972. It became the School of Urban Planning in 1976.

Students come to the School from diverse backgrounds, the physical sciences, the traditional professions, such as architecture and engineering, and the social sciences. Alumni of the School work as planners and designers at various levels of government, in non-profit organizations and with private consulting firms. Their expertise ranges from historic preservation to transportation planning, from housing development to computer imaging. They devote their efforts in increasing numbers to environmental planning and sustainable development.

The School is a partner in the Montreal Interuniversity Group "Urbanization and Development", a consortium recognized by CIDA as a Centre of Excellence, which is devoted to the study of urban problems and the formulation of policies in developing regions. Faculty and students collaborate actively with members of other McGill departments, notably Architecture, Geography, Civil Engineering and Law, and with colleagues at other institutions in

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### 5.3 Chemistry/Chemical Engineering Minor

The Departments of Chemistry and Chemical Engineering offer a Minor Program in Chemistry, of particular interest to Chemical Engineering students, and a Minor in Chemical Engineering, of interest to Chemistry students (described under the Faculty of Science). The Minor in Chemistry consists of 25 credits as follows:

1. Required courses, 10 credits: CHEM212, CHEM233 and CHEM234 (or CEGEP equivalent)
2. At least 15 credits from the following list, two of which must be laboratory courses (\* indicates lab). Note that CHEM212 is a prerequisite for most of the courses listed below. If students take CHEM222\* instead of CHEM234, they will receive credit for one of the two laboratories that are required but they must have a total of 25 Chemistry credits for the Minor.

#### Inorganic Chemistry

For further information, please check the School of Computer Science Website, [www.cs.mcgill.ca/acadpages/undergrad](http://www.cs.mcgill.ca/acadpages/undergrad).

#### Minor in Computer Science for Engineering Students

The program must consist of 16 credits, including 8 Science credits and 8 Computer Science credits.

Please consult the program coordinators for more information: Professor D. Cooper (Chemical Engineering) and Dr. G. Wilczek (Chemistry). A passing grade for courses within the Minor is a C.

### 5.4 Computer Science Courses and Minor Program

The School of Computer Science offers an extensive range of courses for Engineering students interested in computers. The course explicitly for Engineering students (COMP208) and other courses in the core of the various Engineering programs are listed below. Descriptions of these and other Computer Science courses can be found on Class Schedule or in the Courses section.

- COMP202 Introduction to Computing 1
- COMP208 Computers in Engineering
- COMP250 Introduction to Computer Science
- COMP302 Programming Languages and Paradigms

Engineering students may obtain a Minor in Computer Science as part of their B.Eng. degree by satisfying the 24-credit requirement described below. In general, some complementary courses within Engineering departmental programs may be used to satisfy some of these requirements, but the Minor in Computer Science will require at least 12 extra credits from Computer Science (COMP) courses beyond those needed for the B.Eng. degree. Students should consult their departments about the use of complementaries, and credits that can be double counted.

Students should see the Undergraduate Secretary in the Lorne Trotter Building, Room 2060, to obtain the appropriate forms and to make an appointment to see the Minor Advisor for approval of their course selection. Forms must be approved before the end of the Add/Drop period of the student's final term.

**2. Either 3 or 4 credits,** as follows:

- a) 4 credits - Any two of the following relating to Building Structures:
- ARCH447 (2) Electrical Services
  - ARCH451 (2) Building Regulations and Safety
  - ARCH554 (2) Mechanical Services
  - CIVE492 (2) Structures

or

- b) 3 credits - One of the following relating to Heavy Construction:
- MIME322 (3) Rock Fragmentation
  - MIME333 (3) Materials Handling

**3. Other Construction-Related Complementaries:** 6 credits

Any two of the following:

- ABEN411 (3) Off-Road Power Machinery
- BUSA462 (3) Management of New Enterprises
- CIVE446 (3) Construction Engineering
- CIVE527 (3) Renovation and Preservation: Infrastructure
- CIVE586 (3) Earthwork Engineering
- ECSE461 (3) Electric Machinery
- FINE445 (3) Real Estate Finance
- MIME520 (3) Stability of Rock Slopes
- MIME521 (3) Stability of Underground Openings
- MPMC321 (3) Mécanique des roches et contrôle des terrains

**Total requirement: 24 or 25 credits**

**5.6 Economics Minor**

The Minor consists of 18 credits in courses given in the Economics Department. It consists of required courses and complementaries. In addition, it is presumed that all Engineering students will have a sufficient background in statistics. Engineering Economy, MIME310, does not form part of this minor. For more information see the Department of Economics, Room 443, Leacock Building.

**Required Courses** (9 credits)

- ECON230D1\* Microeconomic Theory
- ECON230D2\* Microeconomic Theory
- ECON209\*\* Macroeconomic Analysis and Applications

**Complementary Courses** (9 credits) from:

- ECON225 Economics of the Environment
- ECON302D1 Money and Banking
- ECON302D2 Money and Banking
- ECON303D1 Canadian Economic Policy
- ECON303D2 Canadian Economic Policy
- ECON305 Industrial Organization
- ECON306D1 Labour Economics and Institutions
- ECON306D2 Labour Economics and Institutions
- ECON308 Public Policies Toward Business
- ECON311 United States Economic Development
- ECON313 Economic Development 1
- ECON314 Economic Development 2
- ECON316 The Underground Economy
- ECON321 The Quebec Economy
- ECON326 Ecological Economics
- ECON329 Economics of Confederation
- ECON330D1 Macroeconomic Theory
- ECON330D2 Macroeconomic Theory
- ECON331 Economic Development: Russia and USSR
- ECON332 Comparative Economic Systems
- ECON333 Comparative Economic Systems
- ECON335 The Japanese Economy
- ECON337 Introductory Econometrics 1
- ECON344 The International Economy, 1830 - 1914
- ECON345 The International Economy Since 1914
- ECON347 Economics of Climate Change
- ECON404 Transportation
- ECON405 Natural Resource Economics
- ECON406 Topics in Economic Policy
- ECON408D1 Public Sector Economics
- ECON408D2 Public Sector Economics

- ECON411 Economic Development: A World Area
- ECON416 Topics in Economic Development 2
- ECON420 Topics in Economic Theory
- ECON423D1 International Trade and Finance
- ECON423D2 International Trade and Finance
- ECON426 Labour Economics
- ECON434 Current Economic Problems
- ECON440 Health Economics
- ECON447 Economics of Information and Uncertainty
- ECON467D1 Econometrics - Honours
- ECON467D2 Econometrics - Honours
- ECON525 Project Analysis
- ECON534 Pensions Crisis
- ECON546 Game Theory

Mining Engineering students will be permitted to include Mineral Economics (MIME526) among these 18 credits.

\* Students may, with consent of instructor, take ECON250D1/ECON250D2 Introduction to Economic Theory: Honours, in place of ECON230D1/ECON230D2.

\*\* This requirement is waived for students who choose ECON330D1/ECON330D2 from the list of complementaries. Students may **not** take both ECON209 and ECON330D1/ECON330D2.

**5.7 Environmental Engineering Minor**

The Environmental Engineering Minor is offered for students of Engineering and the Department of Bioresource Engineering (formerly Agricultural and Biosystems Engineering) wishing to pursue studies in this area.

The Minor program consists of 21 credits in courses. Up to a maximum of 12 credits of course work in the student's B.Eng. program may double-count with the Minor.

To complete the Minor in Environmental Engineering, students must obtain a grade of C or better in all approved courses in the Minor; and satisfy the requirements of the Minor and of their departmental program.

The Environmental Engineering Minor Program is administered by the Department of Civil Engineering and Applied Mechanics. Further information may be obtained from Professor S. Ghoshal, Room 475C, Macdonald Engineering Building.

**Note:** Not all courses listed are offered every year. Students should consult with the department concerned about the courses that are offered in a given year.

**Minor Requirements** (21 credits)

- Introductory course (3 credits minimum) – one of:
- CHEE230 (3) Environmental Aspects of Technology
  - CIVE225 (4) Environmental Engineering

plus a minimum of 18 credits, either:

- 15 credits\* (minimum) Engineering courses and
- 3 credits (minimum) Non-Engineering courses, from the course lists below:

\* A minimum of 6 credits must be from outside the student's principal departmental program. A maximum of 6 credits of research project courses may be counted towards this category provided the project has sufficient environmental engineering content (project proposal requires approval of project supervisor and Coordinator of the Minor).

OR

15 credits specified for the Barbados Field Study Semester, see page 361 (under the Faculty of Agricultural and Environmental Sciences), and

3 credits chosen from the Engineering Course list below, excluding CHEE496.

**Engineering Course List  
(Environmental Engineering Minor)**

**Non-Engineering Course List  
(Environmental Engineering Minor)**

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PHYS558 Solid State Physics  
 PHYS559 Advanced Statistical Mechanics  
 PHYS562 Electromagnetic Theory  
 PHYS567 Particle Physics

Students who take PHYS357 and PHYS457 can omit PHYS271 from their normal Electrical Engineering program. Candidates must go to the Department of Physics at registration time in their U3 year to fill out a Minor Program Form.

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### 5.13 Technological Entrepreneurship Minor

Engineering students may obtain a Minor in Technological Entrepreneurship by completing 6 courses (18 credits) as listed below. Up to two courses (6 credits) may be double-counted for credit towards the Humanities and Social Sciences Complementary Courses.

This Minor is offered jointly by the Faculties of Engineering and Management. It will appeal to those students who have a concept, process or product idea in mind and who want to explore the opportunity of commercializing it. It will also be of interest to students who have a general interest in entrepreneurship and intend to pursue a career in small and medium-sized high technology/ engineering companies.

Students considering the Minor should consult Ms. Judy Pharo, Faculty of Engineering Student Affairs Office, e-mail: judy.pharo@mcgill.ca.

#### Required Courses (18 credits)

BUSA465 (3) Technological Entrepreneurship  
 FACC480 (3) Technological Entrepreneurship Project  
 MGCR320 (3) Managing Human Resources  
 MGPO562 (3) Seminar in Organizational Strategy  
 MRKT360 (3) Marketing of Technology  
 ORGB321 (3) Leadership

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### 5.14 Software Engineering Minor

This Minor will prepare an engineering student for a career in software engineering. It will provide a foundation in basic computer science, computer programming and software engineering practice.

The Minor consists of 24 credits (8 courses). Up to four of the courses (12 credits) may be double-counted for credit towards the B. Eng. degree in Electrical Engineering or Computer Engineering. Students in other programs may double-count up to three courses (9 credits).

Students considering this Minor should contact Ms. Judy Pharo, Faculty of Engineering Student Affairs Office, e-mail: judy.pharo@mcgill.ca.

#### Required Courses (9 credits)

ECSE221 (3) Introduction to Computer Engineering  
 ECSE321 (3) Introduction to Software Engineering  
 ECSE428 (3) Software Engineering Practice

#### Complementary Courses (15 credits)

one course (3 credits), either:

COMP203 (3) Introduction to Computing 2  
 or COMP250 (3) Introduction to Computer Science

At least one course (3 credits) must be selected from the following list of engineering courses:

CHEE458 (3)



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Activities sponsored by the MUS include: Management Welcome Week, Management Winter Carnival, Management Achievement Awards Luncheon, Jeux du Commerce/Commerce Games, the AIDS benefit fashion show, the Cancer Auction, a Faculty newspaper and magazine, a yearbook and a Graduation Ball. The MUS is also the umbrella organization under which the McGill Investment Club, the Information Systems Club, the Marketing Network, the International Management Society and the McGill Accounting Society all operate. Each club organizes career information sessions, guest speakers, peer tutorial programs, social activities as well as other activities that complement regular classes.

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### **3 B.Com. Program Requirements**

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#### **3.1 Academic Requirements for Graduation**

A student is graduated upon satisfactory completion of the full number of credits indicated in the letter of acceptance, subject to the curriculum requirements. For students entering with a CEGEP Diploma, the number of credits will generally be 90. Students from outside the province of Quebec who have not completed the equiv-



privileges. If approved, such a deferred examination will generally be written within the next formal period for which there is an examination in the course. Special arrangements may be made where a student has an authenticated case of long-term illness.

**Areas of specialization:**

- Canada
- Latin America and the Caribbean
- Western Europe (France, Germany, Italy, or Spain)
- East Asia
- United States

## 5 Management Core

All B.Com. students take the 51-credit Core curriculum set out below, except where modifications are specifically required by a Major or Honours program. Any other student wishing to deviate from this program must obtain written permission from the Associate Dean.

A grade of C or better is required for all Core courses. If a D is obtained in a Core course, the grade must be improved during the following term.

The distribution of Core courses over years differs depending upon whether the student is in the 90-credit program (3 years) or the 120-credit program (4 years). (Students who have completed the CEGEP program enter the 90-credit program; students from outside Quebec who have been accepted on the basis of high school completion enter the 120-credit program.)

### 5.1 90-credit Program, Core Course Distribution

#### U1 Required Courses (30 credits)

MGCR211	(3)	Introduction to Financial Accounting
MGCR213 <sup>1</sup>	(3)	Introduction to Management Accounting
MGCR222	(3)	Introduction to Organizational Behaviour
MGCR271 <sup>2</sup>	(3)	Statistics 1
MGCR272 <sup>2</sup>	(3)	Statistics 2
MGCR293 <sup>3</sup>	(3)	Managerial Economics
MGCR331	(3)	Information Systems
MGCR341	(3)	Finance 1
MGCR352	(3)	Marketing Management 1
ECON295 <sup>3</sup>	(3)	Macroeconomic Policy

#### U2 Required Courses (18 credits)

MGCR320	(3)	Managing Human Resources
MGCR360	(3)	Social Context of Business
MGCR373	(3)	Operations Research 1
MGCR382 <sup>1</sup>	(3)	International Business
MGCR472	(3)	Operations Management
EDEC305	(3)	Communication in Management 2 (Faculty of Education)

#### U3 Required Course (3 credits)

MGCR423	(3)	Organizational Policy
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#### Program Footnotes:

- Students considering the Faculty Program in International Management should take MGCR382 in U1 and MGCR213 in U2.
- Students considering a Major or Minor in Mathematics replace MGCR271 and MGCR272 with MATH323 and MATH324. Students considering an Honours or Joint Honours Program in Economics replace them with ECON257D1/ECON257D2.
- Students entering an Economics program replace MGCR293 in U1 with either ECON230D1/ECON230D2 (for the Majors program) or ECON250D1/ECON250D2 (for the Honours Program); and replace ECON295 in U2 with either ECON330D1/ECON330D2 (for the Majors program) or ECON352D1/ECON352D2 (for the Honours Program) taken in U2.

#### Also note that:

- A maximum of 6 credits will be permitted within the B.Com. program for MGCR 293 and ECON230D1/ECON230D2 or ECON250D1/ECON250D2.
- A maximum of 6 credits will be permitted within the B.Com. program for ECON 295 and ECON330D1/ECON330D2 or ECON 352D1/ECON 352D2.

### 5.2 120-credit Program, Core and Freshman Course Distribution

Students admitted to a program requiring 97-120 credits (four years) register in a Freshman Year in which they must complete MATH130 and MATH131 (or equivalents) as well as the 15 credits of Complementary Courses specified below.

A minimum grade of C is required for all Core and Freshman Complementary courses.

The Freshman and Core courses are distributed as follows:

#### U0 Required Courses (12 credits)

MATH130 <sup>1</sup>	(3)	Mathematics for Management 1
MATH131 <sup>1</sup>	(3)	Mathematics for Management 2
MGCR211	(3)	Introduction to Financial Accounting
MGCR331	(3)	Information Systems

#### U0 Complementary Courses (15 credits)

3 credits, one course, at the 100 or 200 level in Psychology (Subject Code PSYC), excluding PSYC204, or Sociology (Subject Code SOCI), excluding SOCI211.  
6 credits of Humanities or Language courses, as specified below.  
6 credits of Social Science or Science courses, as specified below.

#### U0 Elective Course (3 credits)

one 3-credit course

(Students should refer to Note 5 below as it may be necessary for them to take EDEC205 Communication in Management 1 in U0).

#### U1 Required Courses (27 credits)

MGCR213 <sup>2</sup>	(3)	Introduction to Management Accounting
MGCR222	(3)	Introduction to Organizational Behaviour
MGCR271 <sup>3</sup>	(3)	Statistics 1
MGCR272 <sup>3</sup>	(3)	Statistics 2
MGCR293 <sup>4</sup>	(3)	Managerial Economics
MGCR341	(3)	Finance 1
MGCR352	(3)	Marketing Management 1
ECON295 <sup>4</sup>	(3)	Macroeconomic Policy
EDEC305 <sup>5</sup>	(3)	Communication in Management 2

#### U2 Required Courses (15 credits)

MGCR320	(3)	Managing Human Resources
MGCR360	(3)	Social Context of Business
MGCR373	(3)	Operations Research 1
MGCR382 <sup>2</sup>	(3)	International Business
MGCR472	(3)	Operations Management

#### U3 Required Courses (3 credits)

MGCR423	(3)	Organizational Policy
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#### Freshman Social Sciences/Sciences Courses List

Any course at the 100 or 200 level with these Subject Codes: ANTH (Anthropology); ATOC (Atmospheric and Ocean Sciences); BIOL (Biology); CANS (Canadian Studies); CHEM (Chemistry); ECON (Economics) excluding ECON208, ECON209, ECON217, ECON227, ECON230, ECON250, ECON257, ECON295; EPSC (Earth and Planetary Sciences); GEOG (Geography); HIST (History); LING (Linguistics); PHGY (Physiology); PHYS (Physics); POLI (Political Science); PSYC (Psychology) excluding PSYC204; SOCI (Sociology) excluding SOCI211; SSMD (Social Studies of Medicine); WMST (Women's Studies).

Any course at the 200 level with these Subject Codes: COMP (Computer Science), MATH (Mathematics) excluding MATH203, MATH204, MATH211.

#### Freshman Humanities/Languages Courses List

Any course at the 100 or 200 level with these Subject Codes: ARTH (Art History), CANS (Canadian Studies), CLAS (Classics), DANI (Danish), EAST (Asian Languages and Literature), ENGC (English Communications), ENGL (English), FREN (French), FRSL (French as a Second Language), GERM (German), HISP (Hispanic Studies), ITAL (Italian), JWST (Jewish Studies), MUAR (Music-Arts), MUHL (Music)

History and Literature), MUJZ (Jazz Studies), MUSP (Musicianship), PHIL (Philosophy), RELG (Religious Studies), RUSS (Russian)

And the following Faculty of Education courses: EDEA 204, EDEA205, EDEA296; EDEC205; EDEE325; EDKP392.

**Program Footnotes:**

1. Students considering a Major or Minor in Mathematics, or an Honours or Joint Honours program in Economics replace MATH130 and MATH131 with three of the following courses, or demonstrated proficiency through appropriate McGill Placement tests.

Six of these credits would be counted in the Freshman Year requirements, the remaining credits would be counted as Humanities or Science Complementary.

2. Students considering the Faculty Program in International Management should take MGCR382 in U1 and MGCR213 in U2.
3. Students considering a Major or Minor in Mathematics replace MGCR271 and MGCR272 with MATH323 and MATH324. Students considering an Honours or Joint Honours Program in Economics replace them with ECON257D1/ECON257D2.
4. Students entering an Economics program replace MGCR293 in U1 with either ECON230D1/ECON230D2 (for the Majors program) or ECON250D1/ECON250D2 (for the Honours Program); and replace ECON295 with either ECON330D1/ECON330D2 (for the Majors program) or ECON352D1/ECON352D2 (for the Honours Program) in U2.
5. In order to register for EDEC305, students must either pass a Placement Test\* or have taken the prerequisite course, EDEC205. Credit for EDEC205, which would normally be taken in U0, would be counted as a Language Complementary or an elective.

\* All new students are required to take a placement test. The results determine whether students should register for EDEC205 (as of the second term, to count as Freshman Humanities or an elective); or EDEC 305 (as of U2, to fulfill the core requirement. Students in this group will take an additional core course of their choosing, or a free elective, to complete the 30 credits of U0); or CEGL 351 (not for credit, in the first term, to qualify for EDEC205 in the second term). Further details are posted on the Faculty Website at [www.management.mcgill.ca](http://www.management.mcgill.ca) under Degree Programs - B.Com. - Accepted Students.

**Also note that:**

- Management students cannot receive credit for ARET150, COMP 102 or COMP 199.
- A maximum of 6 credits will be permitted within the B.Com. program for MGCR 293 and ECON230D1/ECON250D1/ECON250D2.
- A maximum of 6 credits will be permitted within the B.Com. program for ECON 295 and ECON330D1/ECON330D2 or ECON 352D1/ECON 352D2.

### 5.3 Transfer Credit and Advanced Standing

Normally, students may transfer up to one-third of the credits required in their degree program, including the Concentration, Major, or Honours requirements.

See "Transfer Credits" on page 49 or the Student Affairs Office for more details.

will be required to embark on a new Concentration, repeat the course(s) in question or, where possible, to replace the course(s) with a satisfactory option from the Concentration courses.

In general, the student will begin taking courses from the chosen Concentration in the U2 year.

An adviser is appointed for each Management Concentration to assist students in choosing a Concentration and provide additional information regarding course selection.

**Second Concentration:**

Students who choose to take a second Concentration will be required to complete 15 non-overlapping credits at a satisfactory level with a minimum grade of C in each course.

## 6.1 Accounting Concentration

Adviser: Professor D. H. Drury

This Concentration is designed to meet the needs of Management students who want to have a good basic understanding of accounting but do not intend to become professional accountants or accounting specialists. It is primarily oriented towards users of

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## 6 Concentrations

In order to complete a Concentration, the student must achieve a grade of C or better in all the courses which comprise the Concentration. The student who has failed to earn 15 satisfactory credits

### 6.3 Finance Concentration

Advisers: Professors A.deMotta, J.Ericsson, P. Ruiz, and S.Sarkissian

This Concentration has been designed to provide understanding of key concepts in finance theory, financial institutions, investment analysis, risk management, and applied techniques. Graduates find a strong demand among financial organizations, governments, and non-financial firms where they pursue careers which lead to positions such as Managing Partner, Treasurer and V.P. Finance.

**Required Courses** (9 credits)

FINE342 (3) Finance 2  
FINE441 (3)

**Complementary Course** (6 credits)

### 6.4 Information Systems Concentration

Adviser: Professor K. Leitch

Two concentration streams are offered in Information Systems. The Systems Analysis stream provides the foundation for systems analyst, some design, IS project management, implementation and support positions. The Business Systems Design stream provides the foundation necessary for positions as systems designers and developers. Students are introduced to four different programming languages, and various design concepts, including event-driven, structured and object oriented design.

An IS Concentration differs from the Major in that it focuses on a restricted set of activities rather than the broader set of skills required of students intending to pursue careers in the information systems field.

Due to prerequisites, at least three terms are required to complete an IS Concentration.

**SYSTEMS ANALYSIS AND IMPLEMENTATION STREAM**

**Required Courses** (15 credits)

**BUSINESS SYSTEMS DESIGN STREAM**

**Required Courses** (15 credits)

\* Students who have already taken COMPxxx (Computer Science) courses must see the adviser.

Students seeking an elective in IS without pursuing a Concentration or Major should consider INSY333 and INSY341.

### 6.5 International Business Concentration

Adviser: Professor H. Etemad

The objective of this Concentration is to help the student develop conceptual and analytical skills needed to formulate feasible and

effective management policies in an international setting. With economic and business activity becoming increasingly internationalized, the program provides useful preparation for careers in a variety of organizations, including local business firms with international trade, licensing or financial arrangements; headquarters or subsidiaries of multinational companies; banks and other international financial institutions; and various governmental organizations.

**Required Course** (3 credits)

### 6.6 Labour-Management Relations Concentration

Adviser: Professor R. Hebdon

The objective of this Concentration is to provide a general understanding of the factors affecting employer-employee relations, both at the micro-level and in relation to the socio-economic context in which they occur. Students interested in more intensive study of this area are urged to consider the Major Program in Labour-Management Relations.

**Required Courses** (6 credits)

**Complementary Courses** (9 credits)

### 6.7 Management Science Concentration

Advisers: Professors J.L.Goffin, R.J.Loulou, and G.A.Whitmore

This Concentration prepares students for careers as management scientists, systems analysts, and applied statisticians in business, government and consulting firms. Most courses in the Concentration are currently offered jointly to MBA students.

Management Science courses stress conceptual and problem-solving skills and familiarize students with modern mathematical and computational decision-making tools. The use of computers and spreadsheets is extensive. Students in other management areas who wish to complement their studies with valuable analytical training might consider these courses:

Marketing students: MGSC632, MGSC676;  
Finance students: MGSC675, MGSC679;  
IS or Operations Management students: MGSC678.

(Concentration revision awaiting University approval)

**Required Courses** (6 credits)

**Complementary Courses** (9 credits)

**GLOBAL STRATEGY OPTION**  
**Complementary Courses** (15 credits)

**SOCIAL CONTEXT OPTION**  
**Required Courses** (9 credits)E



## 8 Majors

B.Com. Program Majors Adviser: Ron Critchley

Major programs are available in Economics, Finance, Information Systems, Labour-Management Relations, Marketing, Mathematics, and Psychology.

Because of the heavier demands of Major programs, students desiring to pursue a program of this type are advised to declare their intention at the beginning of the program. Students are then assigned an adviser from the appropriate department and a suitable program is worked out. Only grades of C or better may count towards the Major requirements.

### 8.1 Major in Economics for Management Students

Advisers: Professors H. Bencheckroun, A.Deutsch, P.Dickinson, M.Frankman, J.Iton, J.Kurien, K. MacKenzie, R.T.Naylor, L.Soderstrom, T.Velk, A.Vicas, and W.Watson; Department of Economics, Faculty of Arts

Please consult the Economics Department Website at [www.mcgill.ca/economics](http://www.mcgill.ca/economics).

This Major is comprised of 36 credits of Economics courses (6credits of which are counted as Core credits).

**Required Courses** (12 credits)

\* 3 of the 6 credits for Microeconomic Theory are counted in the Core, where it replaces MGCR293.

\*\* 3 of the 6 credits for Macroeconomic Theory are counted in the Core, where it replaces ECON295.

**Complementary Courses** 0.0964 conoajor requireuntelieumandsces 0.cas,sces 2 w (Mcnot then ) Tj 3500.3158 Tc850.2148 may cntecs D(\*\* 3







United States) are offered for foreign students who come to McGill from other countries.

Students must complete 9 to 12 credits of language study appropriate to their regional area of study, unless they can demonstrate proficiency, in which case they must substitute courses taught in the language of their chosen region.

In addition to language study, a minimum of 15 to 18 credits of courses focused on the geographical region of choice must be taken. These courses are from a wide range of Faculty of Arts departments: Anthropology, Economics, Geography, History, Political Science, Religious Studies, etc.

#### **A Term Abroad**

All students in the program will be expected to spend one term in the region they have chosen to study. During this term they would be required to either:

- a) take approved courses which can be used towards their language credits, their regional area studies, or the advanced management courses on integrative or international topics; or
- b) work in a job where they must use a language from their chosen region. If they are able to arrange a verifiable, paid work experience, they will be eligible to receive 3 course credits to be used toward their advanced management courses if they make arrangements in advance to take an Independent Study

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*Production Co-ordinator*

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Jacqueline Gauthier *Box Office Clerk*

Marie Pothier; B.Mus.(Montr.) *Publicity Secretary*

François Robitaille *Piano Technician*

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Melanie Preuss *Library Assistant,  
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please refer to [www.mcgill.ca/music/prospective/undergraduate/requirements](http://www.mcgill.ca/music/prospective/undergraduate/requirements).

The entrance audition dates for September 2004 admission are February 21 to 29, 2004.

The entrance audition dates for September 2005 admission are February 19 to 27, 2005.

Tape-recordings (cassette and/or video) are acceptable when distance prevents an applicant from attending an audition in person.

Applicants for Composition are asked to submit two or three samples of their written work.

Music Education applicants are asked to submit a letter of intent outlining reasons for wishing to enter the Music Education field and a letter of reference from someone attesting to his or her suitability for teaching.

---

### **4.3 Academic Entrance Requirements**

#### **Bachelor of Music**

The applicant's entrance audition and the academic record are considered when making an admission decision. As a limit is placed upon the number of students admitted to study a particular instrument, fulfillment of the minimum entrance requirements does

upon the advice of the instructor, reserves the right to counsel the student to undertake studies at a lower level.

**4.6 Keyboard Proficiency Test (MUSP170)**

Students entering any of the B.Mus. or L.Mus. programs should be prepared to demonstrate, in a Keyboard Proficiency Test, keyboard skills sufficient to enable them to use the piano as a tool in their studies at McGill.

Those who are unable to do so must register continuously for Keyboard Proficiency MUSP170 until they successfully complete the course. Majors in Jazz Performance must enrol in MUJZ170. Students in Jazz Performance who have completed MUJZ170 and MUJZ171, and who transfer to a Department of Theory program, will be required to complete MUSP171. Students who have been admitted to a degree or diploma program with keyboard as their principal instrument are exempt from the MUSP170 Test (but not from MUSP171).

The requirements of the test are as follows:

1. Sightreading (simple two-part piece using treble, bass and alto clefs).
2. Technique (scales, triads and arpeggios). Two octaves, hands together.
3. Prepared piece (contrapuntal texture in two or three parts, or simple homophonic textures, level equivalent to McGill Conservatory Secondary III).
4. Keyboard rudiments (recognition/playing of intervals, chords, scalar patterns, etc.).

Students will not be allowed to proceed with higher-level Musicianship or Theory studies until these requirements are met. Exact test dates are determined by the Department of Theory.

**4.7 Re-Admission**

Students in satisfactory standing, who have not been registered in the Faculty of Music for one or two terms, may return to the program in which they were previously registered upon permission of the Faculty. Those who have been out for longer than two terms may be re-admitted upon permission of the Faculty, subject to the student's previous record and current Faculty limitations on enrolment, but will be required to re-audition. Students wishing to return must submit a request in writing to the Student Affairs Office, giving a summary of their activities during their absence, and complete a Re-Admission Application Form. The deadline for the September session is January 15; for the January session, November 1.

**5.0 Fees**

The University reserves the right to make changes without notice in the published scale of fees.

**5.1 Tuition Fees**

General information on Tuition and Other Fees will be found in the General University Information section at the front of this book.

**Individual practical instruction** on a main instrument or voice as indicated in the various degree and diploma programs (Section 7) is included at the per-credit rate only while the student is full-time, and for a maximum number of years according to the following table:

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\* Composition, Music Education, Music History, Music Technology, Theory, Faculty Program

L.Mus. students are entitled to practical instruction at the per credit rate for a maximum of 3 years, 1 hour per week; Artist Diploma students, 2 years, 1½ hours per week.

The maximum of 3 years of practical instruction for L.Mus. students includes instruction received while in a B.Mus. program either during or prior to registration in the L.Mus. program. The maximum of 2 years of practical instruction for Artist Diploma students includes instruction received while in a M.Mus. program either during or prior to registration in the A.Dip. program.

**Note: Part-time** students in the B.Mus. and L.Mus. programs and those who have exhausted the above-listed maxima will be charged \$785 per term (\$1,570 per year) for practical instruction in addition to the per-credit fees. (Artist Diploma students: \$1,175 per term or \$2,350 per year.)

**Special** or part-time **Visiting** students, who are permitted to enrol for practical instruction, will also be charged an extra \$785 per term, in addition to the per-credit fees, as will all other students taking instruction in a **second practical subject**.

**Voice Coaching** (MUIN300, MUIN301) is av0Ptlble: Tj T\* 0.1927redit fees. (

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## 6 Academic Information

Students are required to be punctual at all classes and lessons.

Grades in theoretical subjects are calculated on the basis of classwork and/or examinations. Students are warned that by missing examinations or classwork they risk failure in the subject concerned.

---

### 6.1 Ensemble Policy and Regulations

#### A. Preamble

The ensemble program comprises areas of activity designed to provide an enriched and cohesive curriculum in practical musicianship for every student. Much of this training is accomplished in the context of a large instrumental or choral ensemble, or specialized ensembles, over the three-year period that students normally spend on undergraduate studies.

Students are advised to check their program carefully in order to verify their basic (large) and small ensemble requirements.

**Basic (large) Ensemble: All students registered as full-time or part-time students in the Department of Performance must audition for, and participate in, a basic (large) ensemble.**

This means that a student from the Province of Quebec must have a *minimum* of 12 credits for basic ensemble in order to graduate. A student from outside the province must have a *minimum* of 16 credits in order to graduate. In those cases where a student in the orchestral training program is registered for additional sessions, he/she must also register for basic ensemble for each additional session. (For exemptions, see section K.)

A student in the orchestral training program who is not assigned a basic ensemble following the auditions in either September or January because there is not a space available may substitute either

1. an additional small ensemble in lieu of the basic ensemble with the approval of the Chair of the Performance Department, or
2. a choral ensemble following an audition, with the permission of the Chair of the Choral Area and the Chair of the Performance Department.

**Small Ensemble: With the exception of students registered in the regular Voice program, all students registered as full-time or part-time students in the Department of Performance must audition for, and participate in, a small ensemble.** A student must have a *minimum* of 6 credits for small ensemble in order to graduate. With the exception of Keyboard, Guitar and Jazz students, this is an ongoing requirement.

Performance majors as well as sufficiently advanced players and singers from other programs are encouraged to participate in one or more small ensembles which meet their particular interest.

Permission to graduate is given only to students who are interested.

**E. Commitment**

Ensembles are courses. Each student who has registered for an

2. Students who are given permission not to participate in Orchestra (MUEN497 or MUEN697) for a term or part thereof may be ineligible to hold an Orchestral Instruments Scholarship for that term and may be ineligible for consideration for an Orchestral Instruments Scholarship for the following year based on that term.

#### L. Substitution of an Ensemble

1. In order to be given permission to substitute another large ensemble for a required or complementary large ensemble for a term, a student must:
  - i. have completed the minimum number of terms in the required or complementary large ensemble  
and
  - ii. have the permission as in K.i. (1-5) above, with the added condition that the Director of the required or complementary large ensemble must approve.
2. Keyboard and Guitar Performance majors in all programs may substitute up to two (2) terms of Studio Accompanying (MUEN484) for two (2) terms of Choral Ensemble.
3. Performance majors are not permitted to substitute Basic Ensemble credits for required or complementary assigned small ensemble credits.

#### M. Rotation

Whenever possible and musically satisfactory, and in order to ensure equal opportunity and experience for students in the large instrumental ensembles, the seating of students in these ensembles may be rotated periodically throughout the term or year. The Director of the ensemble will determine whether or not rotation is possible and musically satisfactory.

#### N. Missed Classes due to Field Trips

Situations will arise where students are required to miss classes – both in the Faculty of Music as well as in other faculties – because of field trips. Teaching staff in the Faculty of Music are encouraged to assist students who approach them for information about course content and assignments that have been missed. Nonetheless, *the onus remains on the student who goes on a field trip to complete class work.*

#### O. Transfer Credits

The previous ensemble participation of students coming to McGill from other universities will be recognized if their ensemble experience was similar to that required of McGill students. In general, transfer credit is made on a term for term basis (not by credits) and usually does not exceed two (2) terms. Students are normally not permitted to reduce the Basic Ensemble Training requirements of their McGill program to less than the number of terms required for them to complete the rest of their program. In such cases, transfer credit may be given as Music Elective credit.

#### P. Extra Basic Ensemble Training Credits

Basic Ensemble Training credits accumulated above the minimum may be applied as Music Elective credits.

#### Q. Performance Music Library

Students are responsible for the music which has been loaned to them for their use, and for its return in good condition to the Performance Music Library. Students will be required to pay for the replacement of any music which has been lost, stolen or damaged.

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### 6.2 Accompanying

All Faculty of Music students registered for practical instruction (including elective study) are eligible for subsidized accompaniment up to a specified maximum number of hours. Students wishing to use this program should request further details from the Department of Performance office.

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### 6.3 Academic Category

All students in the Music Faculty are registered in one of the following categories:

**Major:** B.Mus. candidates may choose one or more of several majors as described under section 7 “Programs of Study”.

**Honours:** A more intensive program than a major, B.Mus. students may choose one or more honours programs as described under section 7 “Programs of Study”. Generally, an honours degree in the appropriate field is prerequisite to graduate study.

**Faculty Program:** A general B.Mus. program (see section 7.2.8 “Faculty Program”).

**L.Mus., Artist Dip.:** Students in diploma programs, as described in section 7.3 “Department of Performance”.

**Special:** Those who are not proceeding towards a degree or diploma.

**Visiting:** Those taking courses at McGill for credit towards a degree at another university.

---

### 6.4 Auditing

In general, auditing is not permitted in Faculty of Music courses. With the permission of the Departmental Chair concerned, students may audit a course which is not a required course in their program. It should be noted that auditors are not registered for such courses, that the instructor is not expected to correct any assignments or papers done by an auditor, and that an auditor may neither write an examination in that subject nor receive any credit for such course. Auditing is not permitted for Special or Visiting students.

---

### 6.5 Music Electives

Unless otherwise specified, any music course numbered at the 200 level or higher which is not a required course in the student's program can be counted as a Music Elective in the B.Mus. or Artist Diploma programs. Two credits per term of practical instruction may be applied as Music Electives only if the lessons are taken after completion of the final examination required in the student's program. Practical instruction in a second instrument may be taken for elective credit at the -100 level under certain conditions. Consult the Department of Performance for details. Basic Ensemble credits accumulated above the minimum may be applied as Music Elective credits.

---

### 6.6 Arts and Science Electives

In all B.Mus. programs, students are required to complete a minimum of 18 elective credits from courses offered by the Faculties of Arts or Science (or other faculties, with the approval of the student's Departmental Chair). Students admitted from high schools outside Quebec, not holding a DCS, must complete an additional 6 credits of Arts and Science electives for a total of 24. Students holding a DCS in a non-Music program are exempt from 6 credits of their requirement. Students should note that certain programs have requirements in addition to the above.

The Faculty of Music allows up to 12 credits in English as a Second Language as an Arts elective in the B.Mus. program. These credits may be taken in the Faculty of Arts at the Intermediate or Advanced level OR they may be taken at the Centre for Continuing Education at level 4 or above.

---

### 6.7 Course Changes

Students are permitted to change courses and/or sections of a course during the first two-week period of classes in each term.

This is referred to as the official Course Change Period. Course and section changes are made by the student, using Minerva to access his/her record directly. Worksheets for this purpose are available at the Student Affairs Office in the Strathcona Music Building.

Late course change requests, if approved, will be processed only upon payment of a fee of \$25. No charge will be made for late changes imposed by the Faculty. If students' registrations must be corrected after the Course Change Period to bring their records into conformity with the courses they are actually taking, the students will be charged the late fee.

---

### 6.8 Withdrawal from Course(s)

Students are permitted to withdraw from courses other than practical instruction or ensembles after the end of the Course Change Period. In such cases the student's mark in the course will be W. Course withdrawals are also processed on Minerva, within permissible dates.

The final deadlines for withdrawing from Music courses are:

*For a one-term course:* The end of the seventh week of classes.

*For a two-term course:* The end of the Course Change period in the second term.

THE DEADLINE FOR WITHDRAWING FROM PRACTICAL LESSONS AND ENSEMBLES IS THE END OF THE SECOND WEEK OF CLASSES IN ANY TERM.

Music students who, in special circumstances such as illness or injury, are given permission to withdraw from practical instruction after the end of the Course Change Period will be charged \$65 per week (for 1-hour lessons; \$97.50 for 1½ hours) up to a maximum equivalent to the total fees charged for the course. Full refunds for practical instruction will be given up to the end of the Course Change Period.

**Note:** Students who do not complete a course for which they remain registered will receive a grade of F or J.

For information on the REFUND POLICY, please refer to "Regulations Concerning Withdrawal" on page 43.

---

### 6.9 Incompletes

At the discretion of the instructor, a mark of K (Incomplete) may be given to a student who, due to extenuating circumstances, has not finished the course work on time. The deadline for completion and submission of the required work shall be set by the instructor but may not be later than four months after the K was given. A special form for incompletes, available from the Student Affairs Office, must be signed by the student and the instructor by the last day of lectures. If the "Incomplete" is not removed by this time, the mark will be changed to KF (Incomplete Failed), unless an extension has been granted (K\*). Completion of the course will cause the K to be replaced on official transcripts by the mark earned. A mark of K not cleared by mid-May makes the student ineligible for scholarships.

In exceptional cases, when research or an assignment cannot be completed for reasons beyond the student's control, students may be given permission by their Departmental Chair or the Student Progress Committee to leave a course permanently incomplete (without penalty). The symbol K will be replaced by KK, in which case the student's Grade Point Average will be calculated without including this course.

---

### 6.10 Deferrals

Deferred examinations are permitted in case of illness or other exceptional circumstances. A written request for the deferment of an examination (with the exception of practical examinations) must be submitted to the Senior Academic Advisor; a practical music examination, to the Performance Department Chair.

A deferred examination will be entered as L, which will be replaced on official transcripts by the actual mark when the exam-

ination is written. A mark of L not cleared by mid-May makes the student ineligible for scholarships.

---

### 6.11 Supplementals

Supplemental examinations may be given at the discretion of the instructor. A student who receives a mark below 30% in a course is not permitted to take a supplemental examination but must repeat the course.

---

### 6.12 Re-Reading of Examinations

A student wishing to have an examination paper re-read should apply in writing to the Departmental Chair. There is a non-refundable fee of \$35. The mark given in the re-reading, whether higher or lower, will replace the mark originally given. Any request to have a term paper or other course work reassessed must be made directly to the instructor concerned.

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### 6.13 Academic Standing

Academic standing is based primarily on students' cumulative grade point average (CGPA), but may also be affected by their





Applicants who can demonstrate through auditions and placement tests that they have mastered the material in any of the above courses will be exempt from them and may proceed to more advanced courses.

Incoming jazz students may substitute, with Performance Department approval, large ensemble participation from another college or university for the extra credits required of non-Quebec applicants.

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## **7.2 Department of Theory: Composition; Music Education; Music History; Music Technology; Theory; Faculty Program**

The Department embraces the disciplines of Composition, Music Education, Music History, Music Technology, and Theory at both the undergraduate and graduate levels, and Sound Recording at the graduate level. The philosophy of the Department is to encourage integration of the disciplines as much as possible within the learning process in each program of study: the development of basic musicianship, the absorption of the grammar and syntax of musical discourse, and the study of the world of ideas are understood as interconnected.

Honours programs provide a high degree of specialization and are a foundation for graduate-level study leading to academic careers in each discipline. Majors programs offer the student some focus with the flexibility to pursue other areas of interest. The Faculty Program is intended to offer an option for individual and creative plans of study. All of the Department's programs give a solid grounding in analytic, synthetic, and writing skills that are useful preparation not only for the musical profession but also for professions as diverse as law, journalism, management, and librarianship.

The Music Education program combines an orientation towards a professional career in primary and secondary schools with sensitivity to broader intellectual frameworks against which teachers should understand their roles. This program is offered concurrently with the B.Ed., Music.

Music Technology encourages interaction between musical creation, technology and research. The pedagogical goal of the Music Technology program is to provide students with an environment for professional-level music training with an intensive focus on programming of advanced music technologies. This training prepares students to meet the technological demands of contemporary composition and performance practice, and offers students a wide range of employment possibilities in the music technology and media industries.

The Department also offers a Minor in Music History to performance majors who seek to place their work in a larger context, and a Minor in Music Technology to Music and to B.A. and B.Sc. students.

All full-time students in B.Mus. programs who have not been

**7.2.2 B.Mus. with Honours in Composition**

For prerequisite requirements for this program, see section 7.1 "Four-Year Program (Prerequisite Courses)".

	<b>CREDITS</b>
<b>COMPOSITION</b>	<b>31</b>
MUCO240D1 Tonal Composition	3
MUCO240D2 Tonal Composition	3
MUCO245D1 Composition	2
MUCO245D2 Composition	2
MUCO340D1 Composition	3
MUCO340D2 Composition	3
MUCO341 Digital Studio Composition 1	3
MUCO342 Digital Studio Composition 2	3
MUCO440D1 Composition	3
MUCO440D2 Composition	3
MUCO541 Advanced Digital Studio Composition 1	3
<b>THEORY</b>	<b>22</b>
MUCO260 Instruments of the Orchestra	2
MUCO261 Elementary Orchestration	2
MUTH427D1 20th-Century Analysis	2
MUTH427D2 20th-Century Analysis	2
MUCO460D1 Advanced Orchestration	2
MUCO460D2 Advanced Orchestration	2
<i>A minimum of 10 complementary credits from the following:</i>	<i>10</i>
MUCO542 (3) Advanced Digital Studio Composition 2	
MUTH301 (3) Modal Counterpoint 1	
MUTH302 (3) Modal Counterpoint 2	
MUTH303 (3) Tonal Counterpoint 1	
MUTH304 (3) Tonal Counterpoint 2	
MUTH327D1 (2) 19th-Century Analysis	
MUTH327D2 (2) 19th-Century Analysis	
MUTH522D1 (3) Advanced Counterpoint	
MUTH522D2 (3) Advanced Counterpoint	
MUTH523D1 (3) Advanced Harmony	
MUTH523D2 (3) Advanced Harmony	
<b>MUSICIANSHIP</b>	<b>10</b>
MUSP229 Musicianship 3	2
MUSP231 Musicianship 4	2
MUSP329 Musicianship 5	2
MUSP331 Musicianship 6	2
MUSP432 Dictation	2
<b>COMPLEMENTARY MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE</b>	

**7.2.3 B.Mus. with Honours in Music Technology**

For prerequisite requirements for this program, see section 7.1 "Four-Year Program (Prerequisite Courses)".

**Special Requirements:**

1. Cumulative Grade Point Average: minimum 3.00.
2. All COMPOSITION courses – grade of A or B in each.
3. Minimum grade of C in Concentration 2 Examination.

\* A maximum of 2 credits of Complementary Ensemble may be substituted for 2 credits of Basic Ensemble Training, with Departmental approval.





<i>One of (complementary):</i>	3
PHYS224 (3) Physics and Psychophysics of Music	
MUTH426 (3) Analysis of Early Music	
MUGT205 (3) Psychology of Music	
<i>Three of (complementary):</i>	9
MUTH301 (3) Modal Counterpoint 1	
MUTH302 (3) Modal Counterpoint 2	
MUTH303 (3) Tonal Counterpoint 1	
MUTH304 (3) Tonal Counterpoint 2	
<b>MUSICIANSHIP</b>	<b>8</b>
MUSP229 Musicianship 3	2
MUSP231 Musicianship 4	2
MUSP329 Musicianship 5	2
MUSP331 Musicianship 6	2
<b>COMPLEMENTARY HISTORY</b>	<b>6</b>
Music History, Literature or Performance Practice (courses with a MUHL or MUPP prefix, may include MUHL362 or MUHL393 but not both)	3
<i>Plus one of:</i>	3
MUHL380 (3) Medieval Music	
MUHL381 (3) Renaissance Music	
MUHL382 (3) Baroque Music	
MUHL383 (3) Classical Music	
MUHL384 (3) Romantic Music	
MUHL385 (3) Early Twentieth-Century Music	
MUHL392 (3) Music since 1945	
<b>MUSIC ELECTIVES</b> (with Departmental Approval)	<b>12</b>
<b>PERFORMANCE</b>	
Practical Concentration: 2 credits per term. Completion of Concentration 2 Examination	8
Basic Ensemble Training: minimum of 4 credits per year for 2 years*	8
Orchestral Instruments:	
Winds: Orchestra, Wind Symphony or Contemporary Music Ensemble	
Percussion: Orchestra, Wind Symphony or Contemporary Music Ensemble	
Strings: Orchestra or Contemporary Music Ensemble	
Other Instruments: Choral Ensemble	
<b>ARTS AND SCIENCE ELECTIVES</b>	<b>18</b>
<b>TOTAL CREDITS</b>	<b>98</b>

**Special Requirements:**

1. Cumulative Grade Point Average: minimum 3.00.
2. All THEORY courses – grade of A or B in each.
3. PHYS224 Physics and Psychophysics of Music – minimum grade of C.
4. Minimum grade of C in Concentration 2 Examination.

**As MUTH528 and MUTH529 are offered every other year, students are expected to check with their advisers to ensure that these required courses are taken by the time of graduation.**

\* A maximum of 2 credits of Complementary Ensemble may be substituted for 2 credits of Basic Ensemble Training, with Departmental approval.

**7.2.8 Faculty Program**

The Faculty Program in Music has been designed to accommodate those students who are either undecided about the area of music in which they wish to specialize, or who are interested in a pattern of specialization not provided in the established majors and honours programs, or who are interested in combining studies in music with studies in other disciplines. Students registered in the Faculty Program may, with the approval of a staff adviser, design their own programs around specific interests or develop programs with a broader base by incorporating courses from other disciplines.

**BACHELOR OF MUSIC DEGREE (B.Mus.)**

For prerequisite requirements for this program, see section 7.1 "Four-Year Program (Prerequisite Courses)".

	<b>CREDITS</b>
<b>THEORY</b>	<b>12</b>
MUTH210 Tonal Theory and Analysis 1	3
MUTH211 Tonal Theory and Analysis 2	3
MUTH310 Mid and Late 19th-Century Theory and Analysis	3
MUTH311 20th-Century Theory and Analysis	3
<b>MUSICIANSHIP</b>	<b>8</b>
MUSP229 Musicianship 3	2
MUSP231 Musicianship 4	2
MUSP329 Musicianship 5	2
MUSP331 Musicianship 6	2
<b>COMPLEMENTARY MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE</b>	<b>6</b>
(courses with a MUHL or MUPP prefix, may include MUHL362 or MUHL393 but not both)	
<b>PERFORMANCE</b>	
Practical Concentration: 2 credits per term. Completion of Concentration 2 Examination	8
Basic Ensemble Training: minimum of 4 credits per year for 2 years	8
Orchestral Instruments:	
Winds: Orchestra, Wind Symphony or Contemporary Music Ensemble	
Percussion: Orchestra, Wind Symphony or Contemporary Music Ensemble	
Strings: Orchestra or Contemporary Music Ensemble	
Other Instruments: Choral Ensemble	
<b>MUSIC ELECTIVES</b>	<b>20</b>
<b>FREE ELECTIVES</b>	<b>12</b>
<b>ARTS AND SCIENCE ELECTIVES</b>	<b>18</b>
<b>TOTAL CREDITS</b>	<b>92</b>

**Special Requirements:**

1. Minimum grade of C in Concentration 2 Examination.

**7.2.9 Special Prerequisite Courses for M.Mus. in Sound Recording**

Students wishing to follow this package of prerequisite courses while registered in the Faculty Program or in any other B.Mus. program must notify Prof. Wieslaw Woszczyk, Director, Sound Recording Studio of their intent to do so.

	<b>CREDITS</b>
<b>Faculty of Music</b>	<b>26</b>
MUCO260 Instruments of the Orchestra	2
MUMT202 Fundamentals of New Media	3
MUMT203 Introduction to Digital Audio	3
MUMT232 Introduction to Electronics	3
MUMT300D1 Introduction to Music Recording	3
MUMT300D2 Introduction to Music Recording	3
MUMT301 Music and the Internet	3
MUMT339 Introduction to Electroacoustics	3
<i>One of (complementary):</i>	3
MUMT302 (3) New Media Production 1	
MUMT306 (3) Music and Audio Computing 1	
<b>Faculty of Science</b>	<b>6</b>
PHYS224 Physics and Psychophysics of Music	3
PHYS225 Musical Acoustics	3
<b>TOTAL CREDITS</b>	<b>32</b>

**Note:** In order to be considered for admission to the Master of Music in Sound Recording, students must attain a minimum grade of B in all of the above courses and must have a B.Mus. degree with a minimum CGPA of 3.00.

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### 7.2.10 Minor in Music History for Performers

Available to all students in Performance (Major or Honours) programs. This option will take the place of music electives, as well as history, literature and performance practice complementary courses, in Performance programs.

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### 7.3 Department of Performance

The Department offers undergraduate and graduate degree programs leading to the B.Mus. and M.Mus., and diploma programs leading to the L.Mus. and Artist Diploma in all areas of musical performance. Programs include regular practical instruction available on all instruments and a highly developed ensemble program. The programs offer a number of major options including Orchestral Training, Solo, Jazz, Early Music, and Church Music. The Orchestral Training program is the largest performance program – many of its graduates are now members of professional orchestras throughout North America and Europe. McGill ensembles perform many concerts each year, including a number in centres across North America. (Within the past several years, McGill ensembles have performed at Carnegie Hall, Le Grand Théâtre (Québec), the National Arts Centre, the International Buxtehude-Scheidt Festival, Lincoln Center, Roy Thomson Hall, Salle Wilfrid Pelletier, the International Association of Jazz Educators Convention in New York City, and the Kennedy Center in Washington, D.C.)

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### 7.2.11 Minor in Music Technology

**Available to Music students who wish to graduate with a knowledge of newer technologies and the impact they are having on the field of music.**

Enrolment in the Minor in Music Technology program is highly restricted. Application forms will be available from the Academic Affairs Office of the Faculty of Music (Room E235, Strathcona Music Building, 555 Sherbrooke Street West) from February 1, 2004 and must be completed and returned to that office by May 15, 2004. No late applications will be accepted and no students will be admitted to the Minor in January.

Students will be selected on the basis of their previous background or experience in music technology and/or sound recording, their computer programming skills, their expressed interest in the program, and their Cumulative Grade Point Average. Successful applicants will be notified June 1, 2004.

MUTH311	20th-Century Theory and Analysis	3
<b>MUSICIANSHIP</b>		<b>8</b>
MUSP229	Musicianship 3	2
MUSP231	Musicianship 4	2
MUSP329	Musicianship 5	2
MUSP331	Musicianship 6	2

<b>COMPLEMENTARY MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE</b>		<b>6</b>
(courses with a MUHL or MUPP prefix, may include MUHL362 or MUHL393 but not both)		
<b>MUSIC ELECTIVES</b>		<b>10</b>
<b>ARTS AND SCIENCE ELECTIVES</b>		<b>18</b>
<b>TOTAL CREDITS</b>		<b>96</b>

**Special Requirements:**

- Students majoring in Performance must achieve at least a B- in their major field in the Performance 1 Examination and in each subsequent term.

**7.3.2 B.Mus. with a Major In Performance (Organ, Harpsichord, Guitar, Baroque Instruments)**

For prerequisite requirements for this program, see section 7.1 "Four-Year Program (Prerequisite Courses)".

<b>PERFORMANCE</b>		<b>CREDITS</b>
Practical: Major (4 credits each term)		
Performance 3 Examination		<b>24</b>
Basic Ensemble Training:		
Choral Ensemble during each of the first six terms		<b>12</b>
Complementary Ensembles		<b>6</b>
<b>THEORY</b>		<b>12</b>
MUTH210	Tonal Theory and Analysis 1	3
MUTH211	Tonal Theory and Analysis 2	3
MUTH310	Mid and Late 19th-Century Theory and Analysis	3
MUTH311	20th-Century Theory and Analysis	3
<b>MUSICIANSHIP</b>		<b>8</b>
MUSP229	Musicianship 3	2
MUSP231	Musicianship 4	2
MUSP329	Musicianship 5	2
MUSP331	Musicianship 6	2

<b>COMPLEMENTARY MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE</b>		<b>6</b>
(courses with a MUHL or MUPP prefix, may include MUHL362 or MUHL393 but not both)		

<b>MUSIC ELECTIVES</b>		<b>10</b>
(except Harpsichord and Organ Majors)		

<b>COMPLEMENTARY MUSIC</b>		<b>10</b>
(for Harpsichord and Organ Majors)		

Must include the following:

- Harpsichord:

MUPG272D1	Continuo
MUPG272D2	Continuo
and MUPG372D1	Continuo
MUPG372D2	Continuo

- Organ:

MUPG272D1	Continuo
MUPG272D2	Continuo

<b>ARTS AND SCIENCE ELECTIVES</b>		<b>18</b>
<b>TOTAL CREDITS</b>		<b>96</b>

**Special Requirements:**

- Students majoring in Performance must achieve at least a B- in their major field in the Performance 1 Examination and in each subsequent term.

**7.3.3 B.Mus. with a Major in Keyboard Studies (Piano, with senior level studies in a Second Keyboard Instrument)**

For prerequisite requirements for this program, see section 7.1 "Four-Year Program (Prerequisite Courses)".

<b>PERFORMANCE</b>		<b>CREDITS</b>
<b>36</b>		
MUEN493	Choral Ensembles (during each of the first four terms)	8
MUIN230	Performance Practical Instruction 3	4
MUIN231	Performance 1 Examination	4
MUIN330	Performance Practical Instruction 5	4
MUIN331	Performance 2 Examination	4
MUIN433	Piano Techniques 3	0
MUPG541	Senior Piano Seminar 1	2
MUPG542	Senior Piano Seminar 2	2
Keyboard, Second Study (Organ, Harpsichord, Jazz Piano, Keyboard Technology)		8

<b>COMPLEMENTARY PERFORMANCE</b>		<b>6</b>
6 credits of ensembles, with Departmental Approval.		

<b>THEORY</b>		<b>12</b>
MUTH210	Tonal Theory and Analysis 1	3
MUTH211	Tonal Theory and Analysis 2	3
MUTH310	Mid and Late 19th-Century Theory and Analysis	3
MUTH311	20th-Century Theory and Analysis	3

<b>MUSICIANSHIP</b>		<b>8</b>
MUSP229	Musicianship 3	2
MUSP231	Musicianship 4	2
MUSP329	Musicianship 5	2
MUSP331	Musicianship 6	2

<b>COMPLEMENTARY MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE</b>		<b>6</b>
(courses with a MUHL or MUPP prefix, may include MUHL362 or MUHL393 but not both)		

<b>MUSIC ELECTIVES</b>		<b>10 - 12</b>
Jazz Second Study students must include as part of their elective requirements MUJZ160 Jazz Materials 1, MUJZ161 Jazz Materials 2, MUJZ223 Jazz Improvisation 1, MUJZ224 Jazz Improvisation 2		

<b>ARTS AND SCIENCE ELECTIVES</b>		<b>18</b>
<b>TOTAL CREDITS</b>		<b>96 - 98</b>

**7.3.4 B.Mus. with a Major in Keyboard Studies (Organ, Harpsichord, with senior level studies in a Second Keyboard Instrument, Jazz Piano)**

For prerequisite requirements for this program, see section 7.1 "Four-Year Program (Prerequisite Courses)".

<b>PERFORMANCE</b>		<b>CREDITS</b>
<b>16</b>		
Practical: Keyboard, First Study (Piano, Organ, Harpsichord) (4 credits each term)		
Performance 2 Examination		
Keyboard, Second Study (Piano, Organ, Harpsichord, Jazz Piano, Keyboard Technology)		<b>8</b>
Basic Ensemble Training:		<b>12</b>
Choral Ensemble during each of the first six terms		
Complementary Ensembles		<b>6</b>
<b>THEORY</b>		<b>12</b>
MUTH210	Tonal Theory and Analysis 1	3
MUTH211	Tonal Theory and Analysis 2	3
MUTH310	Mid and Late 19th-Century Theory and Analysis	3
MUTH311	20th-Century Theory and Analysis	3

**Special Requirements:**

1. Continuation in the program requires that a minimum grade of B- be maintained in Voice practical study.
2. Prior to, or concurrent with registration in the corresponding Diction courses, the Voice Major must furnish evidence of having completed ESLN400 or ESLN401, ITAL205D1/ITAL205D2, GERM202, and FRSL207, or their equivalent. This language requirement may be fulfilled by appropriate High School or CEGEP courses, or as part of the Arts and Sciences requirements above, or by extra University courses.

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**7.3.6 B.Mus. with a Major In Performance  
(Orchestral Instruments)**

For prerequisite requirements for this program, see section 7.1 "Four-Year Program (Prerequisite Courses)".

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**7.3.5 B.Mus. with a Major in Performance (Voice)**

For prerequisite requirements for this program, see section 7.1 "Four-Year Program (Prerequisite Courses)".

**Ensemble Requirements:**

1. Students majoring in violin, viola, or cello must commence their assigned ensembles with four terms of string musicianship. For prerequisite requirements for this program, see section 7.1 "Four-Year Program (Prerequisite Courses)".



MUIN305	Vocal Musical Practices	2
Basic Ensemble Training: during every term of enrolment as a full-time or part-time student		
		<i>a minimum of 12 complementary credits from</i>
MUEN472	Cappella Antica	<b>min. 12</b>
MUEN479	Song Interpretation	
MUEN480	Early 16th Century Music	
87EN480		

**Special Requirements:**

1. Cumulative Grade Point Average of 3.00 or better.
2. Grade of A- in practical instruction/exams and ensembles.

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**7.3.9 B.Mus. with Honours in Performance  
(All Instruments except Piano and Voice)**

For prerequisite requirements for this program, see section 7.1 "Four-Year Program (Prerequisite Courses)".

**Special Requirements:**

1. Cumulative Grade Point Average of 3.00 or better.
2. Continuation in the program requires that a minimum grade of A- be maintained in practical instruction/exams, ensembles, and Voice Coaching.
3. Prior to, or concurrent with registration in the corresponding Diction courses, the Honours Voice student must furnish evidence of having completed ESLN400 or ESLN401, ITAL205D1/ ITAL205D2, GERM202, and FRSL207, or their equivalent. This language requirement may be fulfilled by appropriate High School or CEGEP courses, or as part of the Arts and Science requirements above, or by extra University courses.

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**7.3.8 B.Mus. with Honours in Performance (Piano)**

For prerequisite requirements for this program, see section 7.1 "Four-Year Program (Prerequisite Courses)".



**MUSIC ELECTIVES** 6

(except for Harpsichord, Organ or Voice students)

**CONTINUO** (for Harpsichord or Organ students only)

MUPG272D1	Continuo	2
MUPG272D2	Continuo	2
MUPG372D1	Continuo	1
MUPG372D2	Continuo	1
		6

**DICTION** (for voice students only)

MUPG210	Italian Diction	2
MUPG211	French Diction	2
MUPG212	English Diction	2
MUPG213	German Diction	2
		8

**ARTS AND SCIENCE ELECTIVES** 18**TOTAL CREDITS** 95 or 97**Special Requirements:**

- Grade of B- in practical instruction/exams and ensembles.
- Prior to, or concurrent with registration in the corresponding Diction courses, the Voice Major must furnish evidence of having completed ESLN400 or ESLN401, ITAL205D1/ ITAL205D2, GERM202, and FRSL207, or their equivalent. This language requirement may be fulfilled by appropriate High School or CEGEP courses, or as part of the Arts and Science requirements above, or by extra University courses.

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**7.3.12 B.Mus. with Honours in Early Music Performance  
(Baroque Violin, Viola, Cello, Viola da Gamba, Flute,  
Recorder, Oboe, Voice, Organ and Harpsichord)**

For prerequisite requirements for this program, see section 7.1 "Four-Year Program (Prerequisite Courses)".

**CREDITS****PERFORMANCE**

Practical: Honours (4 credits each term) 24

Honours Performance 2 Examination and  
Honours Performance 3 ExaminationBasic Ensemble Training: (2 credits per term in each  
term of enrolment) 12

Voice Majors: Students must complete two terms of Choral Ensemble and may choose Cappella Antica or Collegium Musicum to make up the total of 12 credits.

Instrumentalists: students must register in Collegium Musicum.

Keyboard players: students must normally register in Choral Ensemble but with the permission of the Area Chair may play continuo in Collegium Musicum to satisfy their Basic Ensemble requirement.

## Early Music Ensemble

With the permission of the instructor and the Area Chair, students may participate in a second Basic Ensemble to fulfill the Early Music Ensemble requirement. Any extra credits earned may be applied as music electives.

**THEORY** 15

MUTH210	Tonal Theory and Analysis 1	3
MUTH211	Tonal Theory and Analysis 2	3
MUTH310	Mid and Late 19th-Century Theory and Analysis	3
MUTH311	20th-Century Theory and Analysis	3
MUTH426	Analysis of Early Music	3

**MUSICIANSHIP** 8

MUSP229	Musicianship 3	2
MUSP231	Musicianship 4	2
MUSP329	Musicianship 5	2
MUSP331	Musicianship 6	2

**COMPLEMENTARY MUSIC HISTORY, LITERATURE  
OR PERFORMANCE PRACTICE** 12

MUHL570	Research Methods in Music	3
MUPP381	Topics: Performance Practice before 1800	3

*plus 6 complementary credits from the following with at least one course from each group* 6

(a) MUHL380	(3) Medieval Music	
MUHL381	(3) Renaissance Music	
MUHL382	(3) Baroque Music	
MUHL383	(3) Classical Music	
(b) MUHL377	(3) Baroque Opera	
MUHL379	(3) Solo Song 1100-1700	
MUHL395	(3) Keyboard Literature before 1750	
MUHL591D1	(1.5) Paleography	
and MUHL591D2	(1.5) Paleography	

**MUSIC ELECTIVES** 6

(except for Harpsichord, Organ or Voice students)

**CONTINUO** (for Harpsichord or Organ students only)

MUPG272D1	Continuo	2
MUPG272D2	Continuo	2
MUPG372D1	Continuo	1
MUPG372D2	Continuo	1
		6

**DICTION** (for Voice students only)

MUPG210	Italian Diction	2
MUPG211	French Diction	2
MUPG212	English Diction	2
MUPG213	German Diction	2
		8

**ARTS AND SCIENCE ELECTIVES** 18**TOTAL CREDITS** 101 or 103**Special Requirements:**

- Cumulative Grade Point Average of 3.00 or better.
- Grade of A- in practical instruction/exams, ensembles, and Voice Coaching.
- Grade of A or B in MUHL570 and in all History, Literature or Performance Practice courses.
- Prior to, or concurrent with registration in the corresponding Diction courses, the Voice Major must furnish evidence of having completed ESLN400 or ESLN401, ITAL205D1/ ITAL205D2, GERM202, and FRSL207, or their equivalent. This language requirement may be fulfilled by appropriate High School or CEGEP courses, or as part of the Arts and Science requirements above, or by extra University courses.

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**7.3.13 B.Mus. with a Major in Jazz Performance  
(Saxophone, Trumpet, Trombone, Drums, Piano,  
Guitar, Bass, Voice)**

For prerequisite requirements for this program, see section 7.1 "Four-Year Program (Prerequisite Courses)".

**CREDITS****PERFORMANCE**Practical: Jazz Major (4 credits each term). Completion  
of Performance 3 Examination 24Basic Ensemble Training: 4 credits per year for 1 year  
Orchestral Instruments: 4

Winds: Orchestra or Wind Symphony

Bass: Orchestra

Other Instruments: Choral Ensemble or Vocal Jazz  
Workshop

MUEN470 Jazz Combo 4

MUEN495 Jazz Ensembles 8

MUJZ223 Jazz Improvisation/Musicianship 1 3

MUJZ224 Jazz Improvisation/Musicianship 2 3



2.

<b>Choral Conducting</b>	<b>20</b>
GERM202D1 German Language, Beginners	3
GERM202D2 German Language, Beginners	3
MUCO260 Instruments of the Orchestra	2
MUCO261 Elementary Orchestration	2
MUHL397 Choral Literature after 1750	3
MUCT415 Choral Conducting 2 (orequivalent)	3
MUIN120 Practical Instruction	2
MUIN121 Practical Instruction	2
<b>Wind Band Conducting</b>	<b>19</b>
(An undergraduate major in Wind or Percussion instruments.)	
MUCO260 Instruments of the Orchestra	2
MUCO261 Elementary Orchestration	2
MUHL398 Wind Ensemble Literature after 1750	3
MUIT202 Woodwind Techniques	3
MUIT203 Brass Techniques	3
MUIT204 Percussion Techniques	3
MUIT415 Advanced Instrumental Conducting (or equivalent)	3
<b>Jazz Performance</b>	<b>14</b>
MUHL393 History of Jazz	3
MUJZ440D1 Advanced Jazz Composition	2
MUJZ440D2 Advanced Jazz Composition	2
MUJZ461D1 Advanced Jazz Arranging	2
MUJZ461D2 Advanced Jazz Arranging	2
MUJZ493 Jazz Performance Practice	3

**7.4 Designated Major Program**

**B.Mus. with a Designated Major**

(The courses comprising the Major field must be approved by the departments concerned prior to registration in the program.)

For prerequisite requirements for this program, see section 7.1 "Four-Year Program (Prerequisite Courses)".

	<b>CREDITS</b>
<b>DESIGNATED MAJOR AREA*</b>	<b>32</b>
<b>THEORY</b>	<b>12</b>
MUTH210 Tonal Theory and Analysis 1	3
MUTH211 Tonal Theory and Analysis 2	3
MUTH310 Mid and Late 19th-Century Theory and Analysis	3
MUTH311 20th-Century Theory and Analysis	3
<b>MUSICIANSHIP</b>	<b>8</b>
MUSP229 Musicianship 3	2
MUSP231 Musicianship 4	2
MUSP329 Musicianship 5	2
MUSP331 Musicianship 6	2
<b>COMPLEMENTARY MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE</b>	<b>6</b>
(courses with a MUHL or MUPP prefix, may include MUHL362 or MUHL393 but not both)	
<b>PERFORMANCE</b>	
Practical Concentration: 2 credits per term	<b>8</b>
Completion of Concentration 2 Examination	<b>8</b>
Basic Ensemble Training: minimum of 4 credits per year for 2 years	<b>8</b>
2	

**Special Requirements:**

Minimum grade of C in Concentration 2 Examination.

\* The courses comprising the major field are selected in consultation with a faculty adviser. The complete program for a student must be approved by the relevant department, the Executive Committee and by Faculty Council. The required and complementary courses represent the minimum requirement in the areas of Theory, Musicianship, History, Practical and Ensemble. More advanced level courses may be substituted in these areas if desired. When appropriate, certain of the required or complementary courses may comprise part of the Designated Major Area, in which case additional courses must be taken to make up the required 92 credits.

**7.5 B.Mus./B.Ed. Bachelor of Music and Bachelor of Education Concurrent Program**

The Bachelor of Education in Music is an integrated 4-year 120/121-credit program of initial teacher training that leads to certification as a teacher in the Province of Quebec. When offered concurrently with the Bachelor of Music (Major in Music Education), the program offers students the opportunity to obtain a Bachelor of Education degree and a Bachelor of Music degree after the completion of 143/144 credits, normally 5 years (173/174 credits or 6 years for out-of-province students). The concurrent program combines academic studies in music, professional studies and field experience. The two degrees are awarded during the same convocation period.

To be admitted to the Concurrent program, students must satisfy the regular admission requirements of the Faculty of Education and the Faculty of Music. Normally, students will be admitted to both components of the Concurrent program simultaneously. Applicants who already hold a Bachelor of Music degree should apply to the Faculty of Education. Students who have completed 30 or more credits in a Bachelor of Music program, exclusive of the Freshman Year for out-of-province students, may apply for admission to the Concurrent program.

**All applications for the Concurrent program are to be made to the Admissions Office of the Faculty of Music.**

Music Education in the Faculty of Music focuses on the development of the prospective music educator as a musician. This is achieved not only through core music history, theory, musicianship, and performance courses but also through different instrumental, vocal and conducting techniques courses. Laboratory experiences provide an opportunity to develop facility with basic music rehearsing/teaching techniques, with emphasis on the ability to diagnose and correct technical and musical problems.

The components of the 143/144-credit Bachelor of Education in Music/ Bachelor of Music (Music Education) are as follows:  
 53/54 professional credits,  
 78 music academic credits (including 9 music elective credits),  
 12 elective credits.

Students who wish to complete only the Bachelor of Education in Music have the option of doing so after the successful completion of the first two years of the concurrent program and completion of MUIN 321 Concentration 2 Exam or equivalent. Students who decide to complete only a Bachelor of Music may transfer at any time into the Bachelor of Music, Faculty Program. Students in the Concurrent B.Mus./B.Ed. who receive an F or J in any Field Experience course are placed in unsatisfactory standing. Although they may complete their term, they are required to withdraw from the Concurrent Program, however they may apply to transfer to the B.Mus. Faculty Program.

**CONCURRENT BACHELOR OF MUSIC (MUSIC EDUCATION) AND BACHELOR OF EDUCATION IN MUSIC PROGRAM (143/144 credits)**

For prerequisite requirements for this program, see section 7.1 "Four-Year Program (Prerequisite Courses)"



L.Mus. 8 credits per term  
 Artist Diploma 8 credits per term

## 8.2 Examinations and Goals in Practical Subjects

Different levels of achievement are required of students depending upon the program of study for which they are registered. These levels are defined in part by the difficulty of material and length of program required at the various examinations, and in part by the examiners' assessment of how well the student plays this material.

In general there are five categories of practical study: Concentration Study, Major and Honours Study, Licentiate Study, Post-Graduate Study, and Elective Study.

### 8.2.1 Concentration Study

A student in the Faculty Program or specializing in Composition, Music Education, Music History, Music Technology, or Theory is obliged to present two examinations in order to fulfill the practical requirement of these programs. These are: the Concentration 1 Examination MUIN221 and the Concentration 2 Examination MUIN321.

The sequence would normally be:

- MUIN120 Practical Instruction 1
- MUIN121 Practical Instruction 2
- MUIN220 Practical Instruction 3
- MUIN221 Concentration 1 Examination
- MUIN320 Practical Instruction 5
- MUIN321 Concentration 2 Examination

#### Concentration 1 Examination (MUIN221)

*Purpose:* To assess the student's progress in the practical area and make recommendations for further study. The panel may recommend to the Department in which the student is registered that: a) the student be asked to withdraw from the program; or b) the student, having made sufficient progress, may proceed to the Concentration 2 Exam.

*Panel:* A minimum of two staff members (not including the teacher), one of whom must be from the area. The panel is appointed by the Chair of the Department of Performance. At the discretion of the Departmental Chair, the teacher may be included on panels of three or more examiners.

*Distribution of Marks:* For students registered in practical lessons through the Faculty of Music, the teacher submits a term mark which is included as 50% of the final mark. In instances where the student's teacher is on the panel, the teacher's global evaluation will nevertheless be equal to 50% of the final mark. When a student is not registered for lessons through the Faculty of Music, the final mark will be the average of the marks submitted by the examination panel.

#### Concentration 2 Examination (MUIN321)

*Purpose:* To determine that the student is sufficiently accomplished to qualify for the degree of Bachelor of Music.

*Panel:* A minimum of two staff members (not including the teacher), one of whom must be from the area. The panel is appointed by the Chair of the Department of Performance. At the discretion of the Departmental Chair, the teacher may be included on panels of three or more examiners.

*Distribution of Marks:* For students registered in practical lessons through the Faculty of Music, the teacher submits a term mark which is included as 33% of the final mark. In instances where the student's teacher is on the panel, the teacher's global evaluation will nevertheless be equal to 33% of the final mark. When a student is not registered for lessons through the Faculty of Music, the final mark will be the average of the marks submitted by the examination panel.

### 8.2.2 Major and Honours Study

A student majoring in Performance (B.Mus. or L.Mus.) must show talent for this field before being admitted to the program. The practical requirement for these programs comprises examinations and recitals as specified in the programs.

Any U1 Performance Major (except Jazz Performance) may indicate an intention to pursue an Honours program but admission becomes final only after the results of the Major Performance 1 Exam are available. Admission to the Honours program requires a grade of A- or better in the Performance 1 Exam (or most recent exam), a GPA of 3.00 or better, the approval of the student's teacher and the examining panel. Following the Major Performance 1 Exam, Honours students must present the Honours Performance 2 Exam and the Honours Performance 3 Exam.

## B.MUS. MAJOR IN PERFORMANCE, MAJOR IN EARLY MUSIC PERFORMANCE, AND MAJOR IN JAZZ PERFORMANCE

The sequence would normally be:

- MUIN130 Performance Practical Instruction 1
- MUIN131 Performance Practical Instruction 2
- MUIN230 Performance Practical Instruction 3
- MUIN231 Performance 1 Examination
- MUIN330 Performance Practical Instruction 5
- MUIN333 Piano Techniques 2
- MUIN331 Performance 2 Examination
- MUIN430 Performance Practical Instruction 7
- MUIN433 Piano Techniques 3
- MUIN431 Performance 3 Examination
- MUIN369 Concerto (mandatory test for pianists)

#### Performance 1 Examination (MUIN231)

*Purpose:* To assess the student's progress in the practical area and determine whether or not the student may continue in the program. The panel may recommend to the Department that the student be: a) asked to withdraw from the program; b) permitted to continue to the Performance 2 Exam; c) admitted to the Performance Honours program.

*Panel:* A minimum of three staff members, one of whom may be the student's teacher. The panel is appointed by the Chair of the Department of Performance.

*Distribution of Marks:* The teacher submits a term mark which is included as 50% of the final mark. In instances where the student's teacher is on the panel, the teacher's global evaluation will nevertheless be equal to 50% of the final mark.

#### Performance 2 Examination (MUIN331)

*Distribution of Marks:* The teacher submits a term mark which is included as 50% of the





*Distribution of Marks:* Examiners judge the recital independently and submit their evaluation without consulting the other examiners. All of the examiners must judge the recital to be satisfactory for the candidate to pass.

**Artist Diploma Recital 3 (MUIN562)**

*Purpose:* Recital programs are intended to demonstrate that the student is qualified to engage in professional performance activities, and has attained the high level of performing ability required for the Artist Diploma.

*Panel:* The panel consists of the Departmental Chair or delegate as well as two staff members from the area concerned (in Voice recitals, one voice teacher plus one staff member from another area).

*Distribution of Marks:* Examiners judge the recital independently and submit their evaluation without consulting the other examiners. All of the examiners must judge the recital to be satisfactory for the candidate to pass.

**Artist Diploma Concerto 1 (MUIN469)**

*Purpose:* The Artist Diploma program in orchestral instruments, piano and voice requires the candidate to present concertos which are normally examined only by a jury. The concerto examinations may be planned for any time during the academic session subject to the availability of examiners and facilities.

*Panel:* A minimum of three staff members, one of whom may be the student's teacher. The panel is appointed by the Chair of the Department of Performance.

*Distribution of Marks:* Examiners judge the concerto independently and submit their evaluation without consulting the other examiners. All the examiners must judge the concerto to be satisfactory for the candidate to pass.

**Artist Diploma Concerto 2 (MUIN569)**

*Purpose:* The Artist Diploma program in orchestral instruments, piano and voice requires the candidate to present concertos which are normally examined only by a jury. The concerto examinations may be planned for any time during the academic session subject to the availability of examiners and facilities.

*Panel:* A minimum of three staff members, one of whom may be the student's teacher. The panel is appointed by the Chair of the Department of Performance.

*Distribution of Marks:* Examiners judge the concerto independently and submit their evaluation without consulting the other examiners. All the examiners must judge the concerto to be satisfactory for the candidate to pass.

**8.2.5 Elective Study**

Students may elect to pursue further practical study in addition to their curricular requirements. The student is not expected to follow a specific program. Additional fees apply.

**Other Examinations:**

It is the teachers' prerogative to request a committee examination during any term if they feel that this is in the student's best interest. This is recorded as an elective exam and represents a level midway between the student's most recent mandatory exam and the succeeding one. The teacher submits a term mark which is included as 50% of the final mark.

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**8.3 Practical Examinations**

Details of specific examination requirements may be obtained for each area (Brass, Early Music, Guitar, Harp, Jazz, Organ, Percussion, Piano, Strings, Voice, Woodwinds) from the Department of Performance Office.

Normally, students are required to sit a practical exam at the end of the Winter term. Students should check on Minerva to verify that they have been registered for an exam course number (e.g., MUIN221 Concentration 1 Examination). Students who have entered the University in January, and those who are given permission to defer, may sit the practical exam in the December

examination period. Students must submit their exam repertoire by the deadlines stated below.

**8.3.1 Withdrawal from Practical Examinations**

Permission to withdraw from, or postpone, a practical examination must be made on the appropriate form available from the Department of Performance Office by the deadlines stated below. Normally, permission to withdraw will be granted only for medical reasons. A medical certificate must be submitted to the Department of Performance Office within seven days after the withdrawal request has been made. Withdrawal on other than medical grounds must be authorized by the Department of Performance Chair.

Examination Period	Repertoire Submission/ Withdrawal Deadline
December 6-21, 2004	October 8, 2004
April 15-30, 2005	January 30, 2005

**8.3.2 Examination Marking**

Normally, the final mark for any practical examination is the average of all the marks submitted by the individual examiners. In addition, however, at least half of the examiners on the panel must pass the student in order to continue to the next level of examination. (NB: the passing grade in the Honours, L.Mus. and Artist Diploma programs is A-; in the Major Performance programs, it is B-.) In instances where the average mark is a passing grade but a majority of the panel has failed the student, the final mark will be the letter grade immediately below the required passing grade.

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#### **4.13 Academic Achievement**

Several designations are used to acknowledge the superior academic achievement of in-course and graduating students. These designations are awarded at the discretion of the Faculty:

**Distinction:** to designate graduating students, not in Honours, who have completed a minimum of 60 credits at McGill and achieved a CGPA of 3.30 - 3.49.

**Great Distinction:** to designate graduating students, not in Honours, who have completed a minimum of 60 credits at McGill and achieved a CGPA of 3.50 or better.

**Honours:** to designate graduating students who have completed

- Gaëlle Fiasse, B.A., M.A., Ph.D. (Louvain-le-Neuve) ; Assistant Professor of Ethics and Religious Ethics (*Joint appointment with Department of Philosophy*)
- Douglas J. Hall; B.A.(W.Ont.), M.Div., S.T.M., Th.D.(U.T.S., N.Y.), D.D.(Queen's), L.L.D.(Waterloo), D.D.(Presb. Coll.); Emeritus Professor, Christian Theology (PT)
- Ian H. Henderson; B.A.(Man.), B.D.(St. Andrews), M.A.(McM.), D.Phil.(Oxon); Associate Professor of New Testament
- G. Victor S. Hori; B.A., M.A.(Tor.), Ph.D.(Stan.); Associate Professor of Japanese Religions
- Torrance Kirby; B.A.(King's, Halifax), M.A.(Dal.), D.Phil.(Oxon.); Associate Professor of Church History
- Patricia G. Kirkpatrick; B.A.(McG.), M.Th.(Lond.), D.Phil.(Oxon); Associate Professor of Old Testament
- B. Barry Levy; B.A., B.R.E., M.A.(Yeshiva), Ph.D.(N.Y.U.); Professor of Jewish and Biblical Studies
- Joseph C. McLelland; B.A.(McM.), M.A.(Tor.), B.D.(Knox, Tor.), Ph.D.(Edin.), D.D.(Mtl.Dio.Coll.; Knox, Tor.); J.W. McConnell Emeritus Professor of Philosophy of Religion
- G. S. Oegema; B.A., Th.D.(Free, Amsterdam), M.A., Ph.D.(Freie, Berlin), Dr. Thed. Habil (Tübingen); Associate Professor of Hebrew Bible and Greco-Roman Judaism
- Arvind Sharma; B.A.(Allahabad), M.A.(Syr.), M.T.S., Ph.D.(Harv.); Henry Birks Professor of Comparative Religion
- L. H. Sideris; B.A., M.A., Ph.D.(Indiana); Assistant Professor of Environmental Ethics (*joint appoint. with McGill School of Environment*)
- Devesh Soneji; B.A.(Manit.), Ph.D.(McG.); Assistant Professor of Hinduism
- Frederik Wisse; Ing.(Utrecht), B.A., B.D.(Calvin, Mich.), Ph.D.(Claremont); Professor of New Testament (Post - retirement)
- Katherine K. Young; B.A.(Vt.), M.A.(Chic.), Ph.D.(McG.); Professor of Comparative Religion (*James McGill Professor*)
- Lecturers*
- Lara Braitstein; B.A., M.A.(McG.); Tibetan and Mahayana Buddhism
- Norman Cornett; A.B.(Calif.), M.A., Ph.D.(McG.); Course Lecturer in Canadian Church History
- K. Crosby; M.A., D.Phil.(Oxf.); Numata Visiting Professor in Buddhist Studies
- Antony Gabriel; B.A.(Syracuse), M.Div.(St. Vladimir's Theological Academy), M.A.(River Forest), S.T.M.(Lutheran School of Theology); Course Lecturer in Eastern Orthodox Mysticism
- Barbara Galli; B.A.(Carleton), M.A.(Tor.), Dip.Ed., Ph.D.(McG.); Course Lecturer in Religion and Culture
- Sujata Ghosh; B.A. (C'dia), Ph.D. Candidate (McG.); Lecturer in Women's Studies in Hinduism and Buddhism
- Manuel Jinbachian; B.D.(Near East School of Theology), B.Litt.(Oxford), Ph.D.(Strasbourg); Course Lecturer in Septuagint
- Maureen Jones; B.A.(C'dia), M.A. Candidate(McG.); Course Lecturer in Sexual Ethics
- Jim Kanaris; B.A.(C'dia), M.A., Ph.D.(McG.); Faculty Lecturer in Philosophy of Religion
- Lucille Marr; B.A., M.A., Ph.D.(Wat.); Course Lecturer in Church History and Christian Tradition
- John Milton; B.A.(C'dia), M.Div.(Trinity International University); Course Lecturer in Biblical Studies
- Rowshan Nemazee; B.A.(Trinity College of Vermont), M.A.(McG.); Course Lecturer in Women and the Christian Tradition/Feminist Theology
- Mirela Saim; B.A., M.A.(Bucarest), Ph.D.(McG.); Course Lecturer in Dialogues and Controversies
- Vanessa Sasson; B.A., M.A., Ph.D.(McG.); Course Lecturer in Introduction to World Religions
- John M. Simons; B.A.(Bishop's), S.T.B.(Trinity), Ph.D.(Georgetown); Principal, Montreal Diocesan Theological College; Course Lecturer in Theology
- Manjit Singh; B.A., M.A.(Delhi); Course Lecturer in Sikhism
- Glenn Smith; B.A.(Michigan), M.A.(Ott.), D.Min.(Northern Baptist Seminar, Ill.); Course Lecturer in Christianity
- Michael Storch; B.A.(Alta.); Course Lecturer in Sexual Ethics
- John Vissers; B.A.(Tor.), M.Div.(Knox, Tor.), Th.M.(Princeton), Th.D.(Knox, Tor.); Principal, Presbyterian College; Course Lecturer in Theology
- Richard Walker; B.A., M.A.(Calg.), Ph.D. Candidate(McG.); Course Lecturer in Philosophy of Religion and Philosophy of Technology
- Visiting Numata Professor*
- Ven. Yifa; B.A.(National Taiwan), M.A.(Hawaii), Ph.D.(Yale)
- Associate Members*
- A. Uner Turgay; B.A.(Robert Coll., Istanbul), M.A., Ph.D.(Madison-Wis.); Institute of Islamic Studies
- Leigh Turner; B.A.(Winn.), M.A.(Manit.), M.A., Ph.D.(USC); Biomedical Ethics, Faculty of Medicine
- Adjunct Professor*
- T. Jinpa Langri; Dr. Div, B.A.(King' Coll.), Ph.D.(Camb.)







spearheading projects that are changing people's understanding of the world teach regularly at the undergraduate level. Also, research-based independent study courses offer students the opportunity to contribute to their professors' work, rather than just learn about it.

In an effort to supplement classroom learning with real life experience, the Faculty of Science has increased opportunities for undergraduate students to participate in fieldwork. Certain B.Sc. programs can include an internship component. This is on top of the many undergraduate students the Faculty hires for Work-Study projects and other research programs. McGill Science students have an opportunity to get involved in the structuring of their own education. A Science Undergraduate Society initiative launched Operation Open Access, a project that gives Science students universal access to e-mail, the Internet, and the latest in science software through computer 'infopoints' located in areas of the campus frequented by Science students.

The Faculty of Science offers programs leading to the degree of Bachelor of Science (B.Sc.). Admission is selective; fulfilment of the minimum requirements does not guarantee acceptance. Admission criteria are described under "Admission Requirements" on page 26.

There are also two Diploma programs offered in Science. The Diploma in Environment, see page 393 under the McGill School of Environment, is a 30-credit program available to holders of a B.Sc. or B.A. or equivalent. The Diploma in Meteorology, see section 12.2 "Atmospheric and Oceanic Sciences (ATOC)", is a one-year program available to holders of a degree in Mathematics, Engineering, Physics and other appropriate disciplines who wish to qualify for a professional career in Meteorology. All credits for these diplomas must be completed at McGill.

The concurrent B.Sc./B.Ed. program is designed to provide students with the opportunity to obtain both a B.Sc. and a B.Ed. after a minimum of 135 credits of study. For more information see section 12.28 "Science for Teachers" and "Concurrent Bachelor of Science (Major or Major Concentration with a Minor for Teachers) and Bachelor of Education Secondary Program" on page 189, Faculty of Education.

A Bachelor of Software Engineering program is offered jointly with the Faculty of Engineering, refer to the Department of Electrical and Computer Engineering on page 215.

Finally, the Faculties of Arts and Science jointly offer the Bachelor of Arts and Science (B.A.&Sc.), which is described in the Arts and Science section of the Calendar.

### 1.4 Student Affairs Office

The Student Affairs Office, located in Dawson Hall, provides assistance in interpreting records as well as general academic information and advice on the following: prerequisites and programs, degree requirements, registration, course change, procedures for withdrawal, deferred exams, supplemental exams, rereads, academic standing, inter-faculty transfer, year or term away, transfer credits, second programs, second degrees, and graduation.

Special requests can be made, in writing, to the Associate Dean (Academic and Student Affairs).

The Committee on Student Standing (CSS) will consider appeals of the Associate Dean's decisions. For information about CSS, see the Associate Dean's secretary.

## 2 Faculty Admission Requirements

For information about admission requirements for the B.Sc., please refer to "Admission Requirements" on page 26.

For information about inter-faculty transfers, please refer to the General University Information and Regulations, "Inter-Faculty Transfer" on page 44, as well as the relevant information posted on the Student Affairs Office Website at [www.mcgill.ca/artscisao](http://www.mcgill.ca/artscisao), and in the Student Affairs Office, Dawson Hall, Room 110.

## 3 Faculty Degree Requirements

**Each student in the Faculty of Science must be aware of the Faculty Regulations as stated in this Calendar.** While departmental and faculty advisers and staff are always available to give advice and guidance, the ultimate responsibility for completeness and correctness of course selection and registration, for compliance with, and completion of, program and degree requirements, and for the observance of regulations and deadlines rests with the student. It is the student's responsibility to seek guidance from the Student Affairs Office if in any doubt; misunderstanding or misapprehension will not be accepted as cause for dispensation from any regulation, deadline, program or degree requirement.

To be eligible for a B.Sc. degree, students must fulfill all Faculty and program requirements as indicated below:

Minimum Credit Requirement, see section 3.1

Residency, see section 3.2

Cumulative Grade Point Average (CGPA), see section 3.3

Time Limit for the Completion of the Degree, see section 3.4

Program Requirements, see section 3.5

Course Requirements, see section 3.6

### 3.1 Minimum Credit Requirement

Each student's minimum credit requirement for the degree is determined at the time of acceptance and is specified in the letter of admission.

Students are normally admitted to a four-year program requiring the completion of 120 credits, but advanced standing of up to 30 credits is possible.

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### 3.3 Cumulative Grade Point Average (CGPA)

Each candidate for the degree must achieve a minimum cumulative grade point average (CGPA) of 2.00.

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### 3.4 Time Limit for the Completion of the Degree

Students who need 96 or fewer credits to complete their degree requirements are expected to complete their program in no more than eight terms after their initial registration for the degree. Students who exceed these limits must receive permission from the Faculty to continue their studies. Permission for exceeding the time limits will normally be granted only for valid academic reasons, such as a change of program (approval of the department is required) and part-time status.

Students in the Freshman Program become subject to these regulations one year after their initial registration.

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### 3.5 Program Requirements

#### 3.5.1 Freshman Program and Basic Science Requirements

Students who need 97-120 credits (four years) to complete their degree requirements must register in the Science Freshman Program, which is designed to provide the basic science foundation for a student's subsequent three-year Faculty, Major, or Honours program. The basic science requirements are as follows: two terms each of calculus, general chemistry, and general physics, and one term of biology.

Students who have completed the Diploma of Collegial Studies, Advanced Placement exams, Advanced Levels, the International Baccalaureate, the French Baccalaureate, or McGill placement examinations may receive exemption and/or credit for all or part of the basic science courses in biology, chemistry, mathematics and statistics, and physics. Similarly, students who have completed courses at other universities or colleges may receive exemptions and/or credits.

For a more detailed description of the Science Freshman Program, students should consult the Arts and Science Freshman Student information available on the Student Affairs Website, [www.mcgill.ca/artscisao](http://www.mcgill.ca/artscisao).

#### 3.5.2 Faculty, Major, and Honours Programs

Science students who need 96 or fewer credits to complete their degree requirements are required to have an approved degree program and to select their courses in each term with a view to timely completion of their degree and program requirements. Students must register in one of the following types of departmental programs leading to the degree of Bachelor of Science:

*A Faculty program* is an approved coherent selection of courses giving students a useful concentration in a recognized area. Students in a Faculty program may choose a pattern of study that can range from one yielding a broad education to one specializing in particular areas.

*Major programs* are more specialized than Faculty programs and are usually centred on a specific discipline or department. For prospective teachers, the Faculty also offers Major programs that can constitute the Science component of the Concurrent B.Sc./B.Ed. Program -0.087 -9 TD 0.28o7Eoulectw (U Tccipc.d8sd study ) Trdtawsto

Normally, students are permitted to repeat a failed course only once. (Failure is considered to be a grade of less than C or the administrative failures of J and KF.) If a required course is failed a second time, a student may appeal to the Associate Dean for permission to take the course a third time. If permission is denied by the Associate Dean and/or by the Committee on Student Standing, on appeal, the student must withdraw from the program. If the failed course is a complementary course required by the program, a student may choose to replace it with another appropriate complementary course. If a student chooses to substitute another complementary course for a complementary course in which a D was received, credit for the first course will still be given, but as an elective. If a student repeats a required course in which a D was received, credit will be given only once.

Full details of the course requirements for all programs offered are given in each unit's section together with the locations of departmental advisory offices, program directors, and telephone numbers should further information be required.

### **3.6.1 Course Overlap**

Students will not receive credit towards their degree for any course that overlaps in content with a course passed at McGill, at another university, at CEGEP, or advanced placement exams, Advanced

- Students taking the Minor in Management may take 21 credits of courses outside of the Faculties of Arts and of Science.
- The 18-credit limit applies to students taking the Minor in Nutrition; equivalent courses in Science should be taken instead of courses in the Faculty of Agricultural and Environmental Sciences.

#### **3.6.4 Courses taken under the Satisfactory/Unsatisfactory Option**

Students may take one elective course per term that is to be graded under the Satisfactory/Unsatisfactory Option, to a maximum of 10% of credits taken at McGill to fulfill their degree require-

Students who believe they have valid reasons to take a course that is normally closed to Science students must obtain permission



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## **12 Academic Programs**

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### **12.1 Anatomy and Cell Biology (ANAT)**

Strathcona Anatomy and Dentistry Building  
3640 University Street, Room 1/48  
Montreal, QC H3A 2B2  
Telephone: (514) 398-6335  
Website:





PHYS331	(3)	Topics in Classical Mechanics
PHYS332	(3)	Physics of Fluids
or MATH555	(4)	Fluid Dynamics
PHYS340	(3)	Electricity and Magnetism
PHYS342	(3)	Electromagnetic Waves

#### **JOINT MAJOR IN ATMOSPHERIC SCIENCE AND PHYSICS** (67 credits)

This Major provides a solid basis for postgraduate study in meteorology, atmospheric physics, or related fields, and the necessary preparation for embarking on a professional career as a meteorologist directly after the B.Sc.

The program is jointly administered by the Department of Physics and the Department of Atmospheric and Oceanic Sciences. Students should consult undergraduate advisers in both departments.

#### **Required Courses** (64 credits)

ATOC214	(3)	Introduction: Physics of the Atmosphere
ATOC215	(3)	Oceans, Weather and Climate
ATOC309	(3)	Weather Radars and Satellites
ATOC315	(3)	Water in the Atmosphere
ATOC412	(3)	Atmospheric Dynamics
ATOC540	(3)	Synoptic Meteorology 1
ATOC541	(3)	Synoptic Meteorology 2
ATOC546	(1)	Current Weather Discussion
MATH222	(3)	Calculus 3
MATH223	(3)	

#### **Complementary Course** (3 credits)

#### **HONOURS IN ATMOSPHERIC SCIENCE** (70 credits)

Students can be admitted to the Honours program after completion of the U1 year of the Major in Atmospheric Science program with a minimum GPA of 3.30. Students having completed a U1 year in a different program with high standing may be admitted to the Honours program on the recommendation of the Department.

A minimum GPA of 3.30 in the Honours Program courses (taken as a whole) is required to remain in the program. A CGPA of 3.30 on the total program is also required to graduate with honours.

#### **Required Courses** (52 credits)

#### **Complementary Courses** (18 credits)

#### **DIPLOMA IN METEOROLOGY** (30 credits)

The Department offers an intensive, one-year program in theoretical and applied meteorology to B.Sc. or B.Eng. graduates of suitable standing in physics, applied mathematics or other appropriate disciplines, leading to a Diploma in Meteorology. The program is designed for students with little or no previous background in meteorology who wish to direct their experience to atmospheric or environmental applications, or who need to fulfill academic prerequisites in meteorology to qualify for employment. For further information, consult the Administrative Officer, Burnside Hall, Room 946.

An exemption of up to 6 credits may be allowed for courses already taken. Students granted such exemptions are required to add complementary courses from an approved list to maintain a total credit count of 30 completed at McGill.

#### **Required Courses** (18 credits)

#### **Complementary Courses** (12 credits)





**FACULTY PROGRAM IN BIOCHEMISTRY** (55 credits)**U1 Required Courses** (16 credits)

BIOC212	(3)	Molecular Mechanisms of Cell Function
BIOL200	(3)	Molecular Biology
BIOL202	(3)	Basic Genetics
CHEM204	(3)	Physical Chemistry/Biological Sciences 1
CHEM222	(4)	Introductory Organic Chemistry 2

**U1 Complementary Courses** (9 credits)**U1 Complementary Courses** (9 credits)

6 credits selected from:

BIOL205	(3)	Biology of Organisms
MIMM211	(3)	Introductory Microbiology
PHGY209	(3)	Mammalian Physiology 1
PHGY210	(3)	Mammalian Physiology 2

3 credits selected from:

BIOL373	(3)	Biometry
COMP202	(3)	Introduction to Computing 1
MATH222	(3)	Calculus 3
PSYC204	(3)	Introduction to Psychological Statistics

**U2 Required Courses** (15 credits)

BIOC300D1	(3)	Laboratory in Biochemistry
BIOC300D2	(3)	Laboratory in Biochemistry
BIOC311	(3)	Metabolic Biochemistry
BIOC312	(3)	Biochemistry of Macromolecules
CHEM302	(3)	Introductory Organic Chemistry 3

**U2 Required Courses** (23 credits)**U2 Complementary Courses** (3 credits)

3 credits selected from:

ANAT262	(3)	Introductory Molecular and Cell Biology
BIOL303	(3)	Developmental Biology
BIOL313	(3)	Eukaryotic Cell Biology
CHEM352	(3)	Structural Organic Chemistry
CHEM382	(3)	Organic Chemistry: Natural Products
MIMM314	(3)	Immunology

**U2 Complementary Courses** (3 credits)**U3 Complementary Courses** (12 credits)

at least 3 credits selected from:

BIOC450	(3)	Protein Structure and Function
BIOC454	(3)	Nucleic Acids

**U3 Required Courses** (6 credits)**U3 Complementary Courses** (6 or 9\* credits)

the remaining credits selected from the following list or the above:

ANAT261	(4)	Introduction to Dynamic Histology
BIOC404	(3)	Biophysical Chemistry
BIOC455	(3)	Neurochemistry
BIOC458	(3)	Membranes and Cellular Signaling
BIOL205	(3)	Biology of Organisms
BIOL300	(3)	Molecular Biology of the Gene
BIOL303	(3)	Developmental Biology
BIOL304	(3)	Evolution
BIOL314	(3)	Molecular Biology of Oncogenes
CHEM214	(3)	Physical Chemistry/Biological Sciences 2
CHEM257D1	(2)	Introductory Analytical Chemistry
CHEM257D2	(2)	Introductory Analytical Chemistry
CHEM352	(3)	Structural Organic Chemistry
CHEM362	(2)	Advanced Organic Chemistry Laboratory
CHEM382	(3)	Organic Chemistry: Natural Products
CHEM402	(3)	Advanced Bio-organic Chemistry

**MAJOR IN BIOCHEMISTRY** (67 or 70 credits)

Students may transfer into the Major program at any time provided they have met all course requirements.

**U1 Required Courses** (20 credits)**HONOURS IN BIOCHEMISTRY** (76 credits)

Admission to the Honours program will not be granted until U2. Students who wish to enter the Honours program in U2 should follow the U1 Major program. Those who satisfactorily complete the

U1 Major program with a GPA of at least 3.20 and a mark of B or B- or better in every required course are eligible for admission to the Honours program.

Students seeking admission to the Honours program must obtain permission from the Student Affairs Officer during the Add/Drop period in September of their second year.

Promotion to U3 year is based on satisfactory completion of U2 courses with a GPA of at least 3.20 and a B in every required course. In borderline cases, the marks received in BIOC311 and BIOC312 will be of particular importance for continuation in the U3 Honours year.

For graduation in the Honours program, the student must complete a minimum of 90 credits, pass all required courses with no grade less than B, and achieve a CGPA of at least 3.20.

**U1 Required Courses** (20 credits)

**U1 Complementary Courses** (9 credits)

**U2 Required Courses** (23 credits)

**U2 Complementary Courses** (3 credits)

**U3 Required Courses** (15 credits)

**U3 Complementary Courses** (6 credits)

*Emeritus Professors*

Robert L. Carroll; B.S. (Mich), M.A., Ph.D.(Harv.), F.R.S.C.

Clark Fraser; O.C., B.Sc.(Acadia), M.Sc., Ph.D., M.D.(McG.),

D.Sc.(Acadia), F.R.C.P.(C), F.R.S.C. (*Molson Emeritus*

*Professor of Genetics*) (*joint appoint. with Human Genetics*)

Sarah P. GibbsG.P.(C), e -9.75 TD 0h'2h P. GibbsiW1175m TD 0h11Ae1155 T5 0

Emeritusepartoulayn Genetics)

**INTERDEPARTMENTAL HONOURS IN IMMUNOLOGY**, see page 326. This program is offered by the Departments of Biochemistry, Microbiology and Immunology, and Physiology.

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## 12.4 Biology (BIOL)

Stewart Biological Sciences Building, Room W4-7  
1205 Avenue Docteur Penfield  
Montreal, QC H3A 1B1

Telephone: (514) 398-6400

Fax: (514) 398-5069

Website: [www.mcgill.ca/biology](http://www.mcgill.ca/biology)

*Chair* — Paul F. Lasko

Redpath Museum: David Green, Anthony Ricciardi  
*Adjunct Professors*

**Complementary Courses (36 credits)**

21 credits in Biology including

12 credits selected from:

- BIOL200 (3) Molecular Biology
- BIOL201 (3) Cell Biology and Metabolism
- BIOL202 (3) Basic Genetics
- BIOL205 (3) Biology of Organisms
- BIOL206 (3) Methods in Biology of Organisms
- BIOL215 (3) Introduction to Ecology and Evolution
- PHGY209 (3) Mammalian Physiology 1
- PHGY210 (3) Mammalian Physiology 2

and 9 credits selected from:

- BIOL303 (3) Developmental Biology
- BIOL306 (3) Neurobiology and Behaviour
- BIOL307 (3) Behavioural Ecology/Sociobiology
- BIOL324 (3) Ecological Genetics
- BIOL370 (3) Human Genetics Applied
- BIOL473 (3) Ecology of Aquatic Invertebrates
- BIOL520 (3) Gene Activity in Development
- BIOL530 (3) Neural Basis of Behaviour
- BIOL531 (3) Neurobiology Learning Memory

6 credits of any other Biological Sciences courses

9 credits of Mathematics

including at least 3 credits selected from:

- BIOL309 (3) Mathematical Models in Biology
- MATH437 (3) Mathematical Methods in Biology
- PHYS413 (3) Physical Basis of Physiology

and at least 3 credits selected from:

- MATH314 (3) Advanced Calculus
- MATH317 (3) Numerical Analysis
- MATH319 (3) Partial Differential Equations
- MATH327 (3) Matrix Numerical Analysis
- MATH407 (3) Dynamic Programming
- MATH423 (3) Regression and Analysis of Variance
- MATH447 (3) Stochastic Processes

or other suitable mathematics courses chosen in consultation with the adviser.

Advisers: Drs. M. Mackey and L. Glass (Department of Physiology)

**MAJOR IN BIOLOGY (55 credits)**

The Major requires 55 credits comprising 34 as specified below and 21 additional credits which are to be chosen by students in consultation with their adviser.

**U1 Required Courses (18 credits)**

- BIOL200 (3) Molecular Biology
- BIOL201 (3) Cell Biology and Metabolism
- BIOL202 (3) Basic Genetics
- BIOL205 (3) Biology of Organisms
- BIOL206 (3) Methods in Biology of Organisms
- BIOL215 (3) Introduction to Ecology and Evolution

**U2 or U3 Required Courses (4 credits)**

- BIOL301 (4) Cell and Molecular Laboratory

**U2 or U3 Complementary Courses (12 credits)**

12 credits selected from:

- BIOL300 (3) Molecular Biology of the Gene
- BIOL303 (3) Developmental Biology
- BIOL304 (3) Evolution
- BIOL306 (3) Neurobiology and Behaviour
- BIOL308 (3) Ecological Dynamics

**Other Complementary Courses (21 credits)**

To be selected in consultation with the student's adviser. All courses must be at the 300 level or higher; they are to include any seven Biology courses of which at most three may be substituted, given the adviser's consent, with science courses offered by other departments. Unless required by the Major Program, prerequisites for these courses must be taken as electives.

**BIOLOGY CONCENTRATIONS**

The concentrations set out below are only guidelines for specialized training. They do not constitute sets of requirements. Students interested in advanced studies in any biological discipline are strongly advised to develop their skills in computing as appropriate. As an aid to students wishing to specialize, the concentrations list key and other suggested courses by discipline.

**Animal Behaviour Concentration**

Understanding the diverse ways in which animals feed, mate, care for their offspring, avoid predators, select their habitats, communicate, and process information constitute the subject matter of behaviour. Several approaches are used to study these questions. Some focus on ecological consequences and determinants, some on physiological, genetic and developmental mechanisms, others on evolutionary origins.

Key courses:

BIOL304, BIOL305, BIOL306, BIOL307, BIOL331 or BIOL334 or another field course with a significant behavioural component, BIOL373.

Other suggested courses:

BIOL377, BIOL471D1/BIOL471D2, BIOL477, BIOL478

Since animal behaviour builds upon the fields of behaviour, ecology, and evolutionary biology, most courses from these fields will be relevant. Some courses that focus on a particular taxonomic group such as birds (Natural Resource Sciences WILD420), amphibians and reptiles (BIOL327) and marine mammals (BIOL335) include a significant amount of behaviour.

**Biological Diversity and Systematics**

The study of biological diversity deals with the maintenance, emergence, and history of the inexhaustible variety of different kinds of organisms. It is deeply concerned with the particular characteristics of different organisms and therefore emphasizes the detailed study of particular groups and forms the basis of comparative biology. Our knowledge of diversity is organized through the study of systematics which seeks to understand the history of life and the phylogenetic and genetic relationships of living things. Appreciation and knowledge of diversity and systematics are essential in ecology and evolutionary biology and underlie all work in resource utilization and conservation biology.

Key course:

BIOL304, BIOL305, BIOL373

Other suggested courses:

BIOL240, BIOL324, BIOL327, BIOL328, BIOL329, BIOL331 or BIOL334, BIOL335, BIOL341, BIOL350, BIOL352, BIOL358, BIOL465, BIOL471D1/BIOL471D2, BIOL477 or BIOL478, BIOL505, BIOL555, BIOL569, BIOL594

Macdonald Campus:

PLNT358, PLNT451; ENTO440; WILD350, WILD420; ZOOL307, ZOOL312, ZOOL313, ZOOL424

**Evolutionary Biology Concentration**

Evolutionary Biology is the study of processes that change organisms and their characteristics through time. Evolutionary biologists are concerned with adaptations of organisms and the process of natural selection.

Key courses:

BIOL304, BIOL305, BIOL307, BIOL324, BIOL331, BIOL352, BIOL373, BIOL435, BIOL471D1/BIOL471D2, BIOL477 or BIOL478, BIOL555, BIOL569, BIOL570, BIOL571, BIOL572, BIOL594

Other suggested courses in Organismal Biology:

BIOL240, BIOL327, BIOL328, BIOL335, BIOL350, BIOL358

Macdonald Campus: WILD420

Genetics and Development: BIOL300, BIOL303

Ecology and Behaviour: BIOL309, BIOL329, BIOL331, BIOL341, BIOL534



Other suggested courses:

ATOC220, ATOC512, ATOC550, ATOC551, ATOC561;  
BIOL329, BIOL331, BIOL334, BIOL432, BIOL465, BIOL534;  
EPSC542

For students intending to proceed to graduate work, one independent studies course (BIOL471D1/BIOL471D2, BIOL477 or BIOL478) is recommended. Because of the importance of numerical analyses in all fields of Ecology, courses in Biometry (e.g. BIOL373) and Computer Science (COMP202 or COMP273) are recommended.

**Chemistry**

- CHEM382 Organic Chemistry: Natural Products  
 CHEM402 Advanced Bio-organic Chemistry  
 CHEM552 Physical Organic Chemistry

**Immunology**

- ANAT261 Introduction to Dynamic Histology  
 BIOC503 Immunochemistry  
 MIMM314 Immunology  
 MIMM414 Advanced Immunology  
 PHGY513 Cellular Immunology

**Management\***

- ECON208 Microeconomics Analysis and Applications  
 MGCR211 Introduction to Financial Accounting  
 MGCR341 Finance 1  
 MGCR352 Marketing Management 1  
 MGCR472 Operations Management

\* These courses may not also be used for a Management Minor, nor for complementary, by Engineering students.

**Microbiology**

- MIMM323 Microbial Physiology  
 MIMM324 Fundamental Virology  
 MIMM413 Parasitology  
 MIMM465 Bacterial Pathogenesis  
 MIMM466 Viral Pathogenesis

**Molecular Biology (Biology)**

- BIOL300 Molecular Biology of the Gene  
 BIOL314 Molecular Biology of Oncogenes  
 BIOL520 Gene Activity in Development  
 BIOL551 Molecular Biology: Cell Cycle  
 BIOL524 Topics in Molecular Biology

**Molecular Biology (Biochemistry)**

- BIOC311 Metabolic Biochemistry  
 BIOC312 Biochemistry of Macromolecules  
 BIOC450 Protein Structure and Function  
 BIOC454 Nucleic Acids  
 BIOC455 Neurochemistry

**Physiology**

- EXMD401 Physiology and Biochemistry Endocrine Systems  
 EXMD502 Advanced Endocrinology  
 EXMD503 Advanced Endocrinology  
 PHAR562 General Pharmacology 1  
 PHAR563 General Pharmacology 2  
 PHGY517 Artificial Internal Organs  
 PHGY518 Artificial Cells

**Plant Biology**

- BIOL357 Plant Physiology  
 BIOL526 Plants and Extreme Environments

**Pollution\***

- CHEE471 Industrial Water Pollution Control  
 CIVE225 Environmental Engineering  
 CIVE430 Water Treatment and Pollution Control  
 CIVE526 Solid Waste Management  
 CIVE553 Stream Pollution and Control

\* These courses may not also be used for an Environmental Engineering Minor by Engineering students.

**General**

- MIME310 Engineering Economy

**12.6 Chemistry (CHEM)**

Otto Maass Chemistry Building  
 801 Sherbrooke Street West  
 Montreal, QC H3A 2K6

Website: [www.mcgill.ca/chemistry](http://www.mcgill.ca/chemistry)

Departmental Office: Room 322. Telephone: (514) 398-6999  
 Student Advisory Office: Room 304. Telephone: (514) 398-3653  
 Website: [www.mcgill.ca/chemistry/advising](http://www.mcgill.ca/chemistry/advising)

Chair — R. Bruce Lennox

**Emeritus Professors**

- Byung Chan Eu; B.Sc.(Seoul), Ph.D.(Brown)  
 John F. Harrod; B.Sc., Ph.D.(Birm.)  
*(Tomlinson Emeritus Professor of Chemistry)*  
 Alan S. Hay; B.Sc., M.Sc.(Alta.), Ph.D.(Ill.), D.Sc.(Alta.), F.R.S., F.N.Y., Acad.Sci. *(Tomlinson Emeritus Professor of Chemistry)*  
 Mario Onyszchuk; B.Sc.(McG.), M.Sc.(W.Ont.), Ph.D.(McG.), Ph.D.(Cantab.)  
 Donald Patterson; M.Sc.(McG.), Doc.(St-Etienne) *(Otto Maass Emeritus Professor of Chemistry)*  
 Arthur S. Perlin; M.Sc., Ph.D.(McG.), F.R.S.C.  
*(E.B. Eddy Emeritus Professor of Industrial Chemistry)*  
 William C. Purdy; B.A.(Amherst), Ph.D.(M.I.T.), F.C.I.C.  
*(William C. Macdonald Emeritus Professor of Chemistry)*  
 Leon E. St-Pierre; B.Sc.(Alta.), Ph.D.(Notre Dame, Ind.), F.C.I.C.  
 Michael A. Whitehead; B.Sc., Ph.D. D.Sc.(Lond.), F.C.I.C.

**Professors**

- D. Scott Bohle; B.A.(Reed College), M.Phil., Ph.D.(Auck.)  
 Ian S. Butler; B.Sc., Ph.D.(Brist.), F.C.I.C., C.Chem., F.R.S.C.(U.K.)  
 Tak-Hang Chan; B.Sc.(Tor.), M.A., Ph.D.(Prin.), F.C.I.C., F.R.S.C.  
*(Tomlinson Professor of Chemistry)*  
 Masad J. Damha; B.Sc., Ph.D.(McG.) *(James McGill Professor)*  
 Adi Eisenberg; B.S.(Worcester Polytech.), M.A., Ph.D.(Prin.), F.C.I.C. *(Otto Maass Professor of Chemistry)*  
 Patrick G. Farrell; B.Sc., Ph.D., D.Sc.(Exe.)  
 David N. Harpp; A.B.(Middlebury), M.A.(Wesleyan), Ph.D.(N.Carolina), F.C.I.C. *(William C. Macdonald Professor of Chemistry)*  
 George Just; Ing.Chem.(E.T.H. Zürich), Ph.D.(W.Ont.), F.C.I.C.  
*(William C. Macdonald Professor of Chemistry)*  
 R. Bruce Lennox; B.Sc., M.Sc., Ph.D.(Tor.)  
 C.J. Li; B.Sc.(Zhengzhou), M.Sc.(C.A.S.), Ph.D.(McG.)  
 Robert H. Marchessault; B.Sc.(Loyola), Ph.D.(McG.), D.Sc. (C'dia), F.R.S.C. *(E.B. Eddy Professor of Industrial Chemistry)*  
 David Ronis; B.Sc.(McG.), Ph.D.(M.I.T.)  
 Eric D. Salin; B.Sc.(Calif.), Ph.D.(Oreg.St.)  
 Bryan C. Sanctuary; B.Sc., Ph.D.(U.B.C.)  
 Alan G. Shaver; B.Sc.(Car.), Ph.D.(M.I.T.)

**Associate Professors**

- Mark P. Andrews; B.Sc., M.Sc., Ph.D.(Tor.)  
 Bruce Arndtsen; B.A.(Car.), Ph.D.(Stan.)  
 David H. Burns; B.Sc.(Puget Sound), Ph.D.(Wash)  
 William C. Galley; B.Sc.(McG.), Ph.D.(Calif.)  
 James Gleason; B.Sc.(McG.), Ph.D.(Virginia)  
 Ashok K. Kakkar; B.Sc. (Runjab), M.Sc. (H.P.U.), Ph.D.(Wat.)  
 Joan F. Power; B.Sc., Ph.D.(C'dia)  
 Linda Reven; B.A.(Car.), Ph.D.(Ill.)

**Assistant Professors**

- Parisa Ariya; B.Sc., Ph.D.(York) *(William Dawson Scholar) (joint appoint. with Atmospheric & Oceanic Sciences)*  
 Karine Auclair; B.Sc.(U.Q.A.C.), Ph.D.(Alta.)  
 Christopher J. Barrett; B.Sc., M.Sc., Ph.D.(Queen's)  
 Patanjali Kambhampati; B.A. (Carl.), Ph.D (Texas)  
 Nicolas Moitessier; Ph.D. (Nancy)  
 Hanadi Sleiman; B.Sc.(A.U.B.), Ph.D.(Stan.) *(William Dawson Scholar)*  
 Paul Wiseman; B.Sc.(St.F.X.), Ph.D.(W.Ont.) *(joint appoint. with Physics)*

**Faculty Lecturers**

- John Finkenbine; B.S.(Capital), Ph.D.(McG.)  
 Grazyna Wilczek; M.Sc., Doctorate Chem. Sci.(Warsaw)

**Associate Members**

- James A. Finch *(Mining & Metallurgical Engineering)*  
 K. Gehring *(Biochemistry)*  
 P. Grütter *(Physics)*  
 Orval A. Mamer *(University Clinic)*  
 Barry I. Posner *(Medicine)*

**Adjunct Professors**

- Dimitris Argyropoulos; B.Sc.(South Bank Poly.), Ph.D.(McG.)  
 Derek G. Gray; B.Sc. (Belf.), M.Sc., Ph.D. (Man.), F.C.I.C.

Yvan Guindon; B.Sc., Ph.D.(Montr.), F.C.I.C., F.R.S.C.  
Romas Kazlauskas; B.Sc. (Clev.St.), Ph.D. (M.I.T.)





**MAJOR WITH MATERIALS OPTION (65 credits)**

**Required Courses (62 credits)**

**Complementary Course (3 credits)**

**FACULTY PROGRAMS IN CHEMISTRY**

Faculty programs in Chemistry are constructed from the U1 courses and the general courses of U2 and U3 intended for these students. Consult the Department of Chemistry Student Advisory Office for an adviser. A computer science course, either COMP102 or COMP202, will be required during U1 for students who have no previous introduction to computer programming.

**FACULTY PROGRAM IN CHEMISTRY (52 credits)**

**Required Courses (31 credits)**

**FACULTY PROGRAM IN CHEMISTRY AND MATHEMATICS (51 or 52 credits)**

**Required Courses (46 credits)**

**FACULTY PROGRAM IN MATHEMATICS, CHEMISTRY AND PHYSICS, see page 330 under Mathematics and Statistics.**

**MINOR IN CHEMISTRY (18 credits)**

**Required Courses (18 credits)**

Substitutions for these by more advanced courses may be made at the discretion of the adviser.

**MINOR IN CHEMICAL ENGINEERING (24 credits)**

A Chemical Engineering Minor will be of interest to Chemistry students who wish to study the problems of process engineering and its related subjects. A student completing this Minor will be able to apply for admission to the Chemical Engineering program.

**FACULTY PROGRAM IN CHEMISTRY AND BIOLOGICAL SCIENCES (55 credits)**

**Required Courses (49 credits)**

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Doina Precup; B.Sc.(Tech. U. of Cluj-Napoca), M.Sc.,  
Ph.D.(U.Mass.)  
Hans Vangheluwe; B.Sc., M.Sc., D.Sc.(Ghent)  
Clark Verbrugge; B.A.(Queen's), Ph.D.(McG.)  
Adrian Vetta; B.Sc. (London School of Economics, U.K.), M.Sc.,  
(London School of Economics, U.K.), Ph.D. (M.I.T.)

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**JOINT MAJOR IN PHYSICS AND COMPUTER SCIENCE**, see page339 under Physics.

**MAJOR IN SOFTWARE ENGINEERING** (69 credits)

**Required Courses** (60 credits)

- COMP202 (3) Introduction to Computing 1
- COMP206 (3) Introduction to Software Systems
- COMP250 (3) Introduction to Computer Science
- COMP251 (3) Data Structures and Algorithms
- COMP273 (3) Introduction to Computer Systems
- COMP302 (3) Programming Languages and Paradigms
- COMP304 (3) Object-oriented Design
- COMP330 (3) Theoretical Aspects: Computer Science
- COMP360 (3) Algorithm Design Techniques
- COMP361 (3) Systems Development Project
- ECSE321 (3) Introduction to Software Engineering
- ECSE427 (3) Operating Systems
- ECSE428 (3) Software Engineering Practice
- ECSE429 (3) Software Validation
- ECSE495 (3) Software Engineering Design Project
- MATH223 (3) Linear Algebra
- MATH240 (3) Discrete Structures 1
- MATH260 (3) Intermediate Calculus
- MATH323 (3) ProTw (Honoues931aD 0.2712 Tc.APD 0.2294 445 TcamH323I0.6418 56 T6fesign T5Honours in 0.75 TDsel0.2 Tfrom.1034follow (Estics

**HONOURS IN COMPUTER SCIENCE** (72 credits)

Honours students must maintain a CGPA of 3.00 and must have at least this average upon graduation as well.

**Required Courses** (45 credits)

**Complementary Courses** (9 credits)

**Complementary Courses** (27 credits)

**JOINT HONOURS IN MATHEMATICS AND COMPUTER**

**SCIENCE**, see page332 under Mathematics and Statistics. Students must consult an Honours adviser in both Departments.

**MINOR IN COGNITIVE SCIENCE** Students following Major or Honours programs in Computer Science may want to consider the Minor in Cognitive Science.

**COMPUTER SCIENCE COURSE RESTRICTION NOTES**

The following programs are defined as belonging to the Core Group or the Mathematics Group to simplify the explanation of course restrictions:

**Core Group:**

- Major in Computer Science
- Honours in Computer Science
- Joint Major in Mathematics and Computer Science
- Joint Major in Physics and Computer Science
- Joint Honours in Mathematics and Computer Science
- Major in Software Engineering
- Bachelor of Software Engineering
- Major Concentration in the Foundations of Computing
- Minor Concentration in Foundations of Computing
- Minor Concentration in Computer Science
- Faculty Program in Mathematics and Computer Science
- Faculty Program in Mathematics, Statistics and Computer Science

**Mathematics Group:**

- Honours in Mathematics
- Honours in Applied Mathematics
- Honours in Probability and Statistics

## 12.9 Earth and Planetary Sciences (EPSC)

Frank Dawson Adams Building, Room 238  
3450 University Street  
Montreal, QC H3A2A7

Telephone: (514) 398-6767  
Fax: (514) 398-4680  
E-mail: carol.matthews@mcgill.ca  
Website: www.eps.mcgill.ca

*Chair* — Alfonso Mucci

### *Emeritus Professors*

Wallace H. MacLean; B. Geol. Eng. (Colorado Sch. of Mines),  
M.Sc. (Appl.), Ph.D. (McG.)  
Eric W. Mountjoy; B.A.Sc. (U.B.C.), Ph.D. (Tor.) (*William E. Logan*  
*Emeritus Professor of Geology*)  
Colin W. Stearn; B.Sc. (McM.), M.S., Ph.D. (Yale), F.R.S.C.

### *Professors*

Jafar Arkani-Hamed; B. Eng. (Tehran), Ph.D. (M.I.T.)  
Don M. Francis; B.Sc. (McG.), M.Sc. (U.B.C.), Ph.D. (M.I.T.)  
(*Dawson Professor of Geology*)  
Andrew J. Hynes; B.Sc. (Tor.), Ph.D. (Cantab.) (*William E. Logan*  
*Professor of Geology*)  
Olivia G. Jensen; B.Sc., M.Sc., Ph.D. (U.B.C.)  
Robert F. Martin; B.Sc. (Ott.), M.S. (Penn. State), Ph.D. (Stan.)  
Alfonso Mucci; B.Sc., M.Sc. (Montr.), Ph.D. (Miami)  
A.E. (Willy) Williams-Jones; B.Sc., M.Sc. (Natal), Ph.D. (Queen's)

### *Associate Professors*

Don Baker; B.A. (Chic.), Ph.D. (Penn.)  
Bruce Hart; B.A. (McM.), M.Sc. (U.Q. à Rimouski), Ph.D. (W. Ont.)  
Jeanne Paquette; B.Sc., M.Sc. (McG.), Ph.D. (Stonybrook)  
John Stix; AB (Dart.), M.Sc., Ph.D. (Tor.)  
Hojatollah Vali; B.Sc., M.Sc., Ph.D. (Munich) (*Director, Electron*  
*Microscopy Centre*)

### *Assistant Professor*

Mairi Best; B.Sc. (Laurentian), Ph.D. (Chic.)

The domain of Earth and Planetary Sciences includes the solid Earth and its hydrosphere and extends to the neighbouring terrestrial planets. It is a multidisciplinary field in which the principles of chemistry, physics, and mathematics are applied to the rich problems of the real world in order to understand how planets like the Earth work; in the past, the present, and the future.

Career opportunities are many and varied for graduates in the Earth and Planetary Sciences. There is presently a demand for graduates with expertise in many disciplines of the Earth Sciences. Our students are recruited for employment in the petroleum and mining industries, and in the environmental sector. During the summer months undergraduate students are generally able to obtain employment from industry or government agencies, providing them with both financial benefits and first-hand geoscientific experience. Career opportunities in planetary science are presently limited to universities and research organizations.

The Department has a full-time staff of 13 professors and one faculty lecturer. There are approximately 50 graduate and 60 undergraduate students. Classes are therefore small at all levels, resulting in an informal and friendly atmosphere throughout the Department in which most of the faculty and students interact on a

**U2 and/or U3 Required Courses (24 credits)**

- EPSC320 (3) Elementary Earth Physics
- EPSC334 (3) Invertebrate Paleontology
- EPSC350 (3) Tectonics
- EPSC423 (3) Igneous Petrology
- EPSC445 (3) Metamorphic Petrology
- EPSC452 (3) Mineral Deposits 2
- EPSC455 (3) Sedimentary Geology
- EPSC519 (3) Isotope Geology

**Complementary Courses (15 credits)**

3 credits, one of:

- EPSC331 (3) Field School 2
- EPSC341 (3) Field School 3

plus 12 credits (4 courses) chosen from the following:

- EPSC330 (3) Earthquakes and Earth Structure
- EPSC425 (3) Sediments to Sequences
- EPSC435 (3) Geophysical Applications
- EPSC451 (3) Hydrothermal Mineral Deposits
- EPSC501 (3) Crystal Chemistry
- EPSC530 (3) Volcanology
- EPSC542 (3) Chemical Oceanography
- EPSC547 (3) High Temperature Geochemistry
- EPSC548 (3) Processes of Igneous Petrology
- EPSC549 (3) Hydrogeology
- EPSC550 (3) Selected Topics 1
- EPSC551 (3) Selected Topics 2
- EPSC552 (3) Selected Topics 3
- EPSC561 (3) Ore-forming Processes 1
- EPSC562 (3) Ore-forming Processes 2
- EPSC570 (3) Cosmochemistry
- EPSC580 (3) Aqueous Geochemistry
- EPSC590 (3) Applied Geochemistry Seminar

Note: Courses at the 300 or higher level in other departments in the Faculties of Science and Engineering may also be used as complementary credits, with the permission of the Director of Undergraduate Studies.

**HONOURS IN EARTH SCIENCES (75 credits)**

(CGPA ≥ 3.20)

**U1 Required Courses (27 credits)**

- EPSC203 (3) Structural Geology (3) EPSC472 (3) EPSC472 -9.75 TD 0.6525 Tc 0 Tw (EPSC210) Tj 54 0 TD 0.195 Tc ((3)) Tj 18 0 TD 0.2489 Tc -0.0839 Tw (Introductio

**HONOURS IN PLANETARY SCIENCES (81 credits)**

CGPA ≥ 3.20

**U1 Required Courses (27 credits)**

**Note:** Students who have not had the following course or its equivalent in CEGEP or the Freshman Program may be required to take MATH133 Vectors, Matrices and Geometry.

**U2 and/or U3 Required Courses (42 credits)**

**Note:** Students who have not had the following course or its equivalent in CEGEP or the Freshman Program may be required to take MATH133 Vectors, Matrices and Geometry.

**U2 and/or U3 Required Courses (33 credits)**



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**12.11 Experimental Medicine (EXMD)**

Lady Meredith House, Room 101  
E-mail: [experimental.medicine@mcgill.ca](mailto:experimental.medicine@mcgill.ca)  
Website:

**JOINT MAJOR IN PHYSICS AND GEOPHYSICS**, see page338  
under Physics.

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**12.10 Environment**

All courses given by the McGill School of Environment (Subject Code ENVR) are considered as courses taught by the Faculty of Science.

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In addition to the Faculty requirement that Honours students maintain a minimum CGPA and program GPA of at least 3.00, students who enter a Geography Honours Program on or after September 2004 must achieve at least a B in all required program courses.

**Required Courses** (24 credits)

aims. The AFSS is intended for students in their final two years. Although the AFSS is not a degree program (such as a Minor or Minor Concentration), its 15 credits constitute a full single-term credit load that can be counted towards certain McGill degrees with the permission of program advisors.

**Students from other universities** are eligible to apply to the CFSIA and must also meet the criteria for admission to McGill as a Visiting Student. Please see the website for details.

The AFSS comprises 15 credits of field study courses. Two courses (6 credits) in the natural and social sciences provide interdisciplinary academic context for field study. The other 9 credits

**Complementary Courses** (42 credits)

**AFRICAN FIELD STUDY SEMESTER**

**Note: The AFSS will only be offered in 2004-05 pending approval by the Dean of Science.**

The African Field Study Semester (AFSS) is a McGill University activity that has links with the Canadian Field Study in Africa Program (CFSIA).

The AFSS provides one term of integrated field study in East Africa, with emphasis on environmental conservation. Students investigate challenges of sustaining biological diversity and social justice in African environments subject to cultural change, economic development and environmental stress. Cultural and ecological variation is examined in highland, montane, rangeland, desert, riverine, salt and fresh water lake, coastal, and urban settings.

**McGill students** will be selected for entry to this program based on the following criteria: academic standing, CGPA of 2.70 or higher, reference letters, and the applicant's academic and career



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### 12.14 Kinesiology for Science Students

The Minor in Kinesiology is designed to provide students in B.Sc. programs with basic but comprehensive knowledge of scientific bases of human physical activity and its relationship with health and well-being.

Students registered in the Minor in Kinesiology for Science Students may not take additional courses outside the Faculties of Arts and of Science.

To obtain the Minor, all courses must be completed with a grade of C or better.

#### MINOR IN KINESIOLOGY FOR SCIENCE STUDENTS

(18 credits)

[This program is under revision - some course numbers have been/will be changed. Contact the Department or go [www.mcgill.ca](http://www.mcgill.ca) (Course Calendars) in July for details.]

**Required Courses** (9 credits)

**Complementary Courses** (9 credits)

Note: Some courses have prerequisites, for details please refer to the Faculty of Education course listings.

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### 12.15 Management Minor Program

The Minor in Management allows Science students to include courses in their undergraduate program that will help prepare them for a career in management. Also available to Science students is the Minor in Technological Entrepreneurship for Science Students, see page 349.

Acceptance to the program is both competitive and restricted. At the time of application, a CGPA greater than 2.50 is required and at least one course (MGCR211) toward the Minor program must have been completed with a grade of C or better.

Application procedures will be announced in September. Please consult Ron Critchley, Student Adviser, Faculty of Management Student Affairs Office, Bronfman 176, for details.

Students who are not formally registered for the Minor but who nevertheless complete all its requirements may apply to have the Minor approved.

Students who are not formally registered for the Minor but who nevertheless complete all its requirements may apply to have the Minor approved.

Eyal Z. Goren; B.A., M.S., Ph.D.(Hebrew)  
 Dmitry Jakobson; B.Sc. (M.I.T.), Ph.D.(Princeton) (*William Dawson Scholar*)  
 Vojkan Jaksic; B.S.(Belgrade), Ph.D.(Caltech)  
 Wilbur Jonsson; M.Sc.(Manit.), Dr.Rer.Nat.(Tubingen)  
 Antony Humphries; B.A., M.A.(Cambridge), Ph.D.(Bath)  
 Ivo Klemes; B.Sc.(Tor.), Ph.D.(Cal.Tech.)  
 John P. Labute; B.Sc.(Windsor), M.A., Ph.D.(Harv.)  
 James G. Loveys; B.A.(St.M.), M.Sc., Ph.D.(S.Fraser)  
 Roger Rigelhof; B.Sc.(Sask.), M.Sc.(Wat.), Ph.D.(McM.)  
 Neville G.F. Sancho; B.Sc., Ph.D.(Belf.)  
 John A. Toth; B.Sc., M.Sc.(McM.), Ph.D.(M.I.T.) (*William Dawson Scholar*)

#### Assistant Professors

Masoud Asgharian; B.Sc.(Shahid Beheshti), M.Sc., Ph.D.(McG.)  
 David Bryant; B.Sc.Hons, Ph.D.(Canterbury) (*joint appoint. with Computer Science*)  
 Martin J. Gander; M.S.(ETH), M.S., Ph.D.(Stan.)  
 Dietmar Leisen; B.Sc.(Mainz), M.Sc., Ph.D.(Bonn) (*joint appoint. with Management*)  
 Nilima Nigam; B.Sc.(I.I.T., Bombay), M.S., Ph.D.(Delaware)  
 Jonathan Pila; B.Sc.Hons.(Melbourne); Ph.D.(Stanford)  
 Russell Steele; B.S., M.S.(Carnegie Mellon), Ph.D.(Wash.)  
 Alain Vandal; B.Sc., M.Sc.(McGill), Ph.D.(Auckland)  
 Adrian Vetta; B.Sc., M.Sc. (London School of Economics), Ph.D. (M.I.T)  
 Daniel T. Wise; B.A.(Yeshiva), Ph.D.(Princ.)

#### Assistant Professor (Special Category)

Vera Rosta; M.Sc., Ph.D.(Lorand Eotovos, Budapest)

#### Associate Members

Luc P. Devroye (*Computer Science*), P.R.L. Dutilleul (*Plant Science*), Leon Glass (*Physiology*), Jean-Louis Goffin (*Management*), James A. Hanley (*Epidemiology & Biostatistics*), Lawrence Joseph (*Epidemiology & Biostatistics*), Michael Mackey (*Physiology*), Lawrence A. Mysak (A.O.S.), Prakash Panangaden (*Computer Science*), James O. Ramsay (*Psychology*), George Alexander Whitmore (*Management*)

#### Adjunct Professors

Donald A. Dawson; B.Sc., M.Sc.(McG.), Ph.D.(M.I.T.)  
 Victor Havin; M.Sc., Ph.D.(Leningrad)  
 M. Ram Murty; B.Sc.(Car.), Ph.D.(M.I.T.), F.R.S.C.  
 Robert A. Seely; B.Sc.(McG.), Ph.D.(Cantab)

#### Faculty Lecturers

Jose A. Correa; M.Sc.(Wat.), Ph.D.(Carleton)  
 Axel Hundemer; M.Sc., Ph.D.(Munich)

Mathematics has evolved to a discipline which is mainly characterized by its method of proof, its concern for a progressive broadening of its concepts, and by the search for mathematical entities and operations that represent aspects of reality. It is a subject which is pursued by many for its own sake, and regarded as part of the mainstream of human culture. Mathematics pervades modern society with an impact which, already immense, is rapidly growing.

The two principal divisions of mathematics are pure mathematics and applied mathematics. The pure mathematician is interested in abstract mathematical structures and in mathematics as an intellectual enterprise. The primary concern may not be with its utilitarian aspects or with the current needs of science and technology, although many problems in pure mathematics have developed from the sciences.

The applied mathematician is more interested in how mathematics can be used to study some aspects of the world. Mathematicians are engaged in the creation, study and application of advanced mathematical methods relevant to scientific problems. The 78.7gy, 40science and methodology today is concerned with phenomena in which there is a background of uncertainty arising from inherent variability and the investigator is obliged to arrive at decisions from limited data. A key tool in statistics is probability.

Some of the fields in which pure mathematicians work are algebra, analysis, geometry, topology, number theory and foundations. Applied mathematics which once referred to the application of

mathematics to such disciplines as mechanics and fluid dynamics, has currently assumed a much broader meaning and embraces such diverse fields as communication theory, theory of optimization, theory of games and numerics, 40analysis.

Mathematics offers many vocation 40possibilities. Such fields as teaching, computing, applied statistics and actuarial 40science offer opportunities for B.Sc. graduates. Opportunities to do origin 40 research in pure and applied mathematics are available in universities and research institutions. Employment is to be found in financially or technology, 4ly oriented business firms. The Department of Mathematics and Statistics through its various programs attempts to provide courses to suit the diverse interests within mathematics and statistics.

The Honours Program in Mathematics demands of the student a talent for abstraction in addition to a high level of competence in the use of mathematic 40tools. This program is intended for students who plan to work in an area where mathematical innovations may be needed. It is almost essential for students contemplating a career in mathematical research.

The Major Program involves the same subjects as the Honours Program but is less demanding in terms of abstraction. It is designed primarily for students who will need mathematic 40tools in their work but whose creative activity will involve applications of mathematics to other areas. Within the framework of the Mathematics Major, various combinations of courses are suggested to meet the needs of different students. These include course suggestions for secondary school teachers, careers in management, and for careers in industry, government or actuarial 40sciences.

It is possible for Major students to include a number of Honours courses in their programs. This will be an advantage for those students who plan to use their mathematics in graduate studies.

Students interested in a less intensive mathematics program linked to other disciplines are advised to consider the available Faculty Programs.

In planning their programs students are advised to seriously consider developing some depth in another discipline – preferably one for which mathematics has some relevance and use. Mathematics has been closely linked to areas such as computer science, physics and engineering but has recently come to play an increasingly important role in fields such as biology, linguistics, management and psychology. Students should consider completing the requirements for Minor programs such as those available in Cognitive Science, Computer Science and Statistics.

Students considering programs in Mathematics and Statistics should contact the Department to arrange for academic advising.

The student's attention is c 4led to the fact that a B.Com. degree with a Major in Mathematics is available from the Faculty of Management. In addition the Faculty of Music offers the B.Mus. degree with Honours in Theory with Mathematics Option.

#### Internship Year for Engineering and Science (IYES)

IYES is a pre-graduate work experience program available to eligible students and normally taken between their U2 and U3 years. For more information, see "IYES: Internship Year for Engineering and Science" on page 205.

The following programs are also available with an Internship component:

- Major in Mathematics
- Honours in Mathematics
- Honours in Applied Mathematics
- Honours in Probability and Statistics
- Joint Majors in Mathematics and Computer Science
- Joint Honours in Mathematics and Computer Science

**Note:** Students entering a program listed below which has MATH222 (Calculus 3) as a required course and who have successfully completed a course equivalent to MATH222 prior to coming to McGill are given exemption from taking MATH222, but must replace it with a Complementary Mathematics course in the program of at least 3 credits.

**MINOR IN MATHEMATICS** (24 credits)

The Minor may be taken in conjunction with any primary program in the Faculty of Science (other than programs in Mathematics). Students should declare their intention to follow the Minor in Mathematics at the beginning of the penultimate year and should obtain approval for the selection of courses to fulfill the requirements for the Minor from the Departmental Chief Adviser (or delegate).

It is strongly recommended that students in the Minor Program

FACULTY OF SCIENCE

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**Complementary Courses** (21 credits)

at least 3 credits selected from:

- MATH314 (3) Advanced Calculus
- MATH317 (3) Numerical Analysis
- MATH318 (3) Mathematical Logic
- MATH319 (3) Partial Differential Equations
- MATH327 (3) Matrix Numerical Analysis
- MATH328 (3) Computability and Mathematical Linguistics
- MATH340 (3) Discrete Structures 2
- MATH407 (3) Dynamic Programming
- MATH417 (3) Mathematical Programming

at least 6 credits in Statistics selected from:

- MATH329 (3) Theory of Interest
- MATH447 (3) Stochastic Processes
- MATH523 (4) Generalized Linear Models
- MATH525 (4) Sampling Theory and Applications

at least 6 credits in Computer Science selected from:

- COMP273 (3) Introduction to Computer Systems
- COMP302 (3) Programming Languages and Paradigms
- COMP310 (3) Computer Systems and Organization
- COMP420 (3) Files and Databases

**FACULTY PROGRAM IN MATHEMATICS, CHEMISTRY AND PHYSICS** (56 credits)

[Program revisions are under consideration for September 2004. Go to [www.mcgill.ca](http://www.mcgill.ca) (Course Calendars) in July for details.]

**Required Courses** (47 credits)

- CHEM201 (3) Modern Inorganic Chemistry 1  
or CHEM281 (3) Inorganic Chemistry 1
- CHEM204 (3) Physical Chemistry/Biological Sciences 1  
or CHEM213 (3) Introductory Physical Chemistry
- CHEM212 (4) Introductory Organic Chemistry 1
- CHEM214 (3) Physical Chemistry/Biological Sciences 2
- CHEM222 (4) Introductory Organic Chemistry 2
- MATH222 (3) Calculus 3
- MATH223 (3) Linear Algebra
- MATH314 (3) Advanced Calculus
- MATH315 (3) Ordinary Differential Equations
- MATH319 (3) Partial Differential Equations
- PHYS230 (3) Dynamics of Simple Systems
- PHYS232 (3) Heat and Waves
- PHYS241 (3) Signal Processing
- PHYS340 (3) Electricity and Magnetism
- COMP202 (3) Introduction to Computing 1

**Complementary Courses** (9 credits)

3 credits in Physics, 200 level or higher

6 credits in Mathematics, Chemistry or Physics, chosen in consultation with the adviser.

**MAJOR IN MATHEMATICS** (54 credits)

Students entering the Major program are normally expected to have completed MATH133, MATH140 and MATH141 or their equivalents. Otherwise they will be required to make up any deficiencies in these courses over and above the 54credits of required courses.

Major students who have done well in MATH242 and MATH235 are urged to consider, in consultation with their adviser and the instructors concerned, entering the Honours stream by registering for MATH251 and MATH255.

**Guidelines for Selection of Courses in the Major Program**

The following informal guidelines should be discussed with the student's adviser. Where appropriate, Honours courses may be substituted for equivalent Major courses. Students planning to pursue graduate studies are encouraged to make such substitutions.

Students interested in computer science are advised to choose courses from the following: MATH317, MATH318, MATH327, MATH328, MATH340, MATH407, MATH417 and to complete the Computer Science Minor.

Students interested in probability and statistics are advised to take MATH324, MATH407, MATH423, MATH447, MATH523, MATH525.

Students interested in applied mathematics should take MATH317, MATH319, MATH324, MATH326, MATH327, MATH407, MATH417.

Students considering a career in secondary school teaching are advised to take MATH318, MATH328, MATH338, MATH339, MATH346, MATH348.

Students interested in careers in business, industry or government are advised to select courses from the following list: MATH317, MATH319, MATH327, MATH329, MATH407, MATH417, MATH423, MATH430, MATH447, MATH523, MATH525.

**Required Courses** (27 credits)

- MATH222 (3) Calculus 3
- MATH235 (3) Basic Algebra
- MATH236 (3) Linear Algebra
- MATH242 (3) Analysis 1
- MATH243 (3) Real Analysis
- MATH314 (3) Advanced Calculus
- MATH315 (3) Ordinary Differential Equations
- MATH316 (3) Functions of a Complex Variable
- or MATH249 (3) Advanced Calculus 2
- MATH323 (3)

**Complementary Courses** (27 credits)

MA, Calculus Tc (



**Complementary Courses** (21 credits)

**JOINT MAJOR IN PHYSIOLOGY AND MATHEMATICS**, see page 342 under Physiology.

**HONOURS PROGRAMS**

The minimum requirement for entry into the Honours program is that the student has completed with high standing the following

courses in other departments. A list of such courses is available from the Department of Mathematics and Statistics. Student initiative is encouraged in suggesting other courses that fulfill the intentions of this section as described above. Such suggestions must receive departmental approval. They must be in a field related to Applied Mathematics such as Atmospheric and Oceanic Science, Biology, Biochemistry, Chemistry, Computer Science, Earth and Planetary Science, Economics, Engineering, Management, Physics, Physiology and Psychology. At least 6 credits must be chosen from a single department other than Computer Science.

**HONOURS IN PROBABILITY AND STATISTICS (63 credits)**

**Required Courses (45 credits)**

- COMP250\* (3) Introduction to Computer Science
- MATH235 (3) Basic Algebra
- MATH242 (3) Analysis 1
- MATH248 (3) Advanced Calculus 1
- MATH251 (3) Algebra 2  
or MATH247

**Complementary Courses (18 credits)**

**JOINT HONOURS IN MATHEMATICS AND COMPUTER SCIENCE (72 credits)**

Students must consult an Honours adviser in both departments.

**Required Courses (42 credits)**

**Complementary Courses (30 credits)**

**JOINT HONOURS IN MATHEMATICS AND PHYSICS**, see page 340 under Physics.

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**12.17 Microbiology and Immunology (MIMM)**

Lyman Duff Medical Sciences Building, Room 511  
3775 University Street  
Montreal, QC H3A 2B4  
Telephone: (514) 398-3915  
Fax: (514) 398-7052  
E-mail: office.microimm@mcgill.ca  
Website: www.mcgill.ca/microimm

*Chair* — Greg J. Matlashewski

*Emeritus Professor*

Eddie C.S. Chan; M.A.(Texas), Ph.D.(Maryland)

*Professors*

Nicholas H. Acheson; A.B.(Harv.), Ph.D.(Rockefeller)  
Zafer Ali-Khan; B.Sc.(Bilar), M.Sc.(Karachi), Ph.D.(Tulane)  
Malcolm G. Baines; B.Sc., M.Sc., Ph.D.(Queen's)  
James W. Coulton; B.Sc.(Tor.), M.Sc.(Calg.), Ph.D.(W.Ont.)  
John Hiscott; B.Sc., M.Sc.(W.Ont.), Ph.D.(N.Y.)  
Greg Matlashewski; B.Sc.(C'dia), Ph.D.(Ott.)  
Robert A. Murgita; B.Sc.(Me.), M.S.(Vt.), Ph.D.(McG.)  
Trevor Owens; B.Sc., M.Sc.(McG.), Ph.D.(Ott.)  
Mark A. Wainberg; B.Sc.(McG.), M.Sc., Ph.D.(Col.)

*Associate Professors*

Albert Berghuis; M.Sc.(The Netherlands), Ph.D.(Br.Col.)  
Dalius J. Briedis; B.A., M.D.(Johns H.)

*Assistant Professors*

Benoit Cousineau; B.Sc., M.Sc., Ph.D.(Montr.)  
Sylvie Fournier; Ph.D.(Montr.)  
Hervé Le Moual; Ph.D.(Montr.)  
Gregory T. Marczynski; B.Sc., Ph.D.(Illinois)  
Andrew Mouland; Ph.D.(McG.)  
Martin Olivier; B.Sc.(Montr.), Ph.D.(McG.)  
Ciriaco Piccirillo; B.Sc., Ph.D.(McG.)

*Associate Members*

Institute of Parasitology: Gaeton Faubert, Armando Jardim,  
Paula Ribeiro, Terence Spithill  
Division of Experimental Medicine: Clement Couture  
Microbiology & Immunology: Lawrence Kleiman  
Medicine: Marcel Behr, Andre Dascal, Sabah Hussain,  
Vivian Loo, J. Dick Maclean, Jack Mendelson, Mark A. Miller,





2004. No late applications will be accepted and no students will be

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### 12.21 Nutrition (NUTR)

The School of Dietetics and Human Nutrition offers a Minor in Human Nutrition, see page 363, which can be taken by Science students.

NUTR307 is considered as a course taught by the Faculty of Science and is offered simultaneously on both campuses.

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### 12.22 Pathology (PATH)

There are no B.Sc. programs in Pathology, but the PATH course listed in the Courses section of this Calendar is considered as one taught by the Faculty of Science.

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### 12.23 Pharmacology and Therapeutics (PHAR)

McIntyre Medical Building  
3655 Promenade Sir-William-Osler  
Montreal, QC H3G 1Y6  
Telephone: (514) 398-3623  
Website: www.pharma.mcgill.ca

*Chair* — Hans Zingg

*Emeritus Professor*

Theodore Sourkes; Ph.D.(Cornell)

*Professors*

Guillermina Almazan; Ph.D.(McG.)

Radan Capek; M.D., Ph.D.(Prague)

Paul B.S. Clarke; M.A.(Cantab.), Ph.D.(Lond.)

Brian Collier; B.Sc., Ph.D.(Leeds)

A. Claudio Cuello; M.D.(Buenos Aires), M.A., D.Sc.(Oxon.)  
F.R.S.C.

Barbara Hales; M.Sc.(Phil. Coll. of Pharmacy and Science),  
Ph.D.(McG.)

Peter J. McLeod; M.D.(Manit.), F.R.C.P.(C.)

Alfredo Ribeiro-da-Silva; M.D., Ph.D.(Oporto)

John B. Richardson; B.Sc., M.D.C.M., L.M.C.C., F.R.C.P.,  
Ph.D.(McG.)

Bernard Robaire; B.A.(Calif.), Ph.D.(McG.) (*James McGill  
Professor*)

Moshe Szyf; M.Sc., Ph.D.(Hebrew U.)

Daya R. Varma; M.D.(Lucknow), Ph.D.(McG.)

Hans H. Zingg; M.D., Ph.D.(McG.)

*Associate Professors*

Barbara Esplin; M.D.(Warsaw)

Dusica Maysinger; Ph.D.(Los Angeles)

Stanley Nattel; B.Sc., M.D., C.M.(McG.)

Ante L. Padjen; M.D., M.Sc., D.Sc.(Zagreb)

H. Uri Saragovi; Ph.D.(Miami)

Betty I. Sasyniuk; B.S.P., Ph.D.(Man.)

Jacquetta Trasler; M.D.C.M., Ph.D.(McG.)

Edith A. Zorycht D.Sc.(OxoSec.(OxoSec.I Tc -0.1318 Tw (Human Nutrition) T0.1247 Tw (.2498 T5e9Jy, but thenananananan1of 0.304 0870 7.5 Tfo

**12.24 Physics (PHYS)**

Rutherford Physics Building, Room 108  
3600 University Street  
Montreal, QC H3A 2T8

Telephone: (514) 398-6485  
Fax: (514) 398-8434  
E-mail: secretariat@physics.mcgill.ca  
Website: www.physics.mcgill.ca

*Chair* — M. Grant

*Emeritus Professors*

M.P. Langleben; B.Sc., M.Sc., Ph.D.(McG.), F.R.S.C.  
Tommy S.K. Mark; B.Sc., M.Sc., Ph.D.(McG.) (*William C. Macdonald Emeritus Professor of Physics*)  
E.R. Pounder; B.Sc., Ph.D.(McG.), F.R.S.C. (*William C. Macdonald Emeritus Professor of Physics*)  
Douglas G. Stairs; B.Sc., M.Sc.(Queen's), Ph.D.(Harv.) (*William C. Macdonald Emeritus Professor of Physics*)  
Martin J. Zuckermann; M.A., D.Phil.(Oxon.), F.R.S.C. (*William C. Macdonald Emeritus Professor of Physics*)

*Post-Retirement*

Andreas P. Contogouris; B.A.(Athens), Ph.D.(C'neil)  
John E. Crawford; B.A., M.A.(Tor.), Ph.D.(McG.)  
Jonathan K.P. Lee; B.Eng., M.Sc., Ph.D.(McG.)

*Professors*

Jean Barrette; B.Sc., M.Sc., Ph.D.(Montr.)  
Cliff Burgess; B.Sc.(Waterloo), Ph.D.(Texas) (*James McGill Professor*)  
François Corriveau; B.Sc.(Laval), M.Sc.(U.B.C.),  
DocteurSc.Nat.(Zurich)  
Subal Das Gupta; B.A., M.Sc.(Calc.), Ph.D.(McM.) (*William C. Macdonald Professor of Physics*)  
Nicholas DeTakacsy; B.Sc., M.Sc.(Montr.), Ph.D.(McG.)  
Charles Gale; B.Sc.(Ott.), M.Sc., Ph.D.(McG.)  
Martin Grant; B.Sc.(P.E.I.), M.Sc., Ph.D.(Tor.) (*James McGill Professor*)  
Hong Guo; B.Sc.(Sichuan), M.Sc., Ph.D.(Pitt.)  
David Hanna; B.Sc.(McG.), M.A., Ph.D.(Harv.)  
Richard Harris; B.A.(Oxon.), D.Phil.(Sus.)  
Harry C.S. Lam; B.Sc.(McG.), Ph.D.(M.I.T.) (*E. Rutherford Professor of Physics*)  
Shaun Lovejoy; B.A.(Cantab.), Ph.D.(McG.)  
Robert B. Moore; B.Eng., M.Sc., Ph.D.(McG.)  
Popat M. Patel; B.Sc., M.Sc.(Manc.), Ph.D.(Harv.)  
Dominic H. Ryan; B.A., Ph.D.(Trin.Coll.)  
John O. Strom-Olsen; B.A., M.S., Ph.D.(Cantab.)  
Mark Sutton; B.Sc., M.Sc., Ph.D.(Tor.)  
Jorge Vinals; B.Sc., M.Sc., Ph.D. (Barcelona)  
Luc Vinet; B.Sc., M.Sc., Ph.D.(Montr.), Doctorat 3<sup>e</sup> cycle (Paris VI)  
(*joint appoint. with Mathematics & Statistics*)

*Associate Professors*

James M. Cline; B.Sc.(Calif.), M.Sc., Ph.D.(Cal Tech.)  
Peter Grutter; Dipl., Ph.D.(Basel) (*William Dawson Scholar*)  
Victoria Kaspi; B.Sc.(McG.), M.A., Ph.D.(Princ.)(*Canada Research Chair*)  
Kenneth J. Ragan; B.Sc.(Alta.), Ph.D.(Geneva)

*Assistant Professors*

Roland Bennewitz; Dipl., Ph.D. (Freie Universität Berlin)  
Aashish Clerk; B.Sc., (Toronto), Ph.D. (Cornell)  
Michael Hilke; B.Sc., M.Sc., Ph.D.(Geneva)  
Maria Kilfoil; B.Sc. (New Brunswick), M.Sc.(Memorial),  
Ph.D.(Memorial)  
Sangyong Jeon; B.Sc.(Seoul), M.Sc., Ph.D.(Wash.)  
Guy Moore; B.Sc.(Calif.), Ph.D.(Prin.)

Steve Robertson; B.Sc., (Calgary), M.Sc., (Victoria), Ph.D.  
(Victoria)  
Bob Rutledge; B.Sc., (Southern California), Ph.D. (MIT)  
Andreas Warburton; B.Sc.(Vic.), M.Sc., Ph.D.(Tor.)  
Paul Wiseman; B.Sc.(St.F.X.), Ph.D.(W.Ont.) (*joint appoint. with Chemistry*)

*Lecturers*

Z. Altounian; B.Sc., M.Sc.(Cairo), Ph.D.(McM.)  
F. Buchinger; M.Sc., Dr.(Mainz)

*Associate Members*

R. Davies (*Atmospheric & Oceanic Sciences*),  
B.C.Eu (*Chemistry*), G.Fallone (*Radiation Oncology*),  
M.Mackey (*Physiology*), E.Podgorsak (*Radiation Oncology*),  
D.Ronis

prerequisites of the 100-level courses are described in the follow-



**U1 Required Courses** (29 credits)**U2 Required Courses** (18 credits)**U2 or U3 Required Courses** (6 credits)**U3 Required Courses** (15 credits)

**JOINT MAJOR IN PHYSIOLOGY AND PHYSICS**, see page342 under Physiology. This program provides a firm basis for graduate work in bio-physics and other interdisciplinary fields involving the physical and biological sciences.

**HONOURS IN PHYSICS** (78 credits)

Students entering this program for the first time should have high standing in mathematics and physics. In addition, a student who has not completed the equivalent of MATH222 must take it in the first term without receiving credits toward the 78credits required in the Honours program.

A student whose average in the required and complementary courses in any year falls below a GPA of 3.00, or whose grade in any individual required or complementary course falls below a C

**JOINT MAJOR IN ATMOSPHERIC SCIENCE AND PHYSICS**, see page305 under Atmospheric and Oceanic Sciences. This program provides a firm basis for graduate work in atmospheric science and related fields as well as a sound preparation for those who wish to embark on a career directly after the B.Sc. Students should consult undergraduate advisers in both departments.

**JOINT MAJOR IN PHYSICS AND COMPUTER SCIENCE**  
(66credits)

The Joint Major in Physics and Computer Science is designed to give motivated students the opportunity to combine the two fields in a way that will distinguish them from the graduates of either field by itself. The two disciplines complement each other, with physics providing an analytic problem-solving outlook and basic understanding of nature, while computer science enhances the ability to make practical and marketable applications, in addition to having its own theoretical interest. Graduates of this program may be able to present themselves as being more immediately useful than a pure physics major, but with more breadth than just a programmer. They will be able to demonstrate their combined expertise in the Special Project course which is the centrepiece of the final year of the program.

**U1 Required Courses** (21 credits)

**JOINT HONOURS IN MATHEMATICS AND PHYSICS**

(81 credits)

This is a specialized and demanding program intended for students who wish to develop a strong basis in both Mathematics and Physics in preparation for graduate work and a professional or academic career. Although the program is optimized for theoretical physics, it is broad enough and strong enough to prepare students for further study in either experimental physics or in mathematics.

The minimum requirement for entry into the program is completion with high standing of the usual CEGEP courses in physics and in mathematics. In addition, a student who has not completed the equivalent of MATH222 must take it in the first term without receiving credits toward the 81 credits required in the Joint Honours program.

A student whose average in the required and complementary courses in any year falls below a GPA of 3.00, or whose grade in any individual required or complementary course falls below a C (in both the final examination and supplemental examination if taken), may not register in this Joint Honours program the following year, or graduate with the Joint Honours degree, except with permission of both Departments.

The student will have two advisers, one from Mathematics and the other from Physics.

**U1 Required Courses (27 credits)**

MATH235	(3)	Basic Algebra
MATH248	(3)	Advanced Calculus 1
MATH249	(3)	Advanced Calculus 2
MATH325	(3)	Ordinary Differential Equations
PHYS241	(3)	Signal Processing
PHYS251	(3)	Classical Mechanics 1
PHYS257	(3)	Experimental Methods 1
PHYS258	(3)	Experimental Methods 2
PHYS260	(3)	Modern Physics and Relativity

**U1 Complementary Course (3 credits)**

3 credits selected from:

MATH251	(3)	Algebra 2
MATH247	(3)	Linear Algebra

**U2 Required Courses (27 credits)**

MATH242	(3)	Analysis 1
MATH255	(3)	Analysis 2
MATH375	(3)	Differential Equations
PHYS253	(3)	Thermal Physics
PHYS350	(3)	Electromagnetism
PHYS357	(3)	Quantum Physics
PHYS362	(3)	Statistical Mechanics
PHYS451	(3)	Classical Mechanics
PHYS457	(3)	Quantum Physics

**U3 Required Courses (12 credits)**

MATH354	(3)	Analysis 3
MATH380	(3)	Differential Geometry
PHYS352	(3)	Electromagnetic Waves
PHYS359	(3)	Laboratory in Modern Physics

**U3 Complementary Courses (12 credits)**

3 credits selected from:

MATH370	(3)	Algebra 3
MATH355	(3)	Analysis 4

6 credits selected from:

PHYS479	(3)	Honours Research Project
PHYS514	(3)	General Relativity
PHYS551	(3)	Quantum Theory
PHYS521	(3)	Astrophysics
PHYS557	(3)	Nuclear Physics
PHYS558	(3)	Solid State Physics
PHYS559	(3)	Advanced Statistical Mechanics
PHYS562	(3)	Electromagnetic Theory
PHYS567	(3)	Particle Physics

3 credits in Honours Mathematics

**JOINT HONOURS IN PHYSICS AND CHEMISTRY (80 credits)**

This is a specialized and demanding program intended primarily, although not exclusively, for students with a theoretical bias who are interested in working in fields of study at the crossroads of physical chemistry and physics. The program will prepare students for either theoretical or experimental graduate work in departments where there is an emphasis on such cross-disciplinary areas as condensed matter physics, chemical physics, or material science.

A student whose average in the required and complementary courses in any year falls below a GPA of 3.00, or whose grade in any individual required or complementary course falls below a C (in both the final examination and supplemental examination if taken), may not register in this Joint Honours program the following year, or graduate with the Joint Honours degree, except with permission of both Departments.

**U1 Required Courses (28 credits)**

CHEM213	(3)	Introductory Physical Chemistry
CHEM273	(1)	Chemical Kinetics
MATH247	(3)	Linear Algebra
MATH248	(3)	Advanced Calculus 1
MATH249	(3)	Advanced Calculus 2
MATH325	(3)	Ordinary Differential Equations
PHYS241	(3)	Signal Processing
PHYS251	(3)	Classical Mechanics 1
PHYS257	(3)	Experimental Methods 1
PHYS258	(3)	Experimental Methods 2

**U2 Required Courses (26 credits)**

CHEM212	(4)	Introductory Organic Chemistry 1
CHEM281	(3)	Inorganic Chemistry 1
CHEM355	(3)	Molecular Properties and Structure 2
CHEM363	(2)	Physical Chemistry Laboratory 1
CHEM365	(2)	Statistical Thermodynamics
COMP208	(3)	Computers in Engineering
PHYS253	(3)	Thermal Physics
PHYS350	(3)	Electromagnetism
PHYS357	(3)	Quantum Physics
PHYS457	(3)	Quantum Physics

**U3 Required Courses (14 credits)**

CHEM393	(2)	Physical Chemistry Laboratory 2
CHEM455	(3)	Introductory Polymer Chemistry
CHEM556	(3)	Advanced Quantum Mechanics
PHYS352	(3)	Electromagnetic Waves
PHYS558	(3)	Solid State Physics

**U3 Complementary Courses (12 credits)**

(with at least 3 credits in Chemistry and 3 credits in Physics)

3 credits selected from:

CHEM593	(3)	Statistical Mechanics
PHYS559	(3)	Advanced Statistical Mechanics

9 credits selected from:

CHEM480	(3)	Research Project
and CHEM490	(3)	Research Project
CHEM531	(3)	Chemistry of Inorganic Materials
CHEM575	(3)	Chemical Kinetics
CHEM585	(3)	Colloid Chemistry
MATH375	(3)	Differential Equations
PHYS434	(3)	Optics
PHYS451	(3)	Classical Mechanics
PHYS469	(3)	Laboratory in Modern Physics 2
PHYS479	(3)	Honours Research Project
PHYS562	(3)	Electromagnetic Theory

**MINOR IN ELECTRICAL ENGINEERING (23 or 25 credits)**

[Program registration done by Student Affairs Office]

The Minor program does not carry professional recognition. Only students who satisfy the requirements of the Major in Physics are eligible for this Minor. Students registered for this option cannot count PHYS241 towards the requirements of the Major in Phys-

ics, and should replace this course by another Physics or Mathematics course. Students who select ECSE334 in the Minor cannot count PHYS328 towards the requirements of the Major in Physics, and should replace this course by another Physics or Mathematics course.

**Required Courses** (17 or 19 credits)

## 12.25 Physiology (PHGY)

McIntyre Medical Sciences Building, Room 1021  
3655 Promenade Sir-William-Osler  
Montreal, QC H3G 1Y6

Telephone: (514) 398-4316

Fax: (514) 398-7452

Website: [www.medicine.mcgill.ca/physio](http://www.medicine.mcgill.ca/physio)

*Chair* — Alvin Shrier

*Emeritus Professors*

G. Melvill Jones; B.A., M.A., M.B., B.Ch., M.D.(Cantab.)  
Kresmir Krnjevic; O.C., B.Sc., Ph.D., M.B., Ch.B.(Edin.), F.R.S.C.

*Professors*

Thomas M.S. Chang; B.Sc., M.D., C.M., Ph.D.(McG.), F.R.C.P.(C)  
Monroe W. Cohen; B.Sc., Ph.D.(McG.)

Ellis J. Cooper; B.Eng.(Sir G.Wms.), M.Sc.(Surrey), Ph.D.(McM.)

Mony M. Frojmovic; B.Sc., Ph.D.(McG.)

Leon Glass; B.S.(Brooklyn), Ph.D.(Chic.) (*Isadore Rosenfeld*

*Professor of Cardiology*)

Phil Gold; C.C., B.Sc., M.Sc., Ph.D., M.D., C.M.(McG.),

F.R.C.P.(C.), F.R.S.C. (*joint appoint. with Medicine*)

David Goltzman; B.Sc., M.D., C.M.(McG.) (*Antoine G. Massabki*

*Professor of Medicine*) (*joint appoint. with Medicine*)

John Hanrahan; Ph.D.(U.B.C.)

Wayne S. Lapp; M.S.A.(Tor.), Ph.D.(McG.)

Mortimer Levy; B.Sc., M.D., C.M.(McG.), F.R.C.P.(C) (*joint*

*appoint. with Medicine*)

Michael Mackey; B.A., Ph.D.(Wash.) (*Joseph Morley Drake*

*Professor of Physiology*)

Jacapo P. Mortola; M.D.(Milan)

John Orłowski; B.Sc.(McG.), M.Sc., Ph.D.(Queen's) (*James*

*McGill Professor*)

Premysl Ponka; M.D., Ph.D.(Prague)

Alvin Shrier; B.Sc.(C'odia), Ph.D.(Dal.) (*Hosmer Professor of*

*Physiology*)

Douglas G.D. Watt; M.D., Ph.D.(McG.)

*Assistant Professors*

Julie Desbarats; Ph.D.(McG.)

Peter Swain; Ph.D.(Univ. London)

*Assistant Professor (Part Time)*

Anne Marie Lauzon; B.Sc., M.Sc., Ph.D.(McG.)

*Associate Professors*

Kathleen Cullen; B.Sc.(Brown), Ph.D.(Chicago) (*William Dawson*

*Scholar*)

Riaz Farookhi; B.Sc., M.Sc.(M.I.T.), Ph.D.(Tufts)

Mladen Glavinovic; B.Sc.(Zagreb), M.Sc.(Tor.), Ph.D.(McG.)

Michael Guevara; B.Sc., M.Eng., Ph.D.(McG.)

Sheldon Magder; M.D.(Tor.) (*joint appoint. with Medicine*)

Ursula Stochaj; Ph.D.(Cologne)

Teresa Trippenbach; M.D., Ph.D.(Warsaw)

Ann Wechsler; B.A.(Tor.), M.Sc., Ph.D.(McG.)

John White; B.Sc., M.Sc.(Car.), Ph.D.(Harv.)

*Associate Professor (Part Time)*

Nicole Bernard; B.Sc.(McG.), Ph.D.(Duke)

*Associate Members*

Anaesthesia: Steven Backman

Biomedical Engineering: Robert E. Kearney, Satya Prakash,  
Tomoko Takano

Dentistry: James Lund

Medicine: Albert Aguayo, Angel Alonso, AndreyCybulsky,  
SamuelO.Freedman, AbrahamFuks, ClaudeGagnon,  
RaymondeGagnon, HarryGoldsmith, GeoffreyHendy,  
LouiseLarose, PeterMacklem, James Martin, ShreeMulay,  
MarianaNewkirk, BarryPosner, Shafaat Rabbani,  
J.EnriqueSilva, AlanSniderman, MaryStevenson,  
SimonWing, HansZingg

Neurology & Neurosurgery: MassimoAvoli, CharlesBourque,  
SaIT.Carbonetto, PierreDrapeau, DanielGuitton,  
MichaelRasminsky

Ophthalmology: Curtis Baker

Otolaryngology: BernardSegal

Pediatrics: ImmanuelaMoss, CharlesRohlicek

Psychiatry:BernardoDubrovsky, ChristinaGianoulakis

*Adjunct Professors*

Roy Caplan, Montreal

Terence Hebert, Montreal

James Henry, London (ON)

John Milton, Chicago

Serge Rossignol, Montreal

Malmur R.I. Sairam, Montreal

Physiology has its roots in many of the basic sciences including biology, chemistry, mathematics, and physics. Physiology overlaps with other biomedical sciences such as anatomy, biochemistry, pathology and pharmacology, and with psychology and biomedical engineering, and is one of the prime contributors of basic scientific knowledge to the clinical medical sciences.

Members of the Department of Physiology at McGill are engaged in studies dealing with molecules, single cells, or entire systems in a variety of vertebrates, including man. A wide range of interest and expertise is represented, including cardiovascular, respiratory, gastrointestinal and renal physiology, the physiology of exercise, neurophysiology, endocrinology, immunology, biophysics and biomathematics. Some faculty members have formal or informal links with the departments of mathematics, physics, electrical engineering, and chemistry, and with clinical departments (medicine, surgery, pediatrics, neurology, obstetrics, psychiatry, anesthesia), reflecting and reinforcing the close ties between physiology and other disciplines.

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**U1 Complementary Courses** (9 credits)**U2 Required Courses** (21 credits)**U2 Complementary Course** (6 credits)**U2 or U3 Required Courses** (6 credits)**U3 Required Courses** (21 credits)**HONOURS IN PHYSIOLOGY** (75 credits)

All admissions to the Honours program will be in U2, and the student must have a U1 GPA of 3.30, with no less than a B in PHGY209 and PHGY210. Admission to U3 requires a U2 CGPA of 3.20 with no less than a B in U2 Physiology courses. Decisions for admission to U3 will be heavily influenced by student standing in U2 courses.

The Department reserves the right to restrict the number of entering students in the Honours program. Students who do not maintain Honours standing may transfer their registration to the Major Program in Physiology.

The deadline to apply to the Honours Program is June 1. Application forms are available in McIntyre 1021. Students should include in their letters telephone numbers where they can be reached during the last week of August. Students are responsible for picking up their letters of decision in McIntyre 1021 no later than one week before classes start.

Graduation: To graduate from the Honours Physiology Program the student will have a CGPA of 3.20 with a mark no less than a B in all Physiology courses.

If not previously taken CHEM212 Introductory Organic Chemistry 1 must be completed in addition to the 75 program credits.

**Required Courses** (60 credits)**Complementary Courses** (15 credits)

**INTERDEPARTMENTAL HONOURS IN IMMUNOLOGY**, see page 326. This program is offered by the Departments of Biochemistry, Microbiology and Immunology, and Physiology. Physiology students interested in the program should contact Dr. W.S. Lapp.

**12.26 Psychiatry (PSYT)**

There are no B.Sc. programs in Psychiatry, but the PSYT courses listed in the Courses section of this Calendar are administered by the Faculty of Science and are not considered as courses outside of Arts and Science.

**12.27 Psychology (PSYC)**

Stewart Biological Sciences Building, Room W8/1  
1205 Avenue Docteur Penfield  
Montreal, QC, H3A1B1

Telephone: (514) 398-6100

Fax: (514) 398-4896

E-mail: info@psych.mcgill.ca

Website: www.psych.mcgill.ca

*Chair* — K.B.J. Franklin

*Emeritus Professors*

Albert S. Bregman; M.A.(Tor.), Ph.D.(Yale)

Virginia I. Douglas; B.A.(Qu.), M.A., M.S.W., Ph.D.(Mich.)

Wallace E. Lambert; M.A.(Colgate), Ph.D.(N.Carolina), F.R.S.C.

A.A.J. Marley; B.Sc.(Birm.), Ph.D.(Penn.)

Ronald Melzack; M.Sc., Ph.D.(McG.), F.R.S.C. (*E.P. Taylor*)

*Emeritus Professor of Psychology*

Peter M. Milner; B.Sc.(Leeds), M.Sc., Ph.D.(McG.)

*Professors*

Frances E. Aboud; B.A.(Tor.), M.A., Ph.D.(McG.)

Irving M. Biniok; B.A.(N.Y.U.), B.H.L.(Jewish Theological Seminary), M.A., Ph.D.(Penn.)



dents to complete all necessary requirements for admission to their preferred graduate programs.

The essential differences between the Honours and the Major program are an emphasis on research methodology courses and practice in the Honours program, and that higher academic standards are required of Honours students. Honours students also have an opportunity to work in small groups closely with staff members.

### INFORMATION MEETINGS FOR NEW STUDENTS

All new students entering the Psychology undergraduate program are required to attend an Information Meeting prior to registration. Students who have been accepted into a Bachelor of Science program in Psychology must attend the meeting on August 25, 2004 at 13:00. The meeting will be held in Room S1/4 of the Stewart Biological Sciences Building. Students accepted into a Bachelor of Arts program must attend a separate information meeting. For details, consult the Psychology program listing in the Faculty of Arts section. At this meeting, Nicole Allard, the Academic Adviser, will explain the requirements of the Department's programs. Incoming students will have an opportunity to ask questions and receive advice on how to plan their courses. After this meeting students will make appointments for individual advising sessions, during which they will fill out their Study Plan form for registration.

Entering students must bring their letter of acceptance and a copy of their collegial transcript(s). They will also need this Calendar and a preliminary Class Schedule. Students will also find the Psychology Department Handbook helpful. It contains more detailed descriptions of psychology courses, as well as providing guidelines for how students might pursue particular areas of interest. The Handbook is available on the Department Website, [www.psych.mcgill.ca/ugrad/ugradm.htm](http://www.psych.mcgill.ca/ugrad/ugradm.htm)

Students entering the Psychology program in January are encouraged to call the academic advisor, Nicole Allard, in December to clarify their course selections.

### MINOR IN PSYCHOLOGY (24 credits)

A Minor program in Psychology is available to students registered in any B.Sc. program (other than Psychology). This program is intended to complement a student's primary field of study by providing a focused introduction to specialized topics in psychology.

A separate Minor Concentration exists for students registered in a program in the Faculty of Arts. Please consult the Psychology listing in the Faculty of Arts section for more information.

The Minor program for Science students requires the completion of 24credits, of which no more than 6 may overlap with the primary program. All courses in the Minor program must be passed with a minimum grade of C. A prerequisite to the program is PSYC204 or equivalent, see section 3.6.1 "Course Overlap".

### Complementary Courses (24 credits)

at least 3, but no more than 6, credits selected from:

- PSYC211 (3) Intro Behavioural Neuroscience
- PSYC212 (3) Perception
- PSYC213 (3) Cognition
- PSYC215 (3) Social Psychology

18-21 credits selected from among Psychology courses at the 300level or above

### FACULTY, MAJOR, HONOURS PROGRAMS IN PSYCHOLOGY

#### Recommended Background

It is expected that most students who enter a Major, Honours or Faculty Program in Psychology will have taken introductory psychology, biology and statistics at the collegial level. Recommended CEGEP courses include: Psychology 350-101 or 350-102 or equivalent, Biology CEGEP objective 00UK, 00XU or equivalent, Statistics (Mathematics) 201-307 or 201-337 or equivalent. Students must obtain a minimum grade of 75% in their CEGEP level statistics course. In the first year those students who have not taken the recommended collegial level statistics course, or those who have obtained a grade below 75%, must take Psychology PSYC204. Those who have not taken the recommended collegial

level biology must take BIOL111 or BIOL112, and those who have not taken Introductory Psychology in college must take PSYC100.

### Course Groups: List A and List B

The study of psychology covers many fields. To develop a breadth of understanding in psychology, students are expected to obtain knowledge beyond the introductory level in two or more areas of psychology. To ensure this requirement is met, Psychology courses are divided into two lists. List A covers the areas of behavioural neuroscience, cognition and quantitative methods. List B covers social, health and developmental psychology.

#### List A

##### (Behavioural Neuroscience, Cognition and Quantitative Methods)

- |         |     |   |
|---------|-----|---|
| PSYC301 | (3) | Learning                                      |
| PSYC308 | (3) | Behavioural Neuroscience 1                    |
| PSYC310 | (3) | Human Intelligence                            |
| PSYC311 | (3) | Human Cognition and the Brain                 |
| PSYC317 | (3) | Genes and Behaviour                           |
| PSYC318 | (3) | Behavioural Neuroscience 2                    |
| PSYC334 | (3) | Computer Simulation - Psychological Processes |
| PSYC335 | (3) | Formal Models: Psychological Processes        |
| PSYC336 | (3) | Measurement of Psychological Processes        |
| PSYC340 | (3) | Psychology of Language                        |
| PSYC341 | (3) | The Psychology of Bilingualism                |
| PSYC342 | (3) | Hormones and Behaviour                        |
| PSYC352 | (3) | Laboratory in Cognitive Psychology            |
| PSYC353 | (3) | Laboratory in Human Perception                |
| PSYC403 | (3) | Modern Psychology in Historical Perspective   |
| PSYC406 | (3) | Psychological Tests                           |
| PSYC410 | (3) | Special Topics in Neuropsychology             |
| PSYC413 | (3) | Cognitive Development                         |
| PSYC427 | (3) | Sensorimotor Behaviour                        |
| PSYC451 | (3) | Human Factors Research and Techniques         |
| PSYC470 | (3) | Memory and Brain                              |
| PSYC472 | (3) | Scientific Thinking and Reasoning             |
| PSYC503 | (3) | Computational Psychology                      |
| PSYC505 | (3) | The Psychology of Pain                        |
| PSYC510 | (3) | Statistical Analysis of Tests                 |
| PSYC522 | (3) | Neurochemistry and Behaviour                  |
| PSYC526 | (3) | Advances in Visual Perception                 |
| PSYC529 | (3) | Music Cognition                               |
| PSYC531 | (3) | Structural Equation Models                    |
| PSYC532 | (3) | Cognitive Science                             |
| PSYC536 | (3) | Correlational Techniques                      |
| PSYC541 | (3) | Multilevel Modelling                          |

#### List B (Social, Health and Developmental Psychology)

- |           |     |   |
|-----------|-----|---|
| PSYC304   | (3) | Child Development                         |
| PSYC316   | (3) | Psychology of Deafness                    |
| PSYC331   | (3) | Inter-Group Relations                     |
| PSYC332   | (3) | Introduction to Personality               |
| PSYC333   | (3) | Personality and Social Psychology         |
| PSYC337   | (3) | Introduction: Abnormal Psychology 1       |
| PSYC338   | (3) | Introduction: Abnormal Psychology 2       |
| PSYC343   | (3) | Language Acquisition in Children          |
| PSYC351   | (3) | Research Methods in Social Psychology     |
| PSYC408   | (3) | Principles of Cognitive Behaviour Therapy |
| PSYC412   | (3) | Deviations: Child Development             |
| PSYC414   | (3) | Social Development                        |
| PSYC416   | (3) | Advanced Topics in Child Development      |
| PSYC429   | (3) | Health Psychology                         |
| PSYC436   | (3) | Human Sexuality and its Problems          |
| PSYC471   | (3) | Human Motivation                          |
| PSYC473   | (3) | Social Cognition and the Self             |
| PSYC474   | (3) | Interpersonal Relationships               |
| PSYC491D1 | (3) | Advanced Study: Behavioural Disorders and |
| PSYC491D2 | (3) | Advanced Study: Behavioural Disorders     |
| PSYC511   | (3) | Infant Competence                         |
| PSYC530   | (3) | Applied Topics in Deafness                |
| PSYC533   | (3) | International Health Psychology           |

**B.Sc. HONOURS IN PSYCHOLOGY** (54 credits)

Honours in Psychology prepares students for graduate study, and so emphasizes practice in the research techniques which are used

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**B.Sc. FACULTY PROGRAM IN PSYCHOLOGY** (54 credits)

**Note:** Students in the Faculty of Science who select Arts courses must have a total of at least 54 credits in Science courses among the 90 credits for the B.Sc. degree. Students are expected to have whatever prerequisites are described in this Calendar.

A Faculty Program in Psychology is a sequence of courses which represents a lesser degree of specialization than a Major or an Honours program. A minimum grade of C is required in all 54 program credits. Students completing the Faculty Program should have their complementary course selection approved by the Chief Academic Advisor of the Psychology Department.

**U1 Required Courses** (12 credits)

**Complementary Courses** (42 credits)

**B.Sc. MAJOR IN PSYCHOLOGY** (54 credits)

Students majoring in Psychology must obtain a minimum grade of C in all 54 credits of the program. A grade lower than C may be made up by taking another equivalent course (if there is one), by successfully repeating the course, or by successfully writing a supplemental examination (if there is one).

**U1 Required Courses** (12 credits)

**U1 or U2 Required Course** (3 credits)

**Complementary Courses** (39 credits)



6 credits in Psychology from List A

6 credits in Psychology from List B

9 credits at the 300 level or above selected from: Anatomy and Cell Biology (ANAT), Biochemistry (BIOC), Biology (BIOL), Chemistry (CHEM), Computer Science (COMP), Mathematics (MATH), Physiology (PHGY), Psychiatry (PYST), Psychology (PSYC).

\* Please see Faculty Regulations concerning Project Courses, section 3.6.2.

## 12.28 Science for Teachers

Rutherford Physics Building  
3600 University Street  
Montreal, QC, H3A 2T8

Fax: (514) 398-8434

E-mail: bscbed@physics.mcgill.ca

Coordinator - Science — R. Harris

Coordinator - Education — M. Schwartz

The training and certification of school teachers has traditionally been the responsibility of the Faculty of Education and normally requires the completion of a Bachelor of Education.

The Faculties of Education and of Science have introduced a number of measures to make the B.Ed. degree as accessible as possible to Science students, subject to Ministry of Education regulations. Two of these measures are the Minor in Education for Science Students and the Concurrent B.Sc./B.Ed. programs.

The Concurrent B.Sc./B.Ed. is intended as a very rigorous but rewarding alternative to taking the B.Sc. and the B.Ed. in sequence. The Concurrent program is specifically designed to train teacher/scientists. The program is rigidly structured and closely integrated so as to satisfy the academic requirements of both degrees.

Concurrency is an essential characteristic of the B.Sc./B.Ed.; it is not intended that the Science and Education components be taken separately and then combined. Normally students will be admitted to both components of the Concurrent Program simultaneously, but it is possible for Science students to opt into this program at any time during their B.Sc. program. However, because this is a concurrent program, both degrees must be granted at the same Convocation. It will not be possible to receive one degree first, and the other subsequently.

Students in the Concurrent Program may apply to transfer to either a conventional B.Sc. or a conventional B.Ed program. To do so, they must submit a Faculty Transfer Application to the appropriate Student Affairs Office. The decision will be based on their grades in the relevant component of the Concurrent Program. Students who do transfer to a conventional program may not transfer back to the Concurrent Program.

Students who receive an F or J in an Education Field Experience course are placed in unsatisfactory standing. Although they may complete their term, they are required to withdraw from the Concurrent Program. However, they may apply to transfer to a conventional B.Sc. program as outlined above.

To be admitted, candidates must satisfy the admission requirements of both faculties.

Students who wish to be registered in the Concurrent Program must contact one of the coordinators through the Student Affairs Office of either faculty.

**MINOR IN EDUCATION FOR SCIENCE STUDENTS** (18 credits)  
[Program revisions are under consideration for September 2004. Contact the Program Adviser or go to [www.mcgill.ca](http://www.mcgill.ca) (Course Calendars) in July for details.]

Program Adviser —

Student Affairs Office, Faculty of Education  
[www.mcgill.ca/edu-sao/minors](http://www.mcgill.ca/edu-sao/minors)

This Minor allows Science students to develop or explore an interest in Education without committing themselves to completing a

B.Ed. degree. Only a few students are prepared to commit to a teaching career at the start of university, but many students see it as a viable option toward the end of their B.Sc. program. At that time, Science students who have taken this Minor in Education will have completed a substantial number of the necessary credits for the B.Ed. degree. Students whose B.Sc. degree also substantially matches the content of one of the concurrent B.Sc./B.Ed. programs (see below) are likely eligible for the maximum number of 60 Advanced standing credits, as specified in the Faculty of Education section "Advanced Standing/Transfer Credits" on page 177.

The 18 credits for the Minor are the same courses approved by the Faculty of Science as Education electives within the Concurrent B.Sc./B.Ed.

### Required Courses (12 credits)

EDEC402 (3) Media, Technology and Education

EDEM405 (3) Policy issues in Quebec Education

EDPE300 (3) Educational Psychology

EDPI309\* (3) Exceptional Students

\* Students should consult the Program Adviser for clarification on the prerequisite for EDPI309.

### Complementary Courses (6 credits)

3 credits from:

EDER400 (3) Philosophical Foundations of Education

EDER398 (3) Philosophy of Catholic Education

3 credits from:

EDEC410 (3) Multi-Cultured/Multi-Racial Class

EDER464 (3) Intercultural Education

EDEE441 (3) First Nations and Inuit Education

## CONCURRENT B.SC./B.ED.PROGRAM

### Students entering the Concurrent B.Sc./B.Ed. Program in September 2004 will follow the program described below.

Students registered in the Concurrent B.Sc./B.Ed. Program before September 2004 should refer to the program described in the 2003-04 Undergraduate Programs Calendar.

This program has been designed to provide students with the opportunity to attain a Bachelor of Science degree and a Bachelor of Education degree after **135 credits of study (165 credits for students who have not completed the basic sciences)**.

The two components of the Concurrent Program are the B.Ed. Secondary Program and one of the B.Sc. programs for teachers. These two components are described in what follows, including an identification of the elements that are counted towards the requirements of both degrees. These provisions are exceptional and apply exclusively to the Concurrent Program.

The following Science components have been approved for the Concurrent Program:

- biology, with chemistry
- biology, with physics
- chemistry, with biology
- chemistry, with physics
- physics, with biology
- physics, with chemistry
- mathematics.

### Bachelor of Education Secondary Program (120 credits)

The aim of this B.Ed. is to prepare teachers for the secondary school level through a program of academic studies and professional studies centred on school-based practicum components supported by courses in pedagogy, curriculum and educational foundations. In the case of the Concurrent Program, the academic component must be chosen from those listed above.

See the Faculty of Education for a full description of the "Bachelor of Education Secondary Program" on page 187. In summary, it consists of the following:

**Academic components (54 credits):** in the present case these courses will be selected from the B.Sc. components of the Concurrent Program, and will count towards both degrees.

**Professional components (60 credits):** these include professional seminars, field experiences, foundation courses, pedagogy courses, and pedagogical support courses.

Pedagogy courses for the Concurrent program must include EDES370 Teaching General Science and EDEC335 Teaching Secondary Science, **or**, if Mathematics is the academic component chosen, EDES353 Secondary School Mathematics 1 and EDEC 338 Secondary School - Mathematics 2.

The following 18 credits can be included as electives in the B.Sc. component of the Concurrent program, and will count towards both degrees: EDEC402, EDEM405, EDPI309, EDPE300, either EDER400 or EDER398, and one of EDEC410, EDPE300, or EDPI309.

**Electives (6 credits).**

**Bachelor of Science Major or Major Concentration with a Minor for Teachers (120credits)**

These B.Sc. programs, with the exception of the Major in Mathematics, are designed specifically as the Science component of the Concurrent B.Sc./B.Ed. Program. The general structure of these B.Sc. programs is as follows:

**Basic sciences (30 credits).** Quebec students with a DCS in Science are granted 30 credits advanced standing and will have normally completed the equivalent of, and are therefore exempt from, the basic science courses in biology, chemistry, mathematics and statistics, and physics. Students with satisfactory results in International Baccalaureate, French Baccalaureate and Advanced Levels, and Advanced Placement tests may be exempt from some or all of the basic science courses.

**Required and complementary courses (54-70 credits).**

The details of these programs are given below. Note that 54 of these credits can be counted towards the academic component of the B.Ed. program, but only for students in the Concurrent Program.

**Elective courses (20-36 credits).** These are electives from the B.Sc. perspective, but they must be suitably chosen if the student wishes to complete the Concurrent Program with the minimum of 135 credits. The following Education courses can count towards both the B.Sc. and the B.Ed. components of the Concurrent Program.

**MAJOR CONCENTRATION IN BIOLOGY WITH A MINOR IN CHEMISTRY FOR TEACHERS (69 or 70 credits)**

This program includes the 36 credits of the MAJOR CONCENTRATION IN BIOLOGY - CELL/ MOLECULAR OPTION on page 170 **or** the 37 credits of the MAJOR CONCENTRATION IN BIOLOGY - ORGANISMAL OPTION on page 170, and the 18 credits of the MINOR IN CHEMISTRY on page 31.25 0 17 /ra75 -9 e Tc -onQp1a05, and (1363 50-39822 J03RT) 8 25 0 (1503Q.820r200a2160a098JTW 0

**MAJOR IN MATHEMATICS FOR TEACHERS** (54 credits)

This program includes the 54 credits of the MAJOR IN MATHEMATICS on page 330. Students taking the Major in Mathematics as part of the Concurrent Program are **required** to include the following courses as part of the Major.

COMP202*	(3)	Introduction to Computing 1
MATH324	(3)	Statistics
MATH338	(3)	History and Philosophy of Mathematics
MATH348	(3)	Topics in Geometry

\* or equivalent

**12.29 Technological Entrepreneurship for Science Students**

Science students who wish to become entrepreneurs or to enter small to medium-sized companies in the high technology sector will find within this Minor a set of six (6) courses that cover relevant management concepts and skills.

Also available to Science students is the Minor in Management, see page 327.

Acceptance to the program is both competitive and restricted. Application procedures will be announced in September. Please consult Ron Critchley, Student Adviser, Faculty of Management Student Affairs Office, Bronfman 176, for details.

Students registered in the Minor in Technological Entrepreneurship for Science Students may not take additional courses outside the Faculties of Arts and of Science.

To obtain the Minor, all courses must be completed with a grade of C or better.

Please note: the courses must be taken sequentially over five terms, as follows: ACCT210, MRKT360 and either MGCR320 or ORGB321, BUSA465, MGPO562, BUSA466.

**MINOR IN TECHNOLOGICAL ENTREPRENEURSHIP FOR SCIENCE STUDENTS** (18 credits)**Required Courses** (15 credits)

ACCT210	(3)	Accounting for Managers
MRKT360	(3)	Marketing of Technology
BUSA465	(3)	Technological Entrepreneurship
MGPO562	(3)	Seminar in Organizational Strategy
BUSA466	(3)	Technological Entrepreneurship Project

**Complementary Courses** (3 credits)

one of the following courses:

MGCR320	(3)	Managing Human Resources
ORGB321	(3)	Leadership



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both the Academic Adviser and the instructor of the appropriate McGill course.

Full-time students may, with the written approval of the Student Affairs Office, register for 3 credits, or exceptionally 6 credits, in each term at any university in the province of Quebec. These courses successfully completed with a minimum grade of C (according to the standards of the university giving the course), will be recognized for the purpose of the degree but the grades obtained will not enter into calculations of GPA in this Faculty. For further details, see "Quebec Inter-University Transfer Agreement (IUT)" on page 53.

### 5.9 Regulations re Second Academic Programs

While registered in a Major in the Faculty of Agricultural and Environmental Sciences, a student may pursue a second set of courses of greater scope than a Minor (e.g., Faculty Program, Major, Honours Program, Major Concentration) in either this faculty or another faculty. Application for a second academic program shall be made to the Associate Dean (Student Affairs) in the Student Affairs Office, 106 Laird Hall. Following are the regulations and procedures for Second Academic Programs:

1. The applicant for a Second Academic Program must be in Satisfactory academic standing with a minimum CGPA of 3.00.
2. The applicant, in consultation with the appropriate authority associated with each program (Academic Adviser, Associate Dean) must construct a proposal showing all the courses that are to be taken to satisfy the entrance and program requirements of both the First and Second Academic Programs.
3. A minimum of 36 credits must be unique to the second major (i.e., not part of the Required or Complementary courses taken for the first major).
4. Students in the Faculty of Agricultural and Environmental Sciences must obtain prior approval for all proposed Second Academic Programs from their Academic Adviser and the Student Affairs Office and from the Associate Dean, adviser or appropriate committee of the other faculty concerned.
5. Normally, proposals for Second Academic Programs will be initiated before completion of U1 year of the first academic program.
6. The academic standards applicable to each program will be respected.

### 5.10 Academic Standing

1. When a student's CGPA (or TGPA in the first term of the program) falls below 2.00, the student's academic standing becomes Probationary and withdrawal is advised but not required.
2. Students in Probationary standing may register for no more than 14 credits per term.
3. While in Probationary standing students must achieve a TGPA of 2.50 to continue in Probationary standing or a CGPA of 2.00 in order to return to Satisfactory standing. Failure to meet at least one of these conditions will result in Unsatisfactory standing. (In the case of Fall Term, this will be Interim Unsatisfactory standing and the rules for Probationary standing will apply.)
4. When a student's CGPA (or TGPA in the first term of the program) falls below 1.50, the student's academic standing becomes Unsatisfactory and withdrawal is required. (In the case of Fall Term, the standing will be Interim Unsatisfactory standing and the rules for Probationary standing will apply.)
5. Students in Unsatisfactory standing are required to withdraw. Application for readmission may be made only after registration has been interrupted for at least one term (not including Summer term).
6. Readmission will be in the standing Unsatisfactory Readmit and a CGPA of 2.00 must be achieved to return to Satisfactory standing or a TGPA of 2.50 must be achieved for Probationary

standing. Failure to meet at least one of these conditions will result in requirement for permanent withdrawal.

### 5.11 Course Change Information

1. Courses: please refer to "Course Change Period" on page 43 and the Calendar of Dates.
2. Course withdrawal (Transcript notation of "W"): please refer to "Regulations Concerning Withdrawal" on page 43 and the Calendar of Dates.
3. Other changes: Information about changes may be obtained from the Student Affairs Office of the Faculty. Application for changes must be made to the Committee on Academic Standing.

### 5.12 Classes/Courses Available to Undergraduates

Students who are registered in a program in the Faculty of Agricultural and Environmental Sciences must maintain a minimum cumulative grade point average (CGPA) of at least 2.00. Students who are registered in a program in the Faculty of Agricultural and Environmental Sciences must maintain a minimum cumulative grade point average (CGPA) of at least 2.00. Students who are registered in a program in the Faculty of Agricultural and Environmental Sciences must maintain a minimum cumulative grade point average (CGPA) of at least 2.00. Students who are registered in a program in the Faculty of Agricultural and Environmental Sciences must maintain a minimum cumulative grade point average (CGPA) of at least 2.00.

### 5.16 Dean's Honour List

The designation *Dean's Honour List* may be awarded to graduating students under the following conditions:

- students must have completed a minimum of 60 McGill credits to be considered;
- students must be in the top 10% of the Faculty's graduating students.

### 5.17 Medals and Prizes

Various medals, scholarships and prizes are open to graduating students. No application is required. Full details of these are set out in the *Undergraduate Scholarships and Awards Calendar*, available in the Student Affairs Office, Laird Hall, Room 106 or on the Web at [www.mcgill.ca](http://www.mcgill.ca).

## 6 Academic Programs

### 6.1 Department of Agricultural Economics

Raymond Building – Room R3-019  
 Telephone: (514) 398-7820  
 Fax: (514) 398-8130  
 Website: [www.agrenv.mcgill.ca/agrecon](http://www.agrenv.mcgill.ca/agrecon)

*Chair* — John C. Henning

*Associate Professors* — Laurence Baker, JohnC. Henning, Paul Thomassin

*Assistant Professor* — Ka-Yan Diana Mok

*Lecturers* — Joan Marshall, Marielle Savard

#### AGRICULTURAL ECONOMICS MAJOR

Increasingly complex economic problems facing the agriculture and food system and our natural environment have intensified the need for specialized knowledge and training in the field of agricultural economics. The curriculum is designed to provide students with the knowledge, analytical and decision-making skills required in a career in agribusiness, resource management, international development, and research. The selection of courses from the agribusiness, agricultural system or natural resource economics options permits a degree of specialization along those lines, in conjunction with the core courses listed below.

Graduates are eligible to apply for membership in the Ordre des agronomes du Québec (OAQ) if they fulfill the agronomic course requirements (consult the academic adviser).

**Core Required Courses:** 39 credits

**Core Complementary Courses:** 12 credit.

	<b>CREDITS</b>
<b>Required Courses:</b>	<b>39</b>
AGEC200 Principles of Microeconomics	3
AGEC201 Principles of Macroeconomics	3
AGEC230 Agricultural and Food Marketing	3
AGEC231 Economic Systems of Agriculture	3
AGEC242 Management Theories and Practices	3
AGEC320 Economics of Agricultural Production	6

#### AGRIBUSINESS OPTION

Whether one has interests in agricultural supply, production, marketing, finance, food processing or retailing, professional management skills are the key to success. The agribusiness option prepares students for managerial responsibility by drawing on the resources of both the Faculty of Management and the Faculty of Agricultural and Environmental Sciences. This special partnership provides students with not only a first-class business training but also a specialization in the field of agriculture.

**Core Required and Complementary Courses:** 51 credits

**Option Required and Complementary Courses:** 21 credits

**Electives:** to meet the minimum 90-credit requirement for the degree.

#### AGRICULTURAL SYSTEMS OPTION

The smooth functioning of the agriculture and food system requires good market analysis and appropriate policy and program development and management in the public sector. Agricultural economists are called upon to perform these tasks, utilizing their knowledge of the economic forces that affect the industry and the methods of analysis to predict the outcome of the numerous changes that occur. The agricultural systems orientation is intended to provide students with a broad understanding of the many dimensions of agriculture and food systems, including economic development, international agriculture, and food and agricultural policy.

**Core Required and Complementary Courses:** 51 credits.

**Option Required and Complementary Courses:** 21 credits.

**Electives:** to meet the minimum 90-credit requirement for the degree.



**Required Courses:** 27 credits  
**Complementary Course:** 3 credits

	<b>CREDITS</b>
<b>Required Courses:</b>	<b>27</b>
AGEC200 Principles of Microeconomics	3
AGEC230 Agricultural and Food Marketing	3
AGEC242 Management Theories and Practices	3
AGEC343 Accounting and Cost Control	3
AGEC344 Entrepreneurial Leadership	3
AGEC450 Agriculture Business Management	3
AGEC453 Venture Capital Opportunities	3
AGEC492 Special Topics in Agricultural Economics	3
NUTR446 Applied Human Resources	3
<b>Complementary Course:</b>	<b>3</b>
one of the following courses:	
ENVR201 (3) Society and Environment	
ENVR203 (3) Knowledge, Ethics and Environment	
RELG270 (3) Religious Ethics and the Environment	

## 6.2 Department of Animal Science

Macdonald Stewart Building - Room MS1-084  
 Telephone: (514) 398-7794  
 Fax: (514) 398-7964  
 E-mail: [animal.science@mcgill.ca](mailto:animal.science@mcgill.ca)  
 Website: [www.mcgill.ca/animal](http://www.mcgill.ca/animal)

*Chair* — Xin Zhao

*Emeritus Professor* — John E. Moxley

*Professors* — Roger B. Buckland, Eduardo R. Chavez, Bruce R. Downey, Kwet Fane Ng Kwai Hang, Flannan Hayes, Urs Kuhnlein

*Associate Professors* — Roger I. Cue, Humberto G. Monardes, Leroy E. Phillip, Kevin Wade, David Zadworny, Xin Zhao (*William Dawson Scholar*)

*Assistant Professors* — Vilceu Bordignon, René Lacroix (PT), Arif F. Mustafa, Ciro Ruiz-Feria

*Associate Member* — Ri-Cheng Chian

*Adjunct Professors* — Pierre Lacasse, Daniel Lefebvre, Bruce Murphy

The Department of Animal Science offers Majors in Animal Science and Animal Biology.

### ANIMAL SCIENCE MAJOR

Academic Advisers: K.M. Wade (U1), K.F. Ng-Kwai-Hang (U2), E.R. Chavez (U3)

The curriculum in Animal Science involves intensive training in both the basic and applied biological sciences as related to domestic animals and qualifies the graduate for membership in the Ordre des agronomes du Québec and other professional organizations. Graduates generally enter agricultural industries, mainly sales and marketing, government service (Provincial or Federal), extension, teaching or post-graduate studies. Some students go on to study veterinary medicine. Students are strongly advised to obtain at least 3 months' practical experience on a commercial livestock farm before graduation.

**Required Courses:** 63 credits

**Complementary Courses:** 6 credits

**Electives:** selected in consultation with Academic Adviser, to meet the minimum 90-credit requirement for the degree.

	<b>CREDITS</b>
<b>Required Courses:</b>	<b>63</b>
3	

### ANIMAL BIOLOGY MAJOR

Academic Adviser: H. Monardes

The Animal Biology Major is directed towards students who wish to further their studies in the basic biology of the larger mammals and birds. Successful completion of the program will enable students to qualify in applying to most professional schools in North America, to post-graduate schools in a variety of biological-oriented programs, and to work in most laboratory settings. The program is not intended for students wishing to become professional agrologists.

**Required Courses:** 34 credits

**Complementary Courses:** 24 credits, minimum

**Electives:** selected in consultation with Academic Adviser, to meet the minimum 90-credit requirement for the degree.

WILD424 (3) Parasitology  
 or WILD350 (3) Mammalogy

The student may replace up to 12 credits of the complementary courses listed above by choosing, with the student adviser's approval, any course offerings (300 level or higher) in Anatomy and Cell Biology, Biochemistry, Biology, Microbiology and Immunology, Neurology and Neurosurgery, Pharmacology and Therapeutics, Physiology, and Psychology. Any prerequisites for these courses must be taken as electives.

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### 6.3 Department of Bioresource Engineering

Macdonald Stewart Building – Room MS1-027  
 Telephone: (514) 398-7773  
 Fax: (514) 398-8387  
 E-mail: robert.kok@mcgill.ca  
 Website: www.mcgill.ca/agreng

*Chair* — Robert Kok

*Emeritus Professor* — Robert S. Broughton

*Professors* — Suzelle Barrington, Robert Kok,  
 Chandra Madramootoo (*James McGill Professor*),  
 Edward McKyes, Shiv O. Prasher (*James McGill Professor*),  
 G.S. Vijaya Raghavan (*James McGill Professor*)

*Associate Professors* — Robert B. Bonnell (*Brace Centre for Water Resources Management*), Eric R. Norris,  
 John D. J. Sheppard

*Assistant Professor* — Michael O. Ngadi (*William Dawson Scholar*), Ning Wang

#### BIORESOURCE ENGINEERING MAJOR

The Department of Bioresource Engineering collaborates with other departments and the Faculty of Engineering in providing courses of instruction for a curriculum in Bioresource Engineering. Graduates qualify for registration as professional engineers in any province of Canada.

Via the appropriate choice of elective course sets, a particular area of study may be emphasized. Principal options are: Bio-Environmental Engineering, Soil and Water Engineering, Food and Bioprocess Engineering, and Agricultural Engineering.

All required courses must be passed with a minimum grade of C, and one term is spent taking courses from the Faculty of Engineering on the McGill Downtown Campus.

Students also have the opportunity to pursue a **Minor**. Several possibilities are: Agricultural Production, Environment, Ecological Agriculture, Biotechnology, Computer Science, Construction Engineering and Management, Entrepreneurship, and Environmental Engineering. Details of these Minors can be found in the Faculty of Engineering "Minor Programs and Choice of Electives or Complementary Courses" on page 226. To complete a Minor, it is necessary to spend at least one extra term beyond the normal requirements of the B.Eng.(Bioresource) program.

**Required Courses:** 50 credits

**Complementary Courses:** 61 credits

		<b>CREDITS</b>
<b>Required Courses:</b>		<b>50</b>
ABEN205	Elements of Bioresource Engineering	3
ABEN210	Mechanical Analysis and Design	3
ABEN252	Computing for Engineers	3
ABEN301	Biothermodynamics	3
ABEN305	Fluid Mechanics	3
ABEN312	Electric Circuits and Machines	3
ABEN319	Engineering Mathematics	3
ABEN327	Bio-Environmental Engineering	3
ABEN341	Mechanics of Materials	3
ABEN481	Undergraduate Seminar 1	.5
ABEN482	Undergraduate Seminar 2	.5
ABEN483	Undergraduate Seminar 3	.5
ABEN484	Undergraduate Seminar 4	.5
ABEN485	Undergraduate Seminar 5	.5

Minor. The Academic Adviser of the Agricultural Engineering Minor will then certify which courses the student will apply toward the Minor and that the student's program conforms with the requirements of the Minor.

**General Regulations**

To obtain a Minor in Agricultural Engineering, students must:

- a) Ensure that their academic record at the University includes a C grade or higher in the courses as specified in the course requirements given below.
- b) Offer a minimum total of 24 credits from the courses as given below, of which not more than 6 credits may be counted for both the Major and the Minor programs. This restriction does not apply to elective courses in the Major program.

**Required Courses:** 18 credits

**Complementary Courses:** 6 credits

**ENVIRONMENTAL ENGINEERING MINOR**

The Minor program consists of 27 credits in courses that are environment related. By means of a judicious choice of complementary and elective courses, Bioresource Engineering students may obtain this Minor with a minimum of 12 additional credits. The Environmental Engineering Minor, see page 228, is administered by the Faculty of Engineering, Department of Civil Engineering and Applied Mechanics.

**Courses available in the Faculty of Agricultural and Environmental Sciences:** (partial listing)

**Notes:**ard

**MINOR IN AGRICULTURAL ENGINEERING**

[Program revisions are under consideration for September 2004. Go to [www.mcgill.ca](http://www.mcgill.ca) (Course Calendars) in July for details.]

Academic Adviser: Professor R.B. Bonnell

Engineering systems are now being emphasized in animal and crop production, management and utilization of waste products, production of value-added materials and by-products, protection of natural resources, conservation and management of ecosystems, soil and water decontamination, and the development of new food, fibre and pharmaceutical products. Computer-based systems play a major role in the management of information, and process control in many of the above technologies.

A non-professional Minor in Agricultural Engineering, consisting of 24 credits of Bioresource Engineering courses is available for students registered in the B.Sc.(Agr.Env.Sc.) and B.Sc.(F.Sc.) programs. A total of 18 credits of required Bioresource Engineering courses will emphasize basic engineering applications. Selection of 6 complementary credits from a wide range of Bioresource Engineering courses will allow more focused study in a specific area.

Students are advised to consult their Major Program adviser and the Academic Adviser of the Minor in their first year. At the time of registration for their penultimate year, students must declare their intent to obtain a Minor in Agricultural Engineering. With the agreement of their Major Program adviser they must submit their program of courses already taken, and to be taken in their final year, to the Academic Adviser of the Agricultural Engineering







The Minor program does not carry professional recognition; therefore, it is not suitable for students wishing to become nutritionists or dietitians. However, successful completion may enable students to qualify for many post-graduate nutrition programs.

**Required Courses:** 6 credits

**Complementary Courses:** 18 or 19 credits

**Notes:**

1. Most courses listed at the 300 level and higher have prerequisites. Although instructors may waive prerequisite(s) in some cases, students are urged to prepare their program of study well before their final year.
2. Some courses may not be offered every year. For information on available courses, consult Class Schedule at [www.mcgill.ca/minerva](http://www.mcgill.ca/minerva); complete listings can be found in the Courses section of this Calendar.

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**6.5 Department of Food Science and Agricultural Chemistry**

Macdonald Stewart Building – Room MS1-034

Telephone: (514) 398-7898

Fax: (514) 398-7977

E-mail: [foodscience@macdonald.mcgill.ca](mailto:foodscience@macdonald.mcgill.ca)

Website:

[www.mcgill.ca/foodscience](http://www.mcgill.ca/foodscience)

time of registration for the U2 year, students must declare their intent to obtain the Minor. With the agreement of their Major Program adviser they must submit their program of courses already taken, and to be taken, to the academic adviser of the Minor. The academic adviser of the Minor will then certify which courses the



AGRI340	Principles of Ecological Agriculture	3
AGRI341	Ecological Agriculture Systems	3
WILD205	Principles of Ecology	3

**Complementary Courses:** 16 to 19

at least one of:

ANSC323	(4) Mammalian Physiology
PLNT353	(4) Plant Structure and Function

at least one production course in Agricultural Science:

AGEC331	(3) Farm Business Management
ANSC450	(3) Dairy Cattle Production
ANSC452	(3) Beef Cattle and Sheep Production
ANSC454	(3) Swine Production
ANSC456	(3) Poultry Production
PLNT331	(3) Field Crops

at least 3 credits must be chosen from three of the four blocks below:

AGRI201D1	(3) Agri-Environment Internship
and AGRI201D2	(3) Agri-Environment Internship
AGRI435	(3) Soil and Water Quality Management
SOIL335	(3) Soil Ecology and Management
SOIL490	(3) Plan global de fertilisation intégrée
SOIL521	(3) Soil Microbiology and Biochemistry
MICR331	(3) Microbial Ecology
PLNT434	(3) Weed Biology and Control
PLNT460	(3) Plant Ecology
AGEC333	(3) Resource Economics
ENVR201	(3) Society and Environment
ENVR400	(3) Environmental Thought

**AGRICULTURAL SCIENCES INTERNSHIP MAJOR – ECOLOGICAL AGRICULTURE OPTION (96credits)**

**Required Courses:** 73 credits

**Complementary Courses:** 13 credits

**Electives:** selected in consultation with Academic Adviser, to meet the minimum 96-credit requirement for the degree.

**CREDITS** 73

**Required Courses:**

All of the required courses (61 credits) specified for the Agricultural Sciences Major – Ecological Agriculture Option, with the addition of:

AGRI201D1	Agri-Environment Internship	3
AGRI201D2	Agri-Environment Internship	3
AGRI301D1	Agrology Internship	3
AGRI301D2	Agrology Internship	3

**Complementary Courses:** 13

at least one of:

ANSC323	(4) Mammalian Physiology
PLNT353	(4) Plant Structure and Function

at least one production course in Agricultural Science:

AGEC331	(3) Farm Business Management
ANSC450	(3) Dairy Cattle Production
ANSC452	(3) Beef Cattle and Sheep Production
ANSC454	(3) Swine Production
ANSC456	(3) Poultry Production
PLNT331	(3) Field Crops

at least 3 credits must be chosen from two of the three blocks below:

AGRI435	(3) Soil and Water Quality Management
SOIL335	(3) Soil Ecology and Management
SOIL490	(3) Plan global de fertilisation intégrée
SOIL521	(3) Soil Microbiology and Biochemistry
MICR331	(3) Microbial Ecology
PLNT434	(3) Weed Biology and Control
PLNT460	(3) Plant Ecology
AGEC333	(3) Resource Economics

ENVR201	(3) Society and Environment
ENVR400	(3) Environmental Thought

**AGRICULTURAL SCIENCES MAJOR – INTERNATIONAL AGRICULTURE OPTION (90credits)**

**Required Courses:** 58 credits

**Complementary Courses:** 16 credits

**Electives:** selected in consultation with Academic Adviser, to meet the minimum 90-credit requirement for the degree.

**CREDITS**

**Required Courses:** 58

All of the required courses (52 credits) specified for the Agricultural Sciences Major – General Option, with the addition of:

AGRI411	International Agriculture	3
AGEC442	Economics of International Agricultural Development	3

**Complementary Courses:** 16

at least one of:

ANSC323	(4) Mammalian Physiology
PLNT353	(4) Plant Structure and Function

at least one production course in Agricultural Science:

AGEC331	(3) Farm Business Management
ANSC450	(3) Dairy Cattle Production
ANSC452	(3) Beef Cattle and Sheep Production
ANSC454	(3) Swine Production
ANSC456	(3) Poultry Production
PLNT331	(3) Field Crops

a minimum of 9 credits chosen from the following:

ANTH212	(3) Anthropology of Development
POLI227	(3) Developing Areas/Introduction
SOCI254	(3) Development and Underdevelopment
GEOG216	(3) Geography of the World Economy
GEOG404	(3) Environmental Management 2
AGRI341	(3) Ecological Agriculture Systems
AGRI305	(3) Barbados Agro-Ecosystems
AGEC430	(3) Agriculture, Food and Resource Policy
NUTR501	(3) Nutrition in Developing Countries

**AGRICULTURAL SCIENCES INTERNSHIP MAJOR – INTERNATIONAL AGRICULTURE OPTION (96credits)**

**Required Courses:** 70 credits

**Complementary Courses:** 16 credits

**Electives:** selected in consultation with Academic Adviser, to meet the minimum 96-credit requirement for the degree.

**CREDITS**

**Required Courses:** 70

All of the required courses (58 credits) specified for the Agricultural Sciences Major – International Agriculture Option, with the addition of:

AGRI201D1	Agri-Environment Internship	3
AGRI201D2	Agri-Environment Internship	3
AGRI301D1	Agrology Internship	3
AGRI301D2	Agrology Internship	3

**Complementary Courses:** 16

As described for the Agricultural Sciences Major – International Agriculture Option.



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PLNT300	Cropping Systems	3
PLNT305	Plant Pathology	3
PLNT310	Plant Propagation	3
PLNT353	Plant Structure and Function	4
PLNT358	Flowering Plant Diversity	3
PLNT434	Weed Biology and Control	3
PLNT495	Seminar 1	1
PLNT496	Seminar 2	1
SOIL210	Principles of Soil Science	3
SOIL315	Soil Fertility and Fertilizer Use	3

**Complementary Courses:** 18

at least one of:

- ABEN300 (3) Elements of Agricultural Engineering
- ENTO452 (3) Control of Insect Pests

A minimum of 3 credits selected from the following list:

- AGEC231 (3) Economic Systems of Agriculture
- AGEC320 (3) Economics of Agricultural Production
- AGEC331 (3) Farm Business Management
- AGEC350 (3) Agricultural Finance

plus a minimum of 12 credits selected from the course list given below:

- FDSC310 (3) Post Harvest Fruit and Vegetable Technology
- PLNT215 (1) Orientation in Plant Science
- PLNT220 (1) Introduction to Vascular Plants
- PLNT221 (1) Introduction to Fungi
- PLNT322 (3) Greenhouse Management
- PLNT331 (3) Field Crops
- PLNT341 (1) Horticulture - The Alliums
- PLNT342 (1) Horticulture - Cole Crops
- PLNT343 (1) Horticulture - Root Crops
- PLNT344 (1) Horticulture - Salad Crops
- PLNT345 (1) Horticulture - Solanaceous Crops
- PLNT346 (1) Horticulture - Temperate Fruits
- PLNT347 (1) Horticulture - Small Fruits
- PLNT348 (1) The Brassicas
- PLNT421 (3) Landscape Plant Materials
- PLNT460 (3) Plant Ecology
- PLNT535 (3) Plant Breeding

**MINOR IN AGRICULTURAL PRODUCTION**

Academic Adviser: Professor K. A. Stewart  
E-mail: [Katrine.Stewart@mcgill.ca](mailto:Katrine.Stewart@mcgill.ca)

This Minor program is designed to allow students in non-agricultural production Majors to receive credit for courses in agricultural production and to stimulate "cross over" studies. The Minor can be associated with existing Major programs in the Faculty, but in some instances it may require more than 90credits to meet the requirements of both the Major and the Minor.

Students are advised to consult their Major Program adviser and the Academic Adviser of the Minor in their first year. At the time of registration for their penultimate year, students must declare their intent to obtain a Minor in Agricultural Production. With the agreement of their Major Program adviser they must submit their program of courses already taken, and to be taken in their final year, to the Academic Adviser of the Agricultural Production Minor. The Academic Adviser of the Agricultural Production Minor will then certify which courses the student will apply toward the Minor and that the student's program conforms with the requirements of the Minor.

**General Regulations**

To obtain a Minor in Agricultural Production, students must:

- a) ensure that their academic record at the University includes a C grade or higher in the courses as specified in the course requirements given below.
- b) offer a minimum total of 24credits from the courses as given below, of which not more than 6credits may be counted for both the Major and the Minor programs. This restriction does not apply to elective courses in the Major program.

**Required Courses:** 12 credits  
**Complementary Courses:** 12 credits

<b>Required Courses:</b>		<b>12</b>
ANSC250	Principles of Animal Science	3
PLNT211	Principles of Plant Science	3
PLNT300	Cropping Systems	3
SOIL210	Principles of Soil Science	3

**Complementary Courses:** 12  
12 credits chosen from the following list in consultation with the Academic Adviser for the Minor:

- ANSC450 (3) Dairy Cattle Production
- ANSC452 (3) Beef Cattle and Sheep Production
- ANSC454 (3) Swine Production
- ANSC456 (3) Poultry Production
- PLNT331 (3) Field Crops
- PLNT341 (1) Horticulture - The Alliums
- PLNT342 (1) Horticulture - Cole Crops
- PLNT343 (1) Horticulture - Root Crops
- PLNT344 (1) Horticulture - Salad Crops
- PLNT345 (1) Horticulture - Solanaceous Crops
- PLNT346 (1) Horticulture - Temperate Fruits
- PLNT347 (1) Horticulture - Small Fruits
- PLNT348 (1) The Brassicas

**Notes:**

1. Most courses listed at the 300level and higher have prerequisites. Although instructors may waive prerequisite(s) in some cases, students are urged to prepare their program of study well before their final year.
2. Not all courses are offered every year. For information on available courses, consult Class Schedule at [www.mcgill.ca/minerva](http://www.mcgill.ca/minerva); complete listings can be found in the Courses section of this Calendar.

**7 Graduate Programs**

Graduate work may be undertaken on the Macdonald Campus, through the Departments of Agricultural Economics, Animal Science, Bioresource Engineering, Food Science and Agricultural Chemistry, Natural Resource Sciences, and Plant Science; the Institute of Parasitology; and the School of Dietetics and Human Nutrition.

The advanced courses of study offered lead to the degrees of Master of Science, Graduate Certificate in Biotechnology, and Doctor of Philosophy.

Information on these programs and related fellowships is available from the Student Affairs Office, Macdonald Campus of McGill University, Sainte-Anne de Bellevue, QC H9X3V9.

The *Graduate and Postdoctoral Studies Calendar* and full information regarding graduate courses, theses, registration, fellowships, etc. can be accessed on the McGill Website [www.mcgill.ca](http://www.mcgill.ca)

**8 Farm Management and Technology Program**

Farm Management and Technology Program  
Faculty of Agricultural and Environmental Sciences  
P.O. Box 204, Macdonald Campus of McGill  
21,111 Lakeshore Road  
Sainte-Anne-de-Bellevue, Quebec, H9X 3V9

Telephone: (514) 398-7814 Fax: (514) 398-7955  
E-mail: [fmt@macdonald.mcgill.ca](mailto:fmt@macdonald.mcgill.ca)  
Website: [www.mcgill.ca/fmt](http://www.mcgill.ca/fmt)

**Director - Marcel J. Couture**

## 8.1 Program – FMT

The Farm Management and Technology (FMT) program is a three (3)-year academic and practical program offered on the Macdonald Campus and taught by the staff of the Faculty of Agricultural and Environmental Sciences of McGill University. The program is funded by the Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec and authorized by the Ministère de l'Éducation du Québec.

The educational goals of the program are:

1. to make graduates competent in the exercise of their profession;
2. to help the student's integration into professional life;
3. to foster professional mobility;
4. to foster a need for continual development of professional knowledge.

Six academic terms are spent on the Macdonald Campus studying a sequence of courses in soil, plant science, animal science, engineering, economics and management. The first summer of the program is spent on a farm other than the home farm where the student learns the many skills and encounters the many problems related to modern commercial agriculture. Students will prepare for this 13-week practicum through a one-week internship during both academic semesters of Year 1.

During the second summer, students will be encouraged to acquire additional farm experience away from the home farm. This could be a farm enterprise or another field of activities in the agri-food sector. Students could also choose to spend their second summer on their home farm, where they would be responsible for data collection to be used in their Farm Project and the Agro-Environmental Fertilization Plan. The internships and practicums will enable the students to relate their academic work to the reality of farming.

Finally, courses in English, French, Humanities, Physical Education and two complementary courses taken during the program will entitle the student to receive a Diplôme d'études collégiales (DEC) from the Ministère de l'Éducation du Québec. Students will also receive a certification from Macdonald Campus stating that they have successfully completed the requirements of the Farm Management and Technology Program.

**Note:** Admission to this program is only in the Fall semester.

## 8.2 Entrance Requirements – FMT

1. Students should have a good practical knowledge of farming under eastern Canadian conditions. One year of experience is recommended but under special conditions a four-month summer season is acceptable.
2. The minimum academic entrance requirements are a Quebec High School Leaving Certificate (Secondary V), or its equivalent and any other academic requirement set by the M.E.Q.
3. All candidates for admission must make arrangements to come to the Macdonald Campus for an interview prior to admission to the program.

Although it is not an entrance requirement, incoming students are strongly encouraged to acquire their driver's permit (for cars **and** for farm equipment) before coming to Macdonald Campus. This is both for safety reasons, given that students begin working with farm equipment very early in the program, and because most farmers require that their employees and stagiaires know how to drive

### COMPLEMENTARY COURSES \*

Students must take the following complementary courses to meet the program requirements:

FMTF 096 Forests, Forestry and Society

FMTF 097 Landscape Design

\* After consultation with their academic adviser, students can substitute complementary courses taken at another collegial institution.

### COMPREHENSIVE ASSESSMENT

The objective of this examination is to ensure that students have attained the objectives and standards for every competency in the program. Successful completion of the Comprehensive Assessment is mandatory to obtain the D.E.C.

The passing grade will be 60%. The mark stating that the student has successfully completed the Comprehensive Assessment will appear on the student's transcript. The student who failed the comprehensive assessment will be offered the possibility of another try the following year.

### ENGLISH EXIT EXAMINATION

All students who wish to graduate and obtain the D.E.C. must pass the English Exit Examination that is offered by the M.E.Q. Students must take this examination on the date selected by the M.E.Q.

- to describe the means of translating these principles into practice and to establish the required procedures;
- to articulate the appropriate responsibilities of students, instructors, departments, and academic administrators;
- to account to students, parents, universities and employers for the standards of learning at the campus;
- to create an environment of awareness and free discussion of pedagogical concerns within all segments of the campus community;
- to provide information which will allow students to more fully understand and participate in the educational process;
- to provide the framework within which instructors and academic administrators can exercise their professional judgement in a competent, just, and coherent fashion.

Copies of the Policy are available in the Library and students are informed of it at registration time.

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## 8.5 Academic Rules and Regulations – FMT

### 8.5.1 Sessional Dates

The number of teaching and examination days is set by the Ministère de l'Éducation du Québec. The sessional dates vary from year to year. At the present time, each semester has 75 teaching days and 7 days of exams.

### 8.5.2 Last Day for Withdrawal or Course Additions

The last day to make course registration changes for Fall term courses will be September 20.

The last day to make course registration changes for Winter term courses will be February 15.

### 8.5.3 Academic Standing

Attendance in class is compulsory. Students with an attendance of less than 80% may not be permitted to write examinations.

Examinations and other work in courses will be marked according to the percentage system. The minimum passing mark in a course is 60%.

When a student's cumulative percent average (CPA) or semestrial percent average (SPA) first drops below 60%, or they fail four or more courses in a semester, withdrawal is advised. Students who choose to remain in the program are on probation.

Students on probation are normally permitted to register for not more than 10 credits per semester. They are not permitted to be on probation for more than one semester unless they obtain an SPA of 70% or higher.

Students who do not raise their CPA to 60% (or obtain an SPA of 70%) while on probation are not permitted to continue. They are required to withdraw from the Program for one year. If after this period, students wish to be readmitted, they must apply in writing to the Director of the Program.

### 8.5.4 Handbook on Student Rights and Responsibilities

This Handbook is a compendium of regulations and policies governing student rights and responsibilities at McGill University. It is published jointly by the Dean of Students' Office and the Secretariat. Copies of the Handbook are available in the Library and students are informed of it at registration time.

### 8.5.5 Institutional Policy on the Evaluation of Student Achievement

The policy has the following objectives:

- to establish and explain the principles followed in evaluating student learning;

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## 8.6 Fees and Expenses – FMT

### 8.6.1 Fees

Tuition fees for all full-time students who are eligible for the Farm





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2. **Domain:** Domains provide a trans-disciplinary study of a particular theme or component of the environment.
3. **Senior Core and Research:** In the two senior courses of the Core, students will apply the general and specialized knowledge that they have gained in the program to the analysis of some specific, contemporary environmental problems.

To obtain a B.A. Faculty Program in Environment students must:

- a. register in a Domain on-line, using Minerva;
- b. satisfy the co- / prerequisites for the program (calculus and a basic science course);
- c. pass all courses counted towards the Faculty Program with a **grade of C or higher** ;
- d. confirm that their course selection satisfies the required components of the MSE Core and their chosen Domain, and that the complementary courses are approved courses in their chosen Domain; and
- e. fulfill all Faculty requirements as specified for the B.A. in the Arts "Faculty Degree Requirements" on page 48, which include meeting the minimum credit requirement as specified in their letter of admission.

**B.A. FACULTY PROGRAM IN ENVIRONMENT (54 credits)**

C:ree

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## **5.2 Economics and the Earth's Environment Domain**

This Domain (54 credits including Core) is open only to students in the B.A. Faculty Program in Environment.

Adviser: Professor Don Baker  
E-mail: donb@eps.mcgill.ca  
Telephone: (514) 398-7485

Understanding Earth's geologic processes provides us with the knowledge to mitigate many of our society's environmental impacts due to resource extraction and waste disposal. This

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### **5.3 Environment and Development Domain**

This Domain (54credits including Core) is open only to students in the B.A. Faculty Program in Environment.

Adviser: Mr. Pete Barry, MSE Program Coordinator  
E-mail: [info.mse@mcgill.ca](mailto:info.mse@mcgill.ca)  
Telephone: (514) 398-4306

The quest for sustainable paths to economic development requires scholars and practitioners to transcend the boundaries of traditional disciplines. This Domain offers students sufficient depth and breadth of study to acquire a strong grasp of current theories, concepts, and approaches to environment and development. It

GEOG496	(3)	Regional Geographical Excursion (in Barbados)
GEOG498	(3)	Humans in Tropical Environments (in Panama)
GEOG510	(3)	Humid Tropical Environments
GEOG551	(3)	Environmental Decisions
INTD497	(3)	Research Seminar on International Development
MGPO440	(3)	Strategies for Sustainability
POLI445	(3)	IPE: NorthSouth Relations
POLI472	(3)	Developing Areas/ Social Movements
SOCI565	(3)	Social Change in Panama (in Panama)

## 6 Major in Environment – B.Sc.(Ag.Env.Sc.) and B.Sc.

Students in the Faculty of Agricultural and Environmental Sciences B.Sc.(Ag.Env.Sc.) program and students in the Faculty of Science B.Sc. program can register in the Major in Environment.

The Major has two components: Core and Domain. Students follow three steps in their degree program.

- 1. Core:** The Core consists of four introductory courses and one intermediate-level course where students are exposed to the different approaches, perspectives, and world views that will help them gain an understanding of the complexity and conflicts that underlie most environmental problems. Through the Core program students go beyond the confines of their individual views of environment.
- 2. Domain:** Domains provide a trans-disciplinary study of a particular theme or component of the environment.
- 3. Senior Core and Research:** In the two senior courses of the Core, students will apply the general and specialized knowledge that they have gained in the program to the analysis of some specific, contemporary environmental problems.

To obtain a Major in Environment, students must:

- register in a Domain, on-line using Minerva;
- pass all courses counted towards the Major with **a grade of C or higher**;
- confirm that their course selection satisfies the required components of the MSE Core and their chosen Domain, and that the complementary courses are approved courses in their chosen Domain; and
- fulfill all Faculty requirements as specified by the faculty in which they are registered: for the B.Sc. (Ag.Env.Sc.) refer to Agricultural and Environmental Sciences "Faculty Information and Regulations" on page304; for the B.Sc. refer to Science "Faculty Degree Requirements" on page246. This includes meeting the minimum credit requirement as specified in their letter of admission.

**MAJOR PROGRAM IN ENVIRONMENT** (57 to 66 credits—depending upon Domain selected)

**Core: Required Courses** (18 credits)

The Core courses are listed below in the Domain descriptions.

**Core: Complementary Course – Senior Research Project** (3credits)

The research courses are listed in the Domain descriptions.

**Domain**

Each Domain has different requirements which are listed below. Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at [www.mcgill.ca/minerva](http://www.mcgill.ca/minerva).

### 6.1 Biodiversity and Conservation Domain

This Domain (63creditsincluding Core) is open only to students in the B.Sc (Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

Advisers: Professor Graham Bell

E-mail: [graham.bell@mcgill.ca](mailto:graham.bell@mcgill.ca)

Telephone: (514) 398-4086 ext. 4087

Professor David Green

E-mail: [david.m.green@mcgill.ca](mailto:david.m.green@mcgill.ca)

Telephone: (514) 398-4086 ext. 4088

This Domain links the academic study of biological diversity with the applied field of conservation biology. The study of biological diversity, or 'biodiversity', lies at the intersection of evolution with ecology and genetics, combining the subdisciplines of evolutionary ecology, evolutionary genetics and ecological genetics. It has two main branches, the creation of diversity and the maintenance of diversity. Both processes are governed by a general mechanism of selection acting over different scales of space and time. This gives rise to a distinctive set of principles and generalizations that regulate rates of diversification and levels of diversity, as well as the abundance or rarity of different species. Conservation biology constitutes the application of these principles in the relevant social and economic context to the management of natural systems, with the object of preventing the extinction of rare species and maintaining the diversity of communities. As the impact of industrialization and population growth on natural systems has become more severe, conservation has emerged as an important area of practical endeavour.

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at [www.mcgill.ca/minerva](http://www.mcgill.ca/minerva).

**Courses offered at Macdonald Campus are marked with an (M). (Core Required courses are offered on both campuses.)**

**NOTE: Students are required to take a maximum of 30 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes Core and Required courses.**

**Core: Required Courses** (18 credits)

**Core: Complementary Course – Senior Research Project** (3credits\*)

**Domain: Required Courses** (9 credits)

**Domain: Complementary Courses** (33 credits)

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## 6.2 Ecological Determinants of Health Domain

This Domain (63 credits including Core) is open only to students in the B.Sc (Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

Adviser: Professor Tim Johns  
E-mail: [johns@macdonald.mcgill.ca](mailto:johns@macdonald.mcgill.ca)  
Telephone: (514) 398-7847

This Domain considers the interface between the environment and human well-being, with particular focus on the triad that ties human health to the environment through the elements of food and infectious agents. Each of these elements is influenced by planned and unplanned environmental disturbances.

For example, agricultural practices shift the balance between beneficial and harmful ingredients of food. Use of insecticides presents dilemmas with regard to the environment, economics and human health. The distribution of infectious diseases is influenced



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### 6.3 Environmetrics Domain

This Domain (63credits including Core) is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

Adviser: Professor Dutilleul  
E-mail: [dutilleul@macdonald.mcgill.ca](mailto:dutilleul@macdonald.mcgill.ca)  
Telephone: (514)398-7851 ext. 7870

In view of the crucial need for sound study design and appropriate statistical methods for analyzing environmental changes and their impacts on humans and various life forms and their ecological relationships, this program is intended to provide students with a strong background in the use of statistical methods of data analysis in environmental sciences.

Graduates will be capable of effectively participating in the design of environmental studies and adequately analyzing data for use by the environmental community. Accordingly, the list of courses for the Environmetrics Domain is composed primarily of



trying to minimize environmental damage. When negative effects due to agricultural activities do occur, they are not usually the classic point source effects that we have come to associate with industry or large cities. Rather, the effects are over extremely large land areas cumulating, perhaps, in pollution of river systems or lakes some distance away. As world populations grow, and as diets change, potentially negative interactions between agricultural systems and other facets of the environment will become more frequent. In the same way, urban sprawl will make conflicts between agriculture and urbanites more common.

With a judicious choice of courses, graduates of this Domain may be eligible to apply for membership in the Ordre des agronomes du Québec (OAQ) and the Agricultural Institute of Canada (AIC). See the MSE website for details at [www.mcgill.ca/mse](http://www.mcgill.ca/mse): BSc Programs: Food Production and Environment Domain.

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at

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## 6.4 Food Production and Environment Domain

This Domain (63 credits including Core) is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc in Environment program.

Adviser: Professor Sylvie de Blois  
 Email: [Sylvie.deblois@mcgill.ca](mailto:Sylvie.deblois@mcgill.ca)  
 Telephone: (514) 398-7851 ext. 0852

The business of food production is an area of human activity with a large and intimate interaction with the environment. Modern agriculturalists must strike a delicate balance between trying to provide food for themselves, their families and urban dwellers while

- ABEN518 (3) Bio-Treatment of Wastes (M)
- AGRI341 (3) Ecological Agricultural Systems (M)
- AGRI411 (3) International Agriculture (M)
- AGRI435 (3) Soil and Water Quality Management (M)
- AGRI550 (3) Sustained Tropical Agriculture (in Panama)
- ANSC501 (3) Advanced Animal Production Systems (M)
- BIOL465 (3) Conservation Biology
- BIOL5dt.7.5 4 0 8TD 0.2487ttes.eog( Courses) Tj 93 0 TD 4M 93 0 TD 0.70V Tj 72 9 19FSDC of yation Biology

mate and land uses. Production of key green-house gases (water vapor, CO<sub>2</sub> and methane) is controlled by complex processes operating at the land surface, involving climate change feedbacks that need to be fully understood, given current global warming trends.

The program introduces students to the interacting physical and biogeochemical processes at the atmosphere-lithosphere interface, which fashion land surface habitats and determine their biological productivity and response to anthropogenic or natural environmental changes. Through an appropriate selection of courses, students can prepare for graduate training in emerging research areas such as earth system sciences, environmental hydrology and landscape ecology.

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at [www.mcgill.ca/minerva](http://www.mcgill.ca/minerva).

**Courses offered at Macdonald Campus are marked with an (M). (Core Required courses are offered on both campuses.)**

**NOTE: Students are required to take a maximum of 30 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes Core and Required courses.**

**Core: Required Courses (18 credits)**

**Core: Complementary Course – Senior Research Project (3credits\*)**

**Domain: Required Course (3 credits)**

## 6.5 Land Surface Processes and Environmental Change Domain

This Domain (63 credits including Core) is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

Adviser: (Before September 2004) Mr. Pete Barry,  
MSE Program Coordinator  
E-mail: [info.mse@mcgill.ca](mailto:info.mse@mcgill.ca)  
Telephone: (514) 398-4306

(September 2004 and after) Professor Michel Lapointe  
E-mail: [lapointe@geog.mcgill.ca](mailto:lapointe@geog.mcgill.ca)  
Telephone: (514) 398-4959

The thin soil layer on the planet's land surfaces controls the vital inputs of water, nutrients and energy to terrestrial and freshwater aquatic ecosystems. Widespread occurrences around the globe of desertification, soil erosion, deforestation and land submergence over water reservoirs indicate that this dynamic system is under increasing pressure from population growth and changes in cli-

WOOD420	(3)	Environmental Issues: Forestry ( <i>M</i> )
WOOD441	(3)	Integrated Forest Management ( <i>M</i> )
3 credits of a field course chosen from:		
BIOL553	(3)	Neotropical Environments (in Panama)
GEOG495	(3)	Field Studies - Physical Geography (at Mont St. Hilaire)
GEOG496	(3)	Geographical Excursion (in Barbados)
GEOG497	(3)	Ecology of Coastal Waters (at Bay of Fundy)
GEOG499	(3)	Subarctic Field Studies (in Schefferville)
NRSC382	(3)	Ecological Monitoring and Analysis ( <i>M</i> )
WILD475	(3)	Desert Ecology (in Arizona)
3 credits of social science issues chosen from:		
ANTH339	(3)	Ecological Anthropology
ECON225	(3)	Economics of the Environment
ECON326	(3)	Ecological Economics
ECON405	(3)	Natural Resource Economics
or AGEC333	(3)	Resource Economics ( <i>M</i> )
ENVR465	(3)	Environment and Social Change (at Bay of Fundy)
GEOG408	(3)	Geography of Development
GEOG498	(3)	Humans in Tropical Environments (in Panama)
GEOG508	(3)	Resources, People and Power
SOCI565	(3)	Social Change in Panama (in Panama)
12 credits total of advanced studies chosen from the following two lists:		
3 credits minimum of advanced study of particular environments:		
BIOL358	(3)	Canadian Flora
or PLNT358	(3)	Flowering Plant Diversity ( <i>M</i> )
BIOL432	(3)	Limnology
or NRSC315	(3)	Science of Inland Waters ( <i>M</i> )
GEOG350	(3)	Ecological Biogeography
GEOG372	(3)	Running Water Environments
GEOG536	(3)	Geocryology
GEOG550	(3)	Quaternary Paleoecology
PLNT460	(3)	Plant Ecology ( <i>M</i> )
WOOD410	(3)	The Forest Ecosystem ( <i>M</i> )
6 credits minimum of advanced study of surface processes:		
ABEN509	(2)	Hydrologic Systems and Modelling ( <i>M</i> )
ATOC315	(3)	Water in the Atmosphere
EPSC549	(3)	Hydrogeology
EPSC580	(3)	Aqueous Geochemistry
GEOG501	(3)	Modelling Environmental Systems
GEOG505	(3)	Global Biogeochemistry
GEOG522	(3)	Advanced Environmental Hydrology
GEOG537	(3)	Advanced Fluvial Geomorphology
NRSC333	(3)	Physical and Biological Aspects of Pollution ( <i>M</i> )
SOIL331	(3)	Soil Physics ( <i>M</i> )
SOIL410	(3)	Soil Chemistry ( <i>M</i> )

## 6.6 Renewable Resource Management Domain

This Domain (63 credits including Core) is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

Adviser: Professor Joann Whalen  
E-mail: whalenj@nrs.mcgill.ca  
Telephone: (514) 398-7943

Renewable resource management is an emerging field that focuses on the ecosystem structures and processes required to sustain the delivery, to humanity, of ecosystem goods and services such as food, clean water and air, essential nutrients, and the provision of beauty and inspiration. Renewable resource management recognizes humans as integral components of ecosystems and is used to develop goals that are consistent with sustainability and ecosystem maintenance.

The Renewable Resource Management domain provides students with an understanding of: 1)the interactions between physical and biological factors that determine the nature and dynamics of populations and entities in the natural environment; 2)the ways in which ecosystems can be managed to meet specific goals for the provision of goods and services; 3)the economic and social factors that determine how ecosystems are managed; 4)the ways in which management of natural resources can affect the capability of natural ecosystems to continue to supply human needs in perpetuity; and 5)the approaches and technologies required to monitor and analyze the dynamics of natural and managed ecosystems.

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at [www.mcgill.ca/minerva](http://www.mcgill.ca/minerva).

**Courses offered at Macdonald Campus are marked with an (M). (Core Required Courses are offered on both campuses.)**

### Prerequisite or Corequisite Courses for Domain

FDSC211	(3)	Biochemistry 1 ( <i>M</i> )
or BIOL112	(3)	Cell and Molecular Biology
or CEGEP equivalent	(e.g., CEGEP objective 00XU)	
FDSC230	(4)	Organic Chemistry ( <i>M</i> )
or CHEM212	(4)	Introductory Organic Chemistry 1
or CEGEP equivalent	(e.g., CEGEP objective 00XV)	

**NOTE: Students are required to take a maximum of 30 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes Core and Required courses, but does not include the Domain prerequisites or corequisites listed above.**

### Core: Required Courses (18 credits)

ENVR200	(3)	The Global Environment
ENVR201	(3)	Society and Environment
ENVR202	(3)	The Evolving Earth
ENVR203	(3)	Knowledge, Ethics and Environment
ENVR301	(3)	Environmental Research Design
ENVR400	(3)	Environmental Thought

### Core: Complementary Course – Senior Research Project (3credits\*)

AGRI519	(6)	Sustainable Development Plans (in Barbados)
ENVR401	(3)	Environmental Research
ENVR451	(6)	Research in Panama (in Panama)
ENVR466	(6)	Research in Atlantic Canada (at Bay of Fundy)

\* Only 3 credits will be applied to the program; extra credits will count as electives.

### Domain: Complementary Courses (42 credits)

9 credits basic principles of ecosystem processes and diversity

WILD200	(3)	Comparative Zoology ( <i>M</i> )
or BIOL305	(3)	Animal Diversity
or PLNT201	(3)	Comparative Plant Biology ( <i>M</i> )
WILD205	(3)	Principles of Ecology ( <i>M</i> )
or BIOL308	(3)	Ecological Dynamics
GEOG305	(3)	Soils and Environment
or SOIL210	(3)	Principles of Soil Science ( <i>M</i> )

6 credits statistics and GIS methods

ABEN430	(3)	GIS for Bioresource Management ( <i>M</i> )
or GEOG201	(3)	Introductory Geo-Information Science
AEMA310	(3)	Statistical Methods 1 ( <i>M</i> )
or BIOL373	(3)	Biometry

6 credits advanced ecosystem components

PLNT358	(3)	Flowering Plant Diversity ( <i>M</i> )
or BIOL358	(3)	Canadian Flora
BIOL553	(3)	Neotropical Environments (in Panama)
SOIL326	(3)	Soil Genesis and Classification ( <i>M</i> )
WILD307	(3)	Natural History of Vertebrates ( <i>M</i> )

6 credits advanced ecological processes

ABEN217	(3)	Hydrology and Water Resources ( <i>M</i> )
or GEOG322	(3)	Environmental Hydrology

BIOL432 (3) Limnology  
 or NRSC315 (3) Science of Inland Waters (M)  
 BIOL465 (3) Conservation Biology  
 GEOG372 (3) Running Water Environments  
 GEOG497 (3) Ecology of Coastal Waters (at Bay of Fundy)  
 MICR331 (3) Microbial Ecology (M)  
 PLNT460 (3) Plant Ecology (M)  
 WILD410 (3) Wildlife Ecology (M)  
 WOOD410 (3) The Forest Ecosystem (M)  
 6 credits social processes:  
 AGE242 (3) Management Theories and Practices (M)  
 AGE333 (3) Resource Economics (M)  
 or ECON405 (3) Natural Resource Economics  
 ANTH339 (3) Ecological Anthropology  
 CANS407 (3) T E H ( N 3

**NOTE: Students are required to take a maximum of 30 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes Core and Required courses.**

**Core: Required Courses** (18 credits)

**Core: Complementary Course – Senior Research Project** (3credits\*)

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**Domain: Required Course** (3 credits)

**Domain: Complementary Courses** (33 credits)

### 6.7 Water Environments and Ecosystems Domain

This Domain is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

To educate students in both the ecological and physical facets of the water environment, this Domain offers two streams, with students choosing one or the other facet.

Those electing the **biological** stream will concentrate on the mechanisms regulating the different forms of life in water bodies. They will acquire, as well, a good understanding of the physical mechanisms controlling water properties.

Students interested in studying the transport and transformation mechanisms of water on the planet, from rivers to the oceans and atmosphere, will select the **physical** stream. They will acquire, as well, a solid background in the biological processes taking place in water bodies.

Graduates of this Domain are qualified to enter the work force or to pursue advanced studies in fields such as marine biology, geography, physical oceanography and atmospheric science.

#### Water Environments and Ecosystems Domain – Biological Stream

This Domain (57 credits including Core) is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

Adviser: Mr. Pete Barry, MSE Program Coordinator  
 E-mail: info.mse@mcgill.ca  
 Telephone: (514) 398-4306

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at [www.mcgill.ca/minerva](http://www.mcgill.ca/minerva).

**Courses offered at Macdonald Campus are marked with an (M). (Core Required Courses are offered on both campuses.)**



Adviser: Professor Peter Yau  
 E-mail: [yau@rainband.meteo.mcgill.ca](mailto:yau@rainband.meteo.mcgill.ca)  
 Telephone: (514) 398-3719

The rapid expansion of industrialization has been accompanied with a host of environmental problems, many, if not most, involving the atmosphere. Some problems are of a local nature, such as air pollution in large urban centres, while others are global, or at least reach areas far removed from industrial activities.

The emphasis in this Domain is on the mechanisms of atmospheric flow and on atmospheric chemistry. Courses examine how the atmosphere transports pollution, lifting it to great heights into the stratosphere or keeping it trapped near the ground, moving it around the globe or imprisoning it locally, or how it simply cleanses itself of the pollution through rainfall. The Domain also gives students the training required to understand the important chemical reactions taking place within the atmosphere, as well as the know-how necessary to measure and analyze atmospheric constituents.

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at [www.mcgill.ca/minerva](http://www.mcgill.ca/minerva).

**Courses offered at Macdonald Campus are marked with an (M). (Core Required courses are offered on both campuses.)**

**NOTE: Students are required to take a maximum of 31 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes Core and Required courses.**

**Core: Required Courses** (18 credits)

- ENVR200 (3) The Global Environment
- ENVR201 (3) Society and Environment
- ENVR202 (3) The Evolving Earth
- ENVR203 (3) Knowledge, Ethics and Environment
- ENVR301 (3) Environmental Research Design
- ENVR400 (3) Environmental Thought

**Core: Complementary Course – Senior Research Project** (3credits\*)

- AGRI519 (6) Sustainable Development Plans (in Barbados)
- ENVR401 (3) Environmental Research
- ENVR451 (6) Research in Panama (in Panama)
- ENVR466 (6) Research in Atlantic Canada (at Bay of Fundy)

\* Only 3 credits will be applied to the program; extra credits will count as electives.

**Domain: Required Courses** (18 credits)

- ATOC214 (3) Introduction: Physics of the Atmosphere
- ATOC215 (3) Oceans, Weather and Climate
- ATOC219 (3) Introduction to Atmospheric Chemistry or CHEM219 (3) Introduction to Atmospheric Chemistry
- ATOC308 (3) Principles of Remote Sensing or GEOG308 (3) Principles of Remote Sensing
- ATOC315 (3) Water in the Atmosphere
- CHEM307 (3) Analytical Chemistry of Pollutants

**Domain: Complementary Courses** (21 credits)

6 credits from:

- CHEM257D1 (2) Introductory Analytical Chemistry
- CHEM257D2 (2) Introductory Analytical Chemistry or FDSC213 (3) Analytical Chemistry 1 (M)

- MATH222 (3) Calculus 3 or AEMA202 (3) Intermediate Calculus (M)

3 credits from:

- MATH203 (3) Principles of Statistics 1 or AEMA310 (3) Statistical Methods 1 (M) or equivalent

9 credits of math or physical science (at least 6 credits of which are at the 300 level or above):

- ATOC309 (3) Weather Radars and Satellites
- ATOC412 (3) Atmospheric Dynamics
- ATOC419 (3) Advances in Chemistry of Atmosphere or CHEM419 (3) Advances in Chemistry of Atmosphere

- ATOC540 (3) Synoptic Meteorology 1
  - CHEE230 (3) Environmental Aspects of Technology
  - CHEM273 (1) Chemical Kinetics
  - CHEM377 (3) Instrumental Analysis 2
  - CIVE225 (4) Environmental Engineering
  - COMP208 (3) Computers in Engineering
  - GEOG505 (3) Global Biogeochemistry
  - MATH223 (3) Linear Algebra
  - MATH315 (3) Ordinary Differential Equations or AEMA205 (4) Differential Equations (M)
  - NRSC333 (3) Physical and Biological Aspects of Pollution (M)
  - NRSC510 (3) Agricultural Micrometeorology (M)
- 3 credits of social science:
- ANTH206 (3) Environment and Culture
  - ANTH418 (3) Environment and Development
  - CMPL580 (3) Environment and the Law
  - ECON225 (3) Economics of the Environment
  - ECON347 (3) Economics of Climate Change
  - ENVR465 (3) Environment and Social Change (in Bay of Fundy)
  - GEOG302 (3) Environmental Management 1
  - GEOG404 (3) Environmental Management 2 (in Panama or in Africa)
  - GEOG498 (3) Humans in Tropical Environments (in Panama)
  - POLI466 (3) Public Policy Analysis
  - RELG270 (3) Religious Ethics and the Environment

**7.2 Earth Sciences and Economics Domain**

This Domain (66 credits including Core) is open only to students in the B.Sc. Major in Environment program in the Faculty of Science.

Adviser: Professor Don Baker  
 E-mail: [donb@eps.mcgill.ca](mailto:donb@eps.mcgill.ca)  
 Telephone: (514) 398-7485

The resources necessary for human society are extracted from the Earth, used as raw materials in our factories and refineries, and then returned to the Earth as waste. Geological processes produce resources humans depend on, and they also determine the fate of wastes in the environment. Understanding Earth's geologic processes provides us with the knowledge to mitigate many of our society's environmental impacts due to resource extraction and waste disposal. Additionally, economics frequently affects what energy sources power our society and how our wastes are treated. Earth sciences and economics are essential for our understanding of the many mechanisms, both physical and social, that affect Earth's environment.

This Domain includes the fundamentals of each discipline. Students learn of minerals, rocks, soils, and waters and how these materials interact with each other and with the atmosphere. Fundamental economic theory and the economic effects of public policy towards resource industries, methods of waste disposal, and the potential effects of global warming on the global economy are also explored.

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at [www.mcgill.ca/minerva](http://www.mcgill.ca/minerva).

**Courses offered at Macdonald Campus are marked with an (M). (Core Required courses are offered on both campuses.)**

**NOTE: Students are required to take a maximum of 34 credits at the 200 level and a minimum of 15 credits at the 400 level or higher in this program. This includes Core and Required courses.**

**Core: Required Courses** (18 credits)

- ENVR200 (3) The Global Environment
- ENVR201 (3) Society and Environment
- ENVR202 (3) The Evolving Earth



**Location:** Offered at Smithsonian Tropical Research Institute (STRI) in Panama.

**Enrolment Limit:** 25 students.

**Fees:** Approximately \$4,000CDN – excludes regular McGill fees, airfare, food, and insurance; includes lodging.

Quebec residents may be eligible for a financial subsidy from the Ministry of Education, see “Quebec Government Awards for Quebec Residents” on page 37.

**Application Deadline:** March 15, 2004 for January 2005 (Winter Term of the academic year 2004-05).

**Application Details:** Students must submit a letter of intent, CV, and copy of their transcript to: Susan Gabe, Biology Undergraduate Office, Stewart Biology Building, Room W4/8, Downtown Cam-













