

6 Bachelor of Arts and Science

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6.1 The Faculties

6.1.1 Location

853 Sherbrooke Street West
Montreal, QC H3A 2T6
Canada

Telephone: (514) 398-4210
Faculty Websites: www.mcgill.ca/arts and
www.mcgill.ca/science
Degree Website: www.mcgill.ca/artscisao/basc

Student Affairs Office

Website: www.mcgill.ca/artscisao

The Student Affairs Office of the Faculties of Arts and of Science and the Office of the Associate Dean (Student Affairs) of the Faculty of Science are located in Dawson Hall, Rooms 110 and 115. The Student Affairs Office serves students in both Arts and Science.

6.1.2 Administrative Officers

For a listing of administrative officers in the Faculty of Arts, refer to [section 5.1.2 "Administrative Officers"](#), and for those in the Faculty of Science, refer to [section 12.1.2 "Faculty Administrative Officers"](#). Note that the Associate Dean (Student Affairs) of Science is responsible for students pursuing a B.A. & Sc.

The B.A. & Sc. Program Administration Committee (PAC), which oversees the curriculum and regulations for the degree, consists of the following members:

Bruce Arndtsen; B.A.(Car.), Ph.D.(Stan.)	Chemistry
André Costopoulos; B.A.(McG.), M.A.(Montr.), Ph.D.(Oulu)	Anthropology
Morton J. Mendelson; B.Sc.(McG.), A.M., Ph.D.(Harv.)	Associate Dean (Academic), Faculty of Science
Gregory Mikkelson; M.S., Ph.D.(Chic.)	Philosophy & McGill School of Environment
Timothy R. Moore; B.Sc.(Swansea), Ph.D.(Aberd.)	Geography
Enrica Quaroni; B.A., Ph.D.(McG.)	Associate Dean (Student Affairs), Faculty of Arts

6.1.3 Programs and Teaching in Arts and in Science

Programs and teaching in Arts are described in [section 5.1.3 "Programs and Teaching in Arts"](#). Those in Science are described in [section 12.1.3 "Programs and Teaching in Science"](#). The two faculties jointly offer the B.A. & Sc., so students pursuing that degree are at home in both Arts and Science.

6.1.4 Student Affairs Office

The Student Affairs Office 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 (Student Affairs) of Science, who is responsible for students pursuing a B.A. & Sc.

The Committee on Student Standing (CSS) of the Faculty of Science will consider appeals of the Associate Dean's decisions. For information about CSS, see the Associate Dean's secretary. For more information, please refer to our Website at www.mcgill.ca/artscisao.

6.2 Degree Admission Requirements

For information about admission requirements to the B.A. & Sc., please refer to "[General Admission and Documentation Requirements](#)", see [section 3.5](#).

For information about inter-faculty or inter-degree transfers, please refer to "[Inter-Faculty Transfer](#)", [section 4.3.11](#), as well as to the relevant information posted on the Student Affairs Office Website at www.mcgill.ca/artscisao and in the Student Affairs Office.

6.3 Degree Requirements

Each student pursuing a B.A. & Sc. must be aware of the regulations as stated in this section of the 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.A. & Sc., students must fulfill all Faculty degree and program requirements as indicated below:

- "[Minimum Credit Requirement](#)", [section 6.3.1](#)
- "[Residency](#)", [section 6.3.2](#)
- "[Cumulative Grade Point Average \(CGPA\)](#)", [section 6.3.3](#)
- "[Time Limit for Completion of the Degree](#)", [section 6.3.4](#)
- "[Program Requirements](#)", [section 6.3.5](#)
- "[Course Requirements](#)", [section 6.3.6](#)

6.3.1 Minimum Credit Requirement

Students must complete the minimum credit requirement for the degree as 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 may be granted to students who obtain satisfactory results in the Diploma of Collegial Studies, International Baccalaureate, French Baccalaureate, Advanced Levels, and Advanced Placement tests.

Students who are readmitted after interrupting their studies for a period of five consecutive years or more may be required to complete a minimum of 60 credits and satisfy the requirements of a program. In this case, a new GPA will be calculated. The Associate Dean (Student Affairs) of Science, in consultation with the appropriate department, may approve a lower minimum for students who had completed 60 credits or more before interrupting their studies.

Students who are readmitted after a period of absence are normally subject to the program and degree requirements in effect at the time of readmission.

6.3.2 Residency

To obtain a B.A. & Sc., students must satisfy the following residency requirements: a minimum of 60 credits of courses used to satisfy the B.A. & Sc. requirements must be taken and passed at McGill, exclusive of any courses completed as part of the basic science requirements defined below. At least two-thirds of all departmental program requirements (Multi-track, Honours, Faculty) must normally be completed at McGill. However, students in Major Concentrations or Faculty or Honours Programs who pursue an approved Study Away or Exchange Program may, with departmental approval, be exempted from the two-thirds rule. In addition, some departments may require that their students complete specific components of their program at McGill.

6.3.3 Cumulative Grade Point Average (CGPA)

Each candidate for a B.A. & Sc. must achieve a minimum cumulative grade point average (CGPA) of 2.00.

6.3.4 Time Limit for 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 in the Freshman Program become subject to these regulations one year after their initial registration. Students who exceed these limits must receive permission from the Associate Dean (Student Affairs) of Science to continue their studies. Students who expect to complete their degree requirements in fewer than 8 terms, but who wish to delay their graduation for valid academic reasons, must also seek permission of the Associate Dean (Student Affairs) of Science. Permission for exceeding the time limits will normally be granted only for valid academic reasons, such as a change of program (subject to departmental approval) and part-time status.

6.3.5 Program Requirements

Students with specific career goals should consult an academic adviser about their choice of program within the B.A. & Sc. However, students intending to pursue further studies following the B.A. & Sc. should refer to the admissions requirements of particular programs for the appropriate prerequisite courses.

In particular, students should note the following:

- The minimum freshman science requirements in the B.A. & Sc. may not satisfy the introductory science requirements of all medical/dental schools.
- The Major Concentration in Psychology does not provide sufficient undergraduate background to enable students to apply for membership in the Ordre des Psychologues du Québec, even once the additional graduate requirements of the Ordre have been completed.
- The Major Concentration in Chemistry is not certified by the Ordre des Chimistes du Québec. Students interested in pursuing a career in Chemistry in Quebec are advised to take an appropriate B.Sc. program in Chemistry.

6.3.5.1 Freshman Program

Students who need to complete 97-120 credits to fulfill their degree requirements must, within their first year at McGill, complete 21 credits of basic Science courses: 7 credits in Mathematics (MATH139 or 140 or 150 and MATH141 or 151) and 14 credits in at least two departments from Biology (BIOL 111 and/or 112), Chemistry (CHEM 110 and/or 120), and Physics (PHYS 101 or 131 and possibly PHYS 102 and 142). They should choose the remainder of their first-year courses, keeping in mind the requirement that they take 21 credits of Arts electives over their 120-credit degree.

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 as well as exemption from all or part of the 21-credit requirement of Arts electives over their degree. Similarly, students who have completed courses at other universities or colleges may receive exemptions and/or credits.

For further details, refer to information about the B.A. & Sc. Freshman Program on the Web at www.mcgill.ca/artscisao.

6.3.5.2 Departmental Programs

Students pursuing a B.A. & Sc., 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 requirements. Students must complete one of the program streams described below.

In all cases, the degree also includes a required integrative course (BASC 201; 3 credits), a complementary integrative course (3 credits) within or outside a student's programs selected from the complementary list in "Integrative Courses", section 6.11.6, plus electives (12-15 credits).

6.3.5.3 Multi-Track System

To recognise the diversity of student backgrounds and interests and the multiple routes to understanding provided by a modern university, the Faculties of Arts and of Science offer a 90-credit multi-track system that includes a Major Concentration in one faculty complemented by either a Major Concentration or two Minors/Minor Concentrations in the other faculty and that may be completed in one of the following ways:

Options

- 1) Arts Major Concentration (36) + Science Major Concentration (36-38) (see "Programs in the B.A. & Sc.", section 6.11, for a list of programs open to students in the B.A. & Sc.)
- 2) Major Concentration in Arts or Science (36-38) + two Minors/Minor Concentrations in the other faculty (2 x 18 = 36)

Regulations

- Programs offered by Computer Science, Mathematics and Statistics, and Psychology are considered Science programs for the purpose of the B.A. & Sc.
- Within both options, all Concentrations must be in different academic units. Thus, students may take a Geography program either in Arts or in Science, but not in both.
- Students will include within the 36 or 18 credits of their Major Concentrations or Minors or Minor Concentrations any university-level (200- or above) prerequisites to required courses within their programs.
- No course may fulfill the requirements for more than one program.

Definitions

Units: academic departments or administrative equivalents.

Programs: lists of required and complementary courses (including prerequisites for required courses) prepared and maintained by units.

Major Concentration: 36-38 credits taken from a unit's Major program.

Minor Concentration: 18 credits taken from a unit's Minor program. Expandable Minor Concentrations are those that can, on the completion of 18 additional approved credits, be expanded into a Major Concentration within the appropriate unit.

HONOURS PROGRAM

Honours programs demand a high degree of specialisation, and require students to satisfy specific departmental and Faculty Honours requirements while maintaining good academic standing. They are designed to prepare students for graduate study.

At the time of publishing this Calendar, no honours programs had been approved for the B.A. & Sc. However, students should consult www.mcgill.ca/artscisao/basc for an up-to-date list of B.A. & Sc. programs.

JOINT HONOURS PROGRAM

Students who wish to study at the Honours level in two disciplines can combine a Joint Honours Program Component from an Arts discipline with one from a Science discipline; see section 5.11.4 "Joint Honours Programs" for a list of available programs. Each Joint Honours component consists of a maximum of 36-38 required and complementary credits (not including program prerequisites). In cases where a minimum of 24 credits are in courses normally restricted to Honours students, the total of required and complementary credits may be as few as 30.

To complete a Joint Honours degree, a student must achieve a minimum CGPA of 3.00. The program GPA (the GPA of all required and complementary courses taken at McGill that constitute the Joint Honours program) must be a minimum of 3.00, although academic units may set higher requirements for their component of the program GPA.

At the time of publishing this Calendar, only two Science Joint Honours Components had been approved (Mathematics and Psychology). Students should consult www.mcgill.ca/artscisao/basc for an up-to-date list of B.A. & Sc. programs.

FACULTY PROGRAM

A Faculty program is an approved selection of courses constituting a concentration in an intellectually coherent and inter-faculty field of studies. These courses must include approved selections from the Faculties of Arts and of Science and possibly other faculties. Students in the B.A. & Sc. who complete a Faculty program must also complete a Minor Concentration or a Minor.

At the time of publishing this Calendar, a Faculty program in Cognitive Science had been approved. Students should consult www.mcgill.ca/artscisao/basc for an up-to-date list of B.A. & Sc. programs.

6.3.6 Course Requirements

All required and complementary courses used to fulfill program requirements must be completed with a grade of C or better. Students who fail to obtain a satisfactory grade in a required course must either pass the supplemental examination in the course or do 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) of Science 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 of the Faculty of Science, 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 as well as the locations of departmental advisory offices, program directors, and telephone numbers for further information are available as follows:

For descriptions of B.A. & Sc. programs that are available to Arts students, see section 5.12 "Academic Programs".

For descriptions of B.A. & Sc. Science programs that are available to Science students, see section 12.12 "Academic Programs".

For descriptions of B.A. & Sc. Science programs that are not available to Arts or Science students, see the unit's section below.

For descriptions of B.A. & Sc. Science programs offered by the McGill School of Environment, see "Programs Offered" in section 14.3. (At the time of publishing this Calendar, no MSE programs had yet been approved for the B.A. & Sc., but students

should consult www.mcgill.ca/artscisao/basc for an up-to-date list of B.A. & Sc. programs.)

6.3.6.1 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.

Sometimes two different departments offer the same course. Such courses are called "double-prefix" courses. When such courses are offered simultaneously, students should take the course offered by the department in which they are obtaining their degree. For example, in the case of double-prefix courses CHEM XYZ and PHYS XYZ, Chemistry students would take CHEM XYZ and Physics students would take PHYS XYZ. If different departments offer a double-prefix course in alternate years, students could take whatever course best fits their schedule.

Credit for statistics courses will be given with the stipulations specified in "Course Overlap", section 12.3.6.1

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

- 1) 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.
- 2) credit for computer courses offered by faculties other than Arts or Science requires the permission of the Associate Dean (Student Affairs) of Science.

6.3.6.2 Courses outside the Faculties of Arts and of Science

The following regulations apply to students in the B.A. & Sc. who wish to take courses outside the Faculties of Arts and of Science:

- Regardless of their minimum credit requirement towards their B.A. & Sc., 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 Environment (not yet approved), the Minor Concentration in Environment (not yet approved), and the Major Concentration in Geography (Urban Systems).
- Any courses taught at McGill University may be used towards the maximum allowed except for courses in Continuing Education, for which students receive credit only in Continuing Education.
- 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.**

6.3.6.3 Distance Education Courses

1. A maximum of 6 credits of courses taught through distance education may be used towards the B.A. & Sc. degree at McGill.
2. Courses taught through distance education from institutions other than McGill will be approved as transfer credits under the following conditions:
 - a. the course is given by a government-accredited, degree-granting institution acceptable to McGill;
 - b. the course counts for credit towards degrees granted at the institution giving the course;
 - c. prior approval for the course is obtained from the Arts and Science Student Affairs Office.

3. The combined total of regular course credits and distance education course credits may not exceed the permitted maximum number of credits per term according to the regulations for the B.A. & Sc.
4. Courses taught through distance education may not be used to complete program requirements, except on an individual basis when serious, documented circumstances warrant it. In such cases, prior approval must be obtained from the student's program adviser and the Associate Dean (Student Affairs) of the Faculty of Science.

6.3.6.4 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 fulfill 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 see section 4.3.5 "Courses Taken under the Satisfactory/Unsatisfactory (S/U) Option".

6.3.6.5 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 B.A. & Sc. may take a maximum of 12 credits, including academic writing courses for non-anglophones.

6.3.6.6 Auditing of Courses

No auditing of courses is allowed at McGill University.

6.4 Advising

Fall term 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. Such students who have not fulfilled the 21-credit basic science requirement of the B.A. & Sc. should also seek advice from an adviser in the Student Affairs Office. For a detailed description of advising and registration procedures, 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.

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.

Advising for all returning students takes place in March for the upcoming academic year. For more information, students should refer to the Student Affairs Website, www.mcgill.ca/artscisao.

Advising is also available by e-mail: advisor.artsci@mcgill.ca.

6.5 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 "Regis-

tration" in section 4.3, *Welcome to McGill*, the Student Affairs Website, www.mcgill.ca/artscisao, and the Minerva Website, www.mcgill.ca/minerva.

Returning students register at the end of April and in May for the coming academic year. For detailed information about registration, please refer to "Registration" in section 4.3, the information at www.mcgill.ca/artscisao and the Minerva Website, www.mcgill.ca/minerva.

Students who fall into unsatisfactory standing at the end of the academic year will have their registration cancelled. They may not re-register. However, students who can provide proof of extenuating circumstances that affected their academic performance may appeal to the Associate Dean (Student Affairs) of Science for readmission. For more information, students should consult the Student Affairs Office, or the Student Affairs Website, 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, Brown Student Services Building.

Students who decide not to return to McGill after initiating registration must withdraw from all of their courses on Minerva or inform the Student Affairs Office in writing. The deadline for withdrawal from the University is the same deadline as for a course withdrawal; see the Calendar of Dates. After the deadline, students may, under exceptional circumstances, be granted permission to withdraw from the University. Such students should contact the Student Affairs Office for further information.

6.5.1 Program Registration

Students should refer to *Welcome to McGill* or to the Arts and Science Registration information on how to register for programs on the Student Affairs Website, www.mcgill.ca/artscisao, and the Minerva Website, www.mcgill.ca/minerva. For a list of programs that can be taken by students pursuing a B.A. & Sc., see section 6.11 "Programs in the B.A. & Sc."

6.5.2 Course Registration

All courses have limited enrolment. Students pursuing a B.A. & Sc. may register for, and take for credit, any course, unless otherwise indicated, in the sections of the Calendar applicable to the Faculties of Arts and of Science, subject to the course restrictions listed in this section.

Since the registration system is unable to verify whether or not degree regulations are respected, it is technically possible to register for courses that may not be credited towards the B.A. & Sc. When students' records are manually verified, however, any courses taken that violate the degree regulations will be flagged after the end of course change period as "not for credit towards the 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.

6.5.2.1 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 endeavor

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 any seminar is 25, although some are limited to even fewer than that.

Students may take only one First-Year Seminar during their first year at McGill. Students who register for more than one will be obliged to withdraw from all but one of them.

A list of First-Year Seminars is available in the Arts General section and the Science General section of the Calendar, "Registration for First-Year Seminars".

6.5.2.2 Registration in Multi-Term Courses

Students who select a multi-term course are making a commitment to that course for its entirety. Students MUST register in the same section in all terms of a multi-term course. Credit will be jeopardized if students deliberately register in different sections of a multi-term course. In exceptional cases, when circumstances are beyond the student's control, the Student Affairs Office may grant permission to change section mid-way through a multi-term course. Students must make their request in writing to the Associate Dean (Student Affairs) of Science citing their reason for the request. The request must also have the written support of the instructors of the sections involved and of the coordinator of the course (if applicable).

6.5.2.3 Registration for Graduation

Students in their final year must indicate the expected date of graduation on Minerva and verify this date on unofficial transcripts. When final-year students change their expected date of graduation, they must notify the Student Affairs Office immediately. Failure to do so may postpone graduation.

Students who complete their degree requirements at any time after their last registered term at McGill must apply to the Associate Dean (Student Affairs) of Science to graduate. Application to graduate must be made sufficiently in advance of the expected graduation date to allow the Faculties of Arts and of Science to verify the student's record. For further information, students should contact the Student Affairs Office.

6.6 Grading and Credit

Before the end of the course change (drop/add) period, each instructor will inform students of the following:

- whether there will be a final examination in the course;
- how term work will affect the final mark in the course;
- how term work will be distributed through the term;
- whether there will be a supplemental examination in the course, and if so, whether term work will be included in the supplemental grade (courses normally have supplemental examinations, and courses with formal final examinations must have supplemental examinations);
- whether students with marks of D, F, J, or U will have the option of submitting additional work, and, if so, how the supplemental mark will be calculated with the extra work.

6.6.1 Incomplete Grades

An instructor who believes that there is justification for a student to delay submitting term work may extend the deadline until after the end of the course. In this case, the instructor will submit a grade of K (incomplete), indicating the date by which the work is to be completed. The maximum extensions for the submission of grades to the Student Affairs Office are as follows:

- | | |
|-------------------------------------|----------|
| • students graduating in June: | |
| • Fall, Winter, and spanned courses | April 30 |
| • non-graduating students: | |
| • Fall courses: | April 30 |
| • Winter and spanned courses: | July 30 |

Students' deadlines for submitting their work must be sufficiently in advance of these dates to ensure that the work can be graded and the mark submitted on time.

It is important to note that instructors may impose earlier deadlines than those listed.

If marks to clear K's have not been submitted to the Student Affairs Office by April 30 for Fall courses, or July 30 for Winter courses and courses spanning Fall/Winter, the K is automatically changed to a KF and counts as an F in the GPA.

Students with a grade of K who have serious extenuating circumstances may request an extension of the K deadline (KE) from the Associate Dean (Student Affairs) of Science. Please see [section 4.3 "Registration"](#) for more information.

6.7 Examinations

Students should see ["Examinations" in section 4.7](#) for information about final examinations and deferred examinations.

The exam schedules are posted on the McGill Website, www.mcgill.ca, and in the Student Affairs Office, normally one month after the start of classes for the tentative Exam Schedule, and two months after the start of classes for the final Examination Schedule. Students should also refer to the Student Affairs Website at www.mcgill.ca/artscisao for more information.

6.8 Supplemental Assessments

6.8.1 Supplemental Examinations

Students who wish to write supplemental examinations for certain courses must apply to the Student Affairs Office for permission.

The following conditions apply:

- students must be in satisfactory or probationary standing;
- students must have received a final grade of D, J, F, or U in the course;
- students must avail themselves of this privilege at the time of the next supplemental examination period;
- special permission from the Associate Dean (Student Affairs) of Science is required if students wish to write supplemental exams totalling more than 8 credits in any supplemental exam period;
- only one supplemental examination is allowed in a course;
- the supplemental result may or may not include the same proportion of class work as did the original grade; the instructor will announce the arrangements to be used for the course by the end of the drop/add period;
- the format of the supplemental examination (e.g., multiple-choice or essay questions) will not necessarily be the same as the format for the final examination, so students should consult the instructor about the format of the supplemental;
- the supplemental result will not erase the grade originally obtained; both the original mark and the supplemental result will be calculated in the CGPA;
- 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 examination applications are available at www.mcgill.ca/artscisao and from the Student Affairs Office. 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.

6.8.2 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 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 work in courses outside the Faculties of Arts and of Science is subject to the deadlines, rules, and regulations of the relevant faculty.

Additional work applications are available in the Student Affairs Office. 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 is payable for each course at the time of application. Students should consult the Student Affairs Office for further information.

6.8.3 Reassessments and Rereads

In accordance with the Charter of Student Rights, and subject to the conditions stated therein, students have the right to consult any written submission for which they have received a mark and the right to discuss this submission with the examiner.

The Faculties of Arts and of Science recognise two types of reassessments or rereads:

- reassessment of coursework (term papers, mid-terms, assignments, quizzes, etc.);
- reread of a final exam.

Reassessments and rereads for Arts courses are subject to the deadlines, rules, and regulations outlined in ["Reassessments and Rereads" in section 5.8.3](#). Reassessments and rereads for Science courses are subject to the deadlines, rules, and regulations outlined in ["Reassessments and Rereads" in section 12.8.3](#). Reassessments and rereads in courses not in the Faculties of Arts and of Science are subject to the deadlines, rules, and regulations of the relevant faculty.

6.9 Academic Standing

Academic standing is based primarily on students' cumulative grade point average (CGPA), but may also be affected by their term grade point average (TGPA). Academic standing is assessed in January for the Fall term, in May for the Winter term, and in September for the Summer term. Academic standing in each term determines if students will be allowed to continue their studies in the next term and if any conditions will be attached to their registration.

Decisions about academic standing in the Fall term are based only on grades that are available in January. Grades for courses in which students have deferred examinations and Fall-term grades for courses that span the Fall and Winter terms do not affect academic standing for the Fall term, even though they will ultimately affect students' Fall TGPA. Therefore, academic standings for the Fall term that are designated as interim should be interpreted as advisory. Note that interim standing will not appear on external transcripts. Interim standing decisions are mentioned below only if the rules for them differ from those for regular standing decisions.

6.9.1 Satisfactory/Interim Satisfactory Standing

- Students in satisfactory standing may continue in their program.
- New students are admitted to satisfactory standing.
- Students with a CGPA of 2.00 or greater are in satisfactory standing.

6.9.2 Probationary/Interim Probationary Standing

Students in probationary standing may continue in their program, but must carry a reduced load (maximum 14 credits per term) and raise their CGPA to return to satisfactory standing (see above). They should see their departmental adviser to discuss their course selection.

Students in interim probationary 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 who were previously in satisfactory standing will be placed in probationary standing if their CGPA falls between 1.50 and 1.99.
- Students who were previously in probationary standing will remain in probationary standing if their CGPA falls between 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 for the Fall or Winter term if their CGPA is less than 2.00, but they satisfy relevant conditions specified in their letter of readmission.

6.9.3 Unsatisfactory Readmitted Standing

Students who were previously in unsatisfactory standing and who were readmitted to the B.A. & Sc. by the Associate Dean (Student Affairs) of Science or the Committee on Student Standing of the Faculty of Science 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.

6.9.4 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 an academic

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 faculties. 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) of Science 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) of Science 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 B.A. & Sc. by the Associate Dean (Student Affairs) of Science or the Committee on Student Standing of the Faculty of Science 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.

6.9.5 Incomplete Standings

Standing awaits deferred exam.
Must clear Ks, Ls 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) of Science 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](#)" in [section 6.6.1](#).

6.10 Awards and Honorary Designations

6.10.1 Honours and First-Class Honours

Departments may recommend to the Faculties of Arts and of Science that graduating students registered in an Honours program be awarded Honours or First-Class Honours under the following conditions:

- students must complete all requirements imposed by the department;
- for Honours, the CGPA at graduation must be at least 3.00;
- for First-Class Honours, the CGPA at graduation must be 3.50 or better;
- some departments have additional requirements that must be met before students are recommended for Honours or First-Class Honours (see the departmental entries).
- Students in an Honours program whose program GPA or CGPA is below 3.00 or who did not satisfy certain additional program requirements must consult their adviser to determine if they are eligible to graduate in a program other than Honours.

6.10.2 Distinction and Great Distinction

Students in the Faculty or the Multi-track programs whose academic performance is appropriate may be awarded their degrees with Distinction or Great Distinction under the following conditions:

- students must have completed a minimum of 60 McGill credits towards the same degree to be considered;
- for Distinction, the CGPA at graduation must be 3.30 to 3.49;
- for Great Distinction, the CGPA at graduation must be at least 3.50;
- these designations may be withdrawn in the case of transfer students, if their CGPA in another faculty or at another university is not comparable to the CGPA earned in the B.A. & Sc.

6.10.3 Dean's Honour List

The designation Dean's Honour List may be awarded to a graduating student under the following conditions:

- students must have completed a minimum of 60 McGill credits towards the same degree;
- students must have a CGPA that is greater than the mean of the minimum CGPAs required for students in the Faculties of Arts and of Science to be placed on their respective Dean's Honour Lists;
- this designation may be withdrawn in the case of transfer students, if their CGPA in another degree program or at another university was not comparable to the CGPA earned in the B.A. & Sc.

The designation Dean's Honour List may be awarded at the end of each academic year to continuing students under the following conditions:

- students must have completed at least 27 graded credits during the academic year;
- students must have a sessional GPA (i.e., combined GPA for the Fall and Winter terms) that is greater than the mean of the minimum sessional GPAs required for students in the Faculties of Arts and of Science to be placed on their respective Dean's Honour Lists.

6.10.4 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 at www.mcgill.ca. No application is required except in the case of the Moysse Travelling Scholarships.

6.11 Programs in the B.A. & Sc.

6.11.1 Major Concentrations

6.11.1.1 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
 East Asian Studies
 Economics
 English - Cultural Studies
 English - Drama and Theatre
 English - Literature
 Geography
 Geography (Urban Systems)
 German Language and Literature
 German Literature and Culture
 German Studies, Contemporary
 Hispanic Languages
 Hispanic Literature and Culture
 History
 Humanistic Studies
 International Development Studies
 Italian Civilization
 Italian Language and Literature
 Jewish Studies
 Langue et littérature françaises - Lettres
 Langue et littérature françaises - Lettres et traduction
 Langue et littérature françaises - Linguistique du français
 Latin-American Studies
 Linguistics
 Middle East Studies
 Music
 North American Studies
 Philosophy
 Philosophy and Western Religions
 Political Science
 Quebec Studies
 Russian
 Scriptures and Interpretations - see Religious Studies
 Sociology
 Women's Studies
 World Religions - see Religious Studies

6.11.1.2 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 - Cell/Molecular Option (AS)
 Biology - Organismal Option (AS)
 Biomedical Sciences (AS)
 Chemistry (AS)
 Computing, Foundations of (A)
 Earth, Atmosphere and Ocean Sciences (AS)
 Geography - Physical Geography Option (AS)
 Mathematics (A)
 Physics (AS)
 Psychology (A)

6.11.2 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)
Environment programs (E) under development

6.11.3 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.

6.11.4 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 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).

6.11.4.1 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
Geography
German Studies
Hispanic Studies
History
International Development Studies
Italian Studies
Jewish Studies
Langue et littérature françaises - one of:
Lettres, or Lettres et traduction
Linguistics
Middle East Studies
Philosophy
Philosophy and Western Religions
Political Science
Religious Studies
Russian
Sociology
Women's Studies

6.11.4.2 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

6.11.5 Minor Concentrations or Minors

6.11.5.1 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
Anthropology

Art History
Canadian Ethnic Studies
Canadian Studies
Catholic Studies
Classics
Comparative Politics - see Political Science
East Asian Language and Literature
East Asian Cultural Studies
East Asian Studies, Advanced
Economics
English - Cultural Studies
English - Drama and Theatre
English - Literature
Geography
Geography (Urban Systems)
German Language
German Literature
German Literature and Culture in Translation
Hispanic Languages
Hispanic Literature and Culture
History
History and Philosophy of Science
Humanistic Studies
International Development Studies
International Relations - see Political Science
Italian Civilization
Italian Language and Literature
Jewish Law
Jewish Studies
Langue et littérature françaises - Langue française
Langue et littérature françaises - Langue et traduction
Langue et littérature françaises - Lettres
Langue et littérature françaises - Lettres et traduction
Langue et littérature françaises - Théorie et critique littéraires
Linguistics
Middle East Languages
Middle East Studies
North American Studies
Philosophy
Philosophy and Western Religions
Political Economy - see Political Science
Political Science
Political Science: Canada/Quebec
Politics, Law and Society - see Political Science
Quebec Studies
Russian
Russian Civilization
Scriptural Languages - see Religious Studies
Social Studies in Medicine
Sociology
South Asia - see Political Science
Women's Studies
World Religions - see Religious Studies

6.11.5.2 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.

Atmospheric Science (M-S)
Chemistry (M-S)
Computer Science (MC-A)
Computing, Foundations of (MC-A)
Earth and Planetary Sciences (M-S)
Environment (M-S)
Geographic Information Systems (MC-A)
Geography (M-S)
Mathematics (MC-A)
Physics (M-S)
Psychology (MC-A)
Statistics (MC-A)

Two new Biology Minor Concentrations are under development. See www.mcgill.ca/artscisao/basc for an up-to-date list of the B.A. & Sc. programs.

6.11.6 Integrative Courses

6.11.6.1 Required Integrative Course

All students pursuing a B.A. & Sc. must take BASC 201, normally in U1.

6.11.6.2 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
 MATH328 Computability and Mathematical Linguistics
 MATH330 Mathematical Finance
 MATH338 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
 SOC1225 Medicine & Health in Modern Society
 SOC1234 Population and Society
 SOC1235 Technology and Society
 SOC1338 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.

6.12 Academic Programs

6.12.1 Required Integrative Course for B.A. & Sc.

BASC 201 (Arts & Science Integrative Topics) is a required course in the B.A. & Sc., normally taken in U1. It introduces students to a variety of interdisciplinary topics that exemplify the benefits of applying scholarship from Arts and Science to a problem. It also provides students in the degree with a common experience and a reference group. For details, see the Course section of the Faculty of Science.

6.12.2 Programs in Arts or in Science

All B.A. & Sc. Arts programs are described in detail in the Faculty of Arts section of the Calendar. B.A. & Sc. Science programs that are open to B.A. students (i.e., programs in Computer Science, Mathematics and Statistics, and Psychology as well as some in

Geography) are described in the Faculty of Arts section. Science Minors that are open to B.A. & Sc. students are described in the Faculty of Science section. B.A. & Sc. Science programs that are open only to B.A. & Sc. students are described below.

For information about where each B.A. & Sc. program is listed, see "[Programs in the B.A. & Sc.](#)", [section 6.11](#).

6.12.3 Biology (BIOL)

The Department of Biology, the discipline, and specific courses are described in the Faculty of Science section of the Calendar.

The minimum freshman science requirements in the B.A. & Sc. may not satisfy the introductory science requirements of all medical/dental schools (see [section 6.3.5 'Program Requirements'](#)).

MAJOR CONCENTRATION IN BIOLOGY - CELL/ MOLECULAR OPTION (36 credits)

[A minor program revision is under consideration for September 2005. Go to www.mcgill.ca (Course Calendars) in July for details.]

The Major Concentration in Biology, Cell/Molecular Option, which is restricted to students in the B.A. & Sc. or B.Sc./B.Ed. (see [section 12.12.29 "Science for Teachers"](#)), is a planned sequence of courses designed to permit a degree of specialization in cell/molecular biology.

Required Courses* (29 credits)

BIOL 200 (3) Molecular Biology
 BIOL 201 (3) Cell Biology and Metabolism
 BIOL 202 (3) Basic Genetics
 BIOL 205 (3) Biology of Organisms
 BIOL 215 (3) Introduction to Ecology and Evolution
 BIOL 300 (3) Molecular Biology of the Gene
 BIOL 301 (4) Cell and Molecular Laboratory
 BIOL 303 (3) Developmental Biology
 CHEM 212 (4) Organic Chemistry 1

* Required courses taken at CEGEP or elsewhere that are not credited toward the B.A. & Sc. or B.Sc./B.Ed. (see [section 12.12.29 "Science for Teachers"](#)) must be replaced by 3-credit courses from the Complementary Course List. Regardless of the substitution, students must take at least 36 credits in this program.

Complementary Courses (7 credits minimum)

at least 7 credits selected from:

BIOL 306 (3) Neurobiology and Behaviour
 BIOL 313 (3) Eukaryotic Cell Biology
 BIOL 314 (3) Molecular Biology of Oncogenes
 BIOL 370 (3) Human Genetics Applied
 BIOL 373 (3) Biometry
 BIOL 413 (1) Reading Project
 BIOL 468 (3) Topics on the Human Genome
 BIOL 475 (3) Human Biochemical Genetics

or other appropriate course at the 300 level or higher with permission of an adviser.

MAJOR CONCENTRATION IN BIOLOGY - ORGANISMAL OPTION (37 credits)

The Major Concentration in Biology, Organismal Option, which is restricted to students in the B.A. & Sc. or B.Sc./B.Ed. (see [section 12.12.29 "Science for Teachers"](#)) is a planned sequence of courses designed to permit a degree of specialization in organismal biology.

Required Courses* (28 credits)

BIOL 200 (3) Molecular Biology
 BIOL 201 (3) Cell Biology and Metabolism
 BIOL 202 (3) Basic Genetics
 BIOL 205 (3) Biology of Organisms
 BIOL 206 (3) Methods in Biology of Organisms
 BIOL 215 (3) Introduction to Ecology and Evolution
 BIOL 304 (3) Evolution
 BIOL 308 (3) Ecological Dynamics
 CHEM 212 (4) Organic Chemistry 1

* Required courses taken at CEGEP or elsewhere that are not credited toward the B.A. & Sc. or B.Sc./B.Ed. (see [section 12.12.29 "Science for Teachers"](#)) must be replaced by 3-credit courses from the Complementary Course List. Regardless of the substitution, students must take at least 36 credits in this program.

Complementary Courses (9 credits)

9 credits selected from:

BIOL 303	(3)	Developmental Biology
BIOL 305	(3)	Animal Diversity
BIOL 306	(3)	Neurobiology and Behaviour
BIOL 307	(3)	Behavioural Ecology/Sociobiology
BIOL 327	(3)	Herpetology
BIOL 331	(3)	Ecology/Behaviour Field Course
BIOL 341	(3)	History of Life
BIOL 350	(3)	Insect Biology and Control
BIOL 351	(3)	The Biology of Invertebrates
BIOL 352	(3)	Vertebrate Evolution
BIOL 358	(3)	Canadian Flora
BIOL 373	(3)	Biometry
BIOL 435	(3)	Natural Selection
BIOL 441	(3)	Biological Oceanography
BIOL 442	(3)	Marine Biology
BIOL 465	(3)	Conservation Biology

or other appropriate course at the 300 level or higher with permission of an adviser.

6.12.4 Biomedical Sciences

Major Concentration in Biomedical Sciences - Program Advisers:

Professor Teresa Trippenbach, Department of Physiology
McIntyre Medical Sciences Building, Room 1116
E-mail: teresa.trippenbach@mcgill.ca
Telephone: (514) 398-4331

Professor Ann Wechsler, Department of Physiology
McIntyre Medical Sciences Building, Room 1135
E-mail: ann.wechsler@mcgill.ca
Telephone: (514) 398-4341

Student Affairs Officer, Department of Physiology
McIntyre Medical Sciences Building, Room 1022
Telephone: (514) 398-3689

The following departments jointly offer this B.A. & Sc. program:

Anatomy and Cell Biology (ANAT)
Biochemistry (BIOC)
Microbiology and Immunology (MIMM)
Pharmacology (PHAR)
Physiology (PHGY)

The individual departments, their disciplines, and specific courses offered by them are described in their respective entries in the Faculty of Science section of the Calendar.

The minimum freshman science requirements in the B.A. & Sc. may not satisfy the introductory science requirements of all medical/dental schools (see [section 6.3.5 "Program Requirements"](#)).

MAJOR CONCENTRATION IN BIOMEDICAL SCIENCES (36credits)

The Major Concentration in Biomedical Sciences, which is restricted to students in the B.A. & Sc., is a planned sequence of courses designed to permit students to survey the various biomedical sciences and acquire some additional in-depth exposure to one of them.

Required Courses (18 credits)

BIOC 212	(3)	Molecular Mechanisms of Cell Function
BIOL 200	(3)	Molecular Biology
BIOL 202	(3)	Basic Genetics
MIMM 211	(3)	Introductory Microbiology
PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2

Complementary Courses (18 credits)

3 credits selected from:

ANAT 214	(3)	Systemic Human Anatomy
ANAT 262	(3)	Introductory Molecular and Cell Biology

4 credits selected from:

ANAT 261	(4)	Introduction to Dynamic Histology
BIOL 301	(4)	Cell and Molecular Laboratory
CHEM 222	(4)	Introductory Organic Chemistry 2

2 credits selected from:

MIMM 212*	(2)	Laboratory in Microbiology
PHGY 212D1	(1)	Introductory Physiology Laboratory
PHGY 212D2	(1)	Introductory Physiology Laboratory

Or equivalent (with approval of Adviser)

* Registration in MIMM 212 is limited, students should apply to the Dept. of Microbiology and Immunology.

9 credits, one of the following disciplinary specializations.

Biomedical Sciences Disciplinary Specializations:

ANATOMY and CELL BIOLOGY

6 credits selected from:

ANAT 321	(3)	Circuitry of the Human Brain
ANAT 322	(3)	Neuroendocrinology
ANAT 365	(3)	Cell Biology: Secretory Process
ANAT 381	(3)	Basis of Embryology
PATH 300	(3)	Human Disease

3 credits selected from:

ANAT 458	(3)	Membranes and Cellular Signalling
ANAT 541	(3)	Cell and Molecular Biology of Aging

BIOCHEMISTRY

6 credits:

BIOC 311	(3)	Metabolic Biochemistry
BIOC 312	(3)	Biochemistry of Macromolecules

3 credits selected from:

BIOC 450	(3)	Protein Structure and Function
BIOC 454	(3)	Nucleic Acids
BIOC 455	(3)	Neurochemistry
BIOC 458	(3)	Membranes and Cellular Signaling

MICROBIOLOGY AND IMMUNOLOGY

6 credits selected from:

MIMM 314	(3)	Immunology
MIMM 323	(3)	Microbial Physiology
MIMM 324	(3)	Fundamental Virology
MIMM 387	(3)	Applied Microbiology and Immunology

3 credits from 400- or 500-level MIMM courses

PHARMACOLOGY AND THERAPEUTICS

6 credits selected from:

PHAR 300	(3)	Drug Action
PHAR 301	(3)	Drugs and Disease
PHAR 303	(3)	Principles of Toxicology

3 credits from 500-level PHAR courses

PHYSIOLOGY

6 credits selected from:

PHGY 311	(3)	Intermediate Physiology 1
PHGY 312	(3)	Intermediate Physiology 2
PHGY 313	(3)	Intermediate Physiology 3
PHGY 314	(3)	Integrative Neuroscience

3 credits from 400- or 500-level PHGY courses

NEUROPHYSIOLOGY

6 credits:

PHGY 311	(3)	Intermediate Physiology 1
PHGY 314	(3)	Integrative Neuroscience

3 credits selected from:

PHGY 451	(3)	Advanced Neurophysiology
PHGY 556	(3)	Topics in System Neuroscience

6.12.5 Chemistry (CHEM)

The Department of Chemistry, the discipline, and specific courses are described in the Faculty of Science section of the Calendar.

The Major Concentration in Chemistry is not certified by the Ordre des Chimistes du Québec. Students interested in pursuing a career in Chemistry in Quebec are advised to take an appropriate B.Sc. program in Chemistry. The minimum freshman science requirements in the B.A. & Sc. may not satisfy the introductory science requirements of all medical/dental schools (see [section 6.3.5 "Program Requirements"](#)).

MAJOR CONCENTRATION IN CHEMISTRY (36 credits)

The Major Concentration in Chemistry, which is restricted to students in the B.A. & Sc. or B.Sc./B.Ed. (see [section 12.12.29 "Science for Teachers"](#)) is a planned sequence of courses designed to permit a degree of specialization in this discipline.

Required Courses* (18 credits)

CHEM 203	(3)	Survey of Physical Chemistry
CHEM 212	(4)	Introductory Organic Chemistry 1
CHEM 222	(4)	Introductory Organic Chemistry 2
CHEM 257D1	(2)	Introductory Analytical Chemistry
CHEM 257D2	(2)	Introductory Analytical Chemistry
CHEM 281	(3)	Inorganic Chemistry 1

* Required courses taken at CEGEP or elsewhere that are not credited toward the B.A. & Sc. or B.Sc./B.Ed. must be replaced by courses from the Complementary Course List equal to or exceeding their credit value. Regardless of the substitution, students must take at least 36 credits in this program.

Complementary Courses (18 credits)

18 credits selected from:

CHEM 219	(3)	Introduction to Atmospheric Chemistry
CHEM 302	(3)	Introductory Organic Chemistry 3
CHEM 307	(3)	Analytical Chemistry of Pollutants
CHEM 334	(3)	Advanced Materials
CHEM 363	(2)	Physical Chemistry Laboratory 1
CHEM 367	(3)	Instrumental Analysis 1
CHEM 381	(3)	Inorganic Chemistry 2
CHEM 382	(3)	Organic Chemistry: Natural Products
CHEM 531	(3)	Chemistry of Inorganic Materials
CHEM 571	(3)	Polymer Synthesis
CHEM 582	(3)	Supramolecular Chemistry
CHEM 591	(3)	Bioinorganic Chemistry

6.12.6 Cognitive Science

Cognitive Science is the multidisciplinary study of cognition in humans and machines. The goal is to understand the principles of intelligence with the hope that this will lead to better comprehension of the mind and of learning and to the development of intelligent devices that constructively extend human abilities.

A Faculty Program in Cognitive Science (54 credits) is offered by the following departments, which are described fully in the Faculty of Arts or Faculty of Science section of the Calendar:

- Computer Science (COMP) (Science)
- Linguistics (LING) (Arts)
- Philosophy (PHIL) (Arts)
- Psychology (PSYC) (Science)

FACULTY PROGRAM IN COGNITIVE SCIENCE (54 credits)

The Faculty Program in Cognitive Science, which is restricted to students in the B.A. & Sc., is a planned sequence of courses designed to permit students to focus on at least two relevant areas of study.

Required Course (3 credits)

PSYC532	(3)	Cognitive Science
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Complementary Courses (51 credits)

3 credits, one of:

MATH318	(3)	Mathematical Logic
PHIL210	(3)	Introduction to Deductive Logic 1

18 credits from List A in one of Computer Science, Linguistics, Philosophy, or Psychology.

12 credits from List A in one of the three remaining units.

18 credits, at least 12 at the 400 level or higher, chosen from Lists A and/or B in Computer Science, Linguistics, Philosophy, and/or Psychology.

Note 1: Students are responsible for ensuring that they meet all pre- and corequisites for all their courses.

Note 2: With the permission of the Director of the Cognitive Science program, students may be able to substitute courses in cognate departments, such as Anatomy and Cell Biology, Biology, Neurology, or Physiology.

Note 3: B.A. & Sc. students who take Faculty Programs must take at least 30 credits in Arts and in Science across their Faculty Program and their Minor or Minor Concentration.

COMPUTER SCIENCE

List A:

MATH240	(3)	Discrete Structures 1
COMP206	(3)	Introduction to Software Systems
COMP250	(3)	Introduction to Computer Science
COMP251	(3)	Data Structures and Algorithms
COMP302	(3)	Programming Languages and Paradigms
COMP424	(3)	Topics: Artificial Intelligence 1
COMP426	(3)	Automated Reasoning

List B:

MATH222	(3)	Calculus 3
MATH223	(3)	Linear Algebra
MATH328	(3)	Computability and Mathematical Linguistics
COMP360	(3)	Algorithm Design Techniques
COMP490	(3)	Introduction to Probabilistic Analysis of Algorithms
COMP526	(3)	Probabilistic Reasoning and AI
COMP531	(3)	Theory of Computation
COMP538	(3)	Person-Machine Communication
COMP558	(3)	Fundamentals of Computer Vision

LINGUISTICS

List A:

LING201	(3)	Introduction to Linguistics
LING230	(3)	Phonetics
LING331	(3)	Phonology 1
LING355	(3)	Language Acquisition 1
LING370	(3)	Introduction to Semantics
LING371	(3)	Syntax 1
LING390	(3)	Neuroscience of Language
LING419	(3)	Linguistic Theory 1
LING451	(3)	Acquisition of Phonology
LING455	(3)	Second Language Syntax

List B:

LING440	(3)	Morphology
LING531	(3)	Phonology 2
LING555	(3)	Language Acquisition 2
LING560	(3)	Formal Methods in Linguistics
LING571	(3)	Syntax 2
LING590	(3)	Language Acquisition and Breakdown

PHILOSOPHY

List A:

PHIL304	(3)	Chomsky
PHIL306	(3)	Philosophy of Mind
PHIL310	(3)	Intermediate Logic
PHIL341	(3)	Philosophy of Science 1
PHIL360	(3)	17th Century Philosophy
PHIL370	(3)	Problems in Analytic Philosophy
PHIL415	(3)	Philosophy of Language
PHIL419	(3)	Epistemology
PHIL441	(3)	Philosophy of Science 2
PHIL506	(3)	Seminar: Philosophy of Mind
PHIL507	(3)	Seminar: Cognitive Science

List B:

PHIL410	(3)	Advanced Topics in Logic 1
PHIL411	(3)	Topics in Philosophy of Logic and Mathematics
PHIL421	(3)	Metaphysics
PHIL470	(3)	Topics in Contemporary Analytic Philosophy
PHIL474	(3)	Phenomenology
PHIL510	(3)	Seminar: Advanced Logic 2
PHIL511	(3)	Seminar: Philosophy of Logic and Mathematics
PHIL519	(3)	Seminar: Epistemology
PHIL541	(3)	Seminar: Philosophy of Science
PHIL560	(3)	Seminar: 17th Century Philosophy

PSYCHOLOGY**List A/B:**

PSYC212	(3)	Perception
PSYC213	(3)	Cognition
PSYC301	(3)	Learning
PSYC305	(3)	Statistics for Experimental Design
PSYC308	(3)	Behavioural Neuroscience 1
PSYC311	(3)	Human Cognition and the Brain
PSYC318	(3)	Behavioural Neuroscience 2
PSYC340	(3)	Psychology of Language
PSYC343	(3)	Language Learning in Children
PSYC352	(3)	Laboratory in Cognitive Psychology
PSYC353	(3)	Laboratory in Human Perception
PSYC410	(3)	Special Topics in Neuropsychology
PSYC413	(3)	Cognitive Development
PSYC470	(3)	Memory and Brain
PSYC472	(3)	Scientific Thinking and Reasoning
PSYC522	(3)	Neurochemistry and Behaviour
PSYC526	(3)	Advances in Visual Perception
PSYC529	(3)	Music Cognition
PSYC561	(3)	Methods: Developmental Psycholinguistics

A new area of study, Neuroscience, is under development for September 2005. See www.mcgill.ca/artsciao/basc for up-to-date information.

6.12.7 Earth, Atmosphere and Ocean Sciences

The following departments jointly offer a B.A. & Sc. program:

- Atmospheric and Oceanic Sciences (ATOC)
- Earth and Planetary Sciences (EPSC)

The departments, the disciplines, and specific courses are described in their respective entries in the Faculty of Science section of the Calendar.

MAJOR CONCENTRATION IN EARTH, ATMOSPHERE AND OCEAN SCIENCES (36 credits)

[A minor program revision is under consideration for September 2005. Go to www.mcgill.ca (Course Calendars) in July for details.]

The Major Concentration in Earth, Atmosphere and Ocean Sciences, which is restricted to students in the B.A. & Sc. (see [section 12.12.29 "Science for Teachers"](#)), is a planned sequence of courses designed to permit a degree of specialization in these disciplines.

Required Courses* (25 credits)

ATOC 214	(3)	Introduction: Physics of the Atmosphere
ATOC 215	(3)	Oceans, Weather and Climate
ATOC 220	(3)	Introduction to Oceanic Sciences
ATOC 315	(3)	Water in the Atmosphere
EPSC 210	(3)	Introductory Mineralogy
EPSC 212	(4)	Introductory Petrology
EPSC 233	(3)	Earth and Life History
EPSC 243	(3)	Environmental Geology

Complementary Courses (11 credits minimum)

a minimum of 11 credits, at least 6 of which must be at the 300 level or higher), distributed as follows:

at least 5 credits selected from:

EPSC 203	(3)	Structural Geology 1
EPSC 220	(3)	Principles of Geochemistry

EPSC 231	(2)	Field School 1
EPSC 250 or	(3)	Natural Disasters
ATOC 250		
EPSC 320	(3)	Elementary Earth Physics
EPSC 331	(3)	Field School 2
EPSC 341	(3)	Field School 3
EPSC 425	(3)	Sediments to Sequences
EPSC 455	(3)	Sedimentary Geology
EPSC 542	(3)	Chemical Oceanography
6 credits selected from:		
ATOC 219	(3)	Introduction to Atmospheric Chemistry
ATOC 250 or	(3)	Natural Disasters
EPSC 250		
ATOC 308 or	(3)	Principles of Remote Sensing
GEOG 308		
ATOC 310	(3)	Physical Oceanography
ATOC 402	(3)	Atmosphere-Ocean Transports

6.12.8 Geography (GEOG)

The Department of Geography, the discipline, and specific courses are described in the Faculty of Science section of the Calendar.

Note that students may take a Geography program either in Arts or in Science, but not in both.

The following are considered Arts programs in the B.A. & Sc. and are described in the Faculty of Arts section of the Calendar:

- Major Concentration in Geography
- Major Concentration in Geography (Urban Systems)
- Minor Concentration in Geography
- Minor Concentration in Geography (Urban Systems)

The following are considered Science programs in the B.A. & Sc. and are described either below (Major Concentration) or in the Faculty of Science section (Minors) of the Calendar:

- Major Concentration in Geography (Physical Geography)
- Minor in Geographical Information Systems
- Minor in Geography

MAJOR CONCENTRATION IN GEOGRAPHY - PHYSICAL GEOGRAPHY OPTION (36 credits)

The Major Concentration in Geography, which is restricted to students in the B.A. & Sc., is a planned sequence of courses designed to permit a degree of specialization in this discipline.

Required Courses (12 credits)

GEOG 201	(3)	Introductory Geo-Information Science
GEOG 202	(3)	Statistics and Spatial Analysis
GEOG 203	(3)	Environmental Systems
GEOG 272	(3)	Earth's Changing Surface

Complementary Courses (24 credits)

6 credits of analytical techniques selected from:

GEOG 306	(3)	Raster Geo-Information Science
GEOG 308 or	(3)	Principles of Remote Sensing
ATOC 308		

GEOG 351 (3) Quantitative Methods

3 credits of field courses selected from:

GEOG 495	(3)	Field Studies - Physical Geography
GEOG 496	(3)	Geographical Excursion
GEOG 497	(3)	Ecology of Coastal Waters
GEOG 499	(3)	Subarctic Field Studies

9 - 15 credits in systematic physical geography selected from:

GEOG 305	(3)	Soils and Environment
GEOG 321	(3)	Climatic Environments
GEOG 322	(3)	Environmental Hydrology
GEOG 350	(3)	Ecological Biogeography
GEOG 372	(3)	Running Water Environments

0 - 6 credits in integrative and advanced topics selected from:

GEOG 302	(3)	Environmental Management 1
GEOG 501	(3)	Modelling Environmental Systems
GEOG 505	(3)	Global Biogeochemistry

GEOG 506	(3)	Perspectives on Geographic Information Analysis
GEOG 536	(3)	Geocryology
GEOG 537	(3)	Advanced Fluvial Geomorphology
GEOG 550	(3)	Quaternary Paleoecology

6.12.9 Physics (PHYS)

The Department of Physics, the discipline, and specific courses are described in the Faculty of Science section of the Calendar.

MAJOR CONCENTRATION IN PHYSICS (36 credits)

The Major Concentration in Physics, which is restricted to students in the B.A. & Sc. or B.Sc./B.Ed., (see [section 12.12.29 "Science for Teachers"](#)), is a planned sequence of courses designed to permit a degree of specialization in this discipline.

Required Courses* (30 credits)

MATH222	(3)	Calculus 3
MATH223	(3)	Linear Algebra
MATH314	(3)	Advanced Calculus
MATH315	(3)	Ordinary Differential Equations
PHYS 230	(3)	Dynamics of Simple Systems
PHYS 232	(3)	Heat and Waves
PHYS 257	(3)	Experimental Methods 1
PHYS 333	(3)	Thermal and Statistical Physics
PHYS 340	(3)	Electricity and Magnetism
PHYS 446	(3)	Quantum Physics

* Required courses taken at CEGEP or elsewhere that are not credited toward the B.A. & Sc. or B.Sc./B.Ed. (see [section 12.12.29 "Science for Teachers"](#)) must be replaced by courses from the Complementary Course List.

Complementary Courses (6 credits)

6 credits selected from:

PHYS 214	(3)	Introductory Astrophysics
PHYS 225	(3)	Musical Acoustics
PHYS 241	(3)	Signal Processing
PHYS 258	(3)	Experimental Methods 2
PHYS 334	(3)	Advanced Materials
PHYS 534	(3)	Nanoscience and Nanotechnology

or any 300- or 400-level course approved by an adviser