
McGill

1 About the Faculty

The Faculty serves approximately 2,000 students enrolled in undergraduate, graduate, and professional development programs. The Faculty is organized into three departments and the School of Information Studies. In addition, the Faculty has a number of research and service centres, including several of an interdisciplinary nature.

Like other faculties of education in Quebec and Canada, the Faculty has had a traditional role in the initial training of teachers and leaders in education-allied occupations. It is also concerned with constructing knowledge through research and scholarship, and with providing professional development services to the wider educational community.

In recent years, a number of links have been established with counterparts in other countries for teaching, research, and development purposes. Current active projects, some of which involve students as well as staff, include those in Japan, Indonesia, South

3.2 Education Undergraduate Society (EDUS)

The Society is the undergraduate students' voice of undergraduates within the Faculty and its primary purpose is to serve and to inform the students. It also attempts to unify students through sponsorship of activities such as career placement, student orientation, participation in teachers' conventions, library donations, and the organization of an Education Career Fair. Other activities include the assignment of lockers for students, selling merchandise in the Spirit Store, the coordination of the Graduation Ball, as well as fundraising and events throughout the academic year. Students are encouraged to participate and to make their opinions known. The Society Office is located in Room B179 of the Education Building.

Telephone: 514-398-7048
Fax: 514-398-2476
Email: *president.edus@mail.mcgill.ca*
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4 About the Faculty of Education (Undergraduate)

4.1 Department of Integrated Studies in Education

The Department of Integrated Studies in Education offers undergraduate programs that are committed to the preparation of exceptional teachers for work in elementary and secondary schools. We have four-year Bachelor of Education programs for CEGEP graduates, and five-year programs for out-of-province students. In addition, we can accommodate students with completed or partly completed degrees in other disciplines.

- Bachelor of Education Kindergarten and Elementary Education
- Bachelor of Education Kindergarten and Elementary Education (Jewish Studies)
- Bachelor of Education Secondary Program
- Concurrent Bachelor of Science/Bachelor of Education (Secondary)
- Concurrent Bachelor of Music/Bachelor of Education in Music (Music Education)
- Bachelor of Education T

4.5 Administrative Officers

Hélène Perrault; B.Sc.(C'dia), M.Sc., Ph.D.(Montr.)	**Dean**
Dilson Rassier; B.P.E., M.Sc.(Brazil), Ph.D.(Calg.)	**Associate Dean (Research)**
Elizabeth Wood; B.F.A.(York), B.F.A.(C'dia), Dip.Ed., M.A., Ph.D.(McG.)	**Associate Dean (Academic Affairs)**
Jeffrey Derevensky; B.A.(C.W.POST), M.A., Ph.D.(McG.)	**Executive Director, Physical Infrastructure**
Ronald Morris; B.Ed., M.A., Ph.D.(McG.)	**Executive Director (Student Affairs)**
Ingrid E. Sladeczek; B.A., M.S., Ph.D.(Ariz.), A.A.(Md.)	**Deputy Associate Dean, Graduate Studies**
Alenoush Saroyan; B.A.(Pahlavi), M.Ed.(Loyola-Ill.), Ph.D.(McG.)	**Chair, Department of Educational and Counselling Psychology**
France Bouthillier; B.Ed.(UQAM), MBSI(Montr.), Ph.D.(Tor.)	**Director, School of Information Studies**
TBA	**Chair, Department of Integrated Studies in Education**
Theodore E. Milner; B.Sc., M.Sc., Ph.D.(Alta.)	**Chair, Department of Kinesiology and Physical Education**
Joan Barrett	**Student Affairs Officer**
Kathy Woo	**Interim Financial Officer**

5 Overview of Faculty Programs

The Faculty of Education offers three different kinds of programs.

Undergraduate Programs: The Faculty offers programs leading to the Bachelor of Education (B.Ed.) degree for those wishing to become teachers, and a B.Sc.(Kinesiology). Advanced Standing may be given to those already holding a university degree.

Programs of Professional Development: For qualified teachers wishing to enhance their knowledge and skills, the Faculty offers programs of professional development leading to specialized certificates and diplomas. Most courses that are required to complete these programs are offered in the evenings and in the summer.

Graduate Programs: The Faculty offers graduate programs for those already holding a university degree who wish to pursue advanced study and research leading to master's and doctoral degrees in various fields of education and psychology, and library and information studies. A new Master's of Arts in Teaching and Learning, which leads to teacher certification on the Secondary level is also offered, more information is available at *www.mcgill.ca/edu-dise/prospective/matl*.

Undergraduate programs of initial teacher education are described in this publication, programs of professional development are described in the most current *Continuing Education Programs, Courses and University Regulations* publication, and graduate programs are described in the most current *Graduate and Postdoctoral Studies Programs, Courses and University Regulations* publication, both available at *www.mcgill.ca/study*.

5.1 Undergraduate Education Programs

The Faculty of Education offers the following under

section 9.4.5: Baccalauréat en enseignement du français langue seconde (120 credits) (B.Ed. TFSL), offered by the Department of Integrated Studies in Education jointly with the *Université de Montréal*. (*No Admissions for 2011-2012*)

section 9.4.6: Bachelor of Education in Teaching English as a Second Language (120 credits), offered by the Department of Integrated Studies in Education.

section 11.4: Bachelor of Education (B.Ed.) - Physical and Health Education (120 credits), offered by the Department of Kinesiology and Physical Education.

section 9.4.2: Concurrent Bachelor of Music (Music Education)/Bachelor of Education in Music program (137 credits), offered jointly by the Department of Integrated Studies in Education and the Schulich School of Music. See also *: Concurrent Bachelor of Music (B.Mus.) - Major Music Education and Bachelor of Education (B.Ed.) - Music Elementary and Secondary (137 credits)* under *Schulich School of Music*.

section 9.4.3: Concurrent Bachelor of Science/Bachelor of Education (Secondary) (135 credits), offered jointly by the Department of Integrated Studies in Education and the Faculty of Science.

A student who successfully completes any of the **above** programs, (and meets other requirements set out by the MELS (*Ministère de l'Éducation, du Loisir et du Sport*) is recommended for certification as a teacher in the province of Quebec; see *section 5.1.3: Quebec Teacher Certification*.

section 11.5: Bachelor of Science (Kinesiology) (B.Sc.(Kinesiology)) - Kinesiology (90 credits), offered by the Department of Kinesiology and Physical Education.

The program entails 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. An Honours program is available for particularly strong students.

5.1.1 General Admission Requirements

For information about admission requirements to the B.Ed., B.Sc.(Kinesiology), or the Concurrent B.Sc. and B.Ed., or B.Mus. and B.Ed. programs, refer to the Undergraduate Admissions Guide, found at *www.mcgill.ca/applying*. Applicants to the Concurrent B.Sc. and B.Ed. apply through the Faculty of Science, and applicants to the Concurrent B.Mus. and B.Ed. apply through the Faculty of Music.

For information about Inter-Faculty Transfer or Readmission, see *Inter-Faculty Transfer* or *Readmission* under *University Regulations and General Information* in this publication, as well as information posted on the Student Affairs Office website, *www.mcgill.ca/edu-sao*.

Although no additional prerequisite courses are required, the Faculty recommends that applicants to the B.Ed. Secondary, Science & Technology, Mathematics, and B.Ed. Physical & Health Education programs have appropriate background in Science and Mathematics courses, i.e., biology, chemistry, physics and mathematics. Students having other backgrounds will be considered for admission but will be required to complete prerequisite courses in mathematics and science that may increase the number of credits required for the degree.

5.1.1.1 Language Requirement for Applicants to B.Ed. TESL Program

The application process for the B.Ed. TESL program involves several steps. Students first apply to the University indicating their program choice. Those whose academic record meets minimum program requirements will be informed by the University that they are being considered for admission to the B.Ed. TESL program. Students being considered will need to pass written and oral English language proficiency tests as a further admission requirement, and will be contacted by email with information about how to make arrangements to take the test.

5.1.2 Credit Requirements

The Bachelor of Education (B.Ed.) requires 120 credits and leads to teacher certification. Students who have not completed Quebec CEGEP, French Baccalaureate, International Baccalaureate, or at least one year of university studies prior to commencing the B.Ed. must also complete a minimum of 30 credits of Freshman courses (in addition to the 120-credit program) for a total of 150 credits. The B.Sc. is a 90-credit program. Students who have not completed Quebec CEGEP, French Baccalaureate, International Baccalaureate, or at least one year of university studies are normally enrolled in a four-year B.Sc.(Kinesiology) program, which includes a 30-credit Freshman year for a total of 120 credits.

Students entering the five-year B.Ed., or four-year B.Sc.(Kinesiology) degree are in Year 0 and are required to complete the Freshman requirements applicable to their program.

Students who have completed previous university studies may be awarded transfer credits for their course work. This can only be determined after the formal application and all necessary supporting documents have been received by Enrolment Services. A minimum of 60 credits must be completed while in residence at McGill University in order to be eligible for a degree. Transfer credits for courses taken more than five (5) years before the time of admission are not permitted in subjects where there have been substantial content changes, nor in any pedagogy courses specific to the Quebec K-11 curriculum. Courses more410 1 243.8e

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Director of Programs in First Nations and Inuit Education: Professor Donna-Lee Smith
Office: Education Building, Room 244
Telephone: 514-398-4533
Fax: 514-398-2553
Email: *donnalee.smith@mcgill.ca*
Website: *www.mcgill.ca/edu-integrated*

Centre for Educational Leadership (CEL): CEL, a unit of the Department of Integrated Studies in Education, is committed to the development of leadership for all educational stakeholders through teacher preparation, graduate studies, research, and varied approaches to professional development. The Centre seeks to promote dialogue, partnerships, and projects among teachers, policy makers, and other educational leaders in the local community and beyond through credit and non-credit work, research, and development activities.

Director: Dr. Lynn Butler-Kisber
Office: Education Building, Room 442
Telephone: 514-398-7149
Fax: 514-398-7436
Email: *lynn.butlerkisber@mcgill.ca*
Website: *www.mcgill.ca/edu-integrated*

Courses offered through Continuing Education and Summer Studies: A wide range of courses, enabling students either to acquire prerequisite credits or to earn credit towards their degree, is offered through Continuing Education and Summer Studies. For courses offered, please check *Minerva*.

5.3 Programs for First Nations and Inuit

The following programs are offered for First Nations and Inuit teachers by the Faculty of Education.

Information can be obtained by contacting:

First Nations and Inuit Education (FNIE)
3700 McTavish Street, Room 244
Montreal, Quebec H3A 1Y2

Telephone: 514-398-4533
Fax: 514-398-2553
Website: *www.mcgill.ca/edu-integrated/fnie*

Bachelor of Education – Kindergarten and Elementary First Nations and Inuit Studies Option:

Detailed information about this program may be found in *section 9.21: Bachelor of Education (B.Ed.) - Kindergarten and Elementary Education - First Nations and Inuit Studies (120 credits)*.

Detailed information about the following programs may be found in *section 10: Programs for First Nations and Inuit*:

Bachelor of Education for Certified Teachers Elementary Education

Certificate in Education for First Nations and Inuit

Certificate in First Nations and Inuit Student Personnel Services (This program is offered by the Department of Educational Psychology and Counselling through 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

Certificate in Aboriginal Education for Certified Teachers

Certificate in Aboriginal Literacy Education

6 Faculty Regulations for Undergraduate Programs

Please consult the *University Regulations and General Information* section of this publication 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 publication. 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, 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.

6.1 Advising

Refer to the *University Regulations and General Information > Undergraduate Advising* section of this publication, and the Student Affairs website, *www.mcgill.ca/edu-sao*, for further information. Assistance is also available by emailing: *sao.education@mcgill.ca*.

All **newly admitted** students are required to attend the academic advising sessions scheduled during August prior to the beginning of the Fall term. For a detailed description of advising and registration procedures, students should refer to *Welcome to McGill* at *www.mcgill.ca/newstudents*. Additional advising material is also available on the Student Affairs website, *www.mcgill.ca/edu-sao/new/advising*.

Academic advising for all **returning students** takes place in March for the upcoming academic year. Detailed advising and registration information is posted on the Student Affairs website: *www.mcgill.ca/edu-sao/current/advising*. Students entering their graduating year are encouraged to meet with their adviser during this Advising period.

All students admitted into the Freshman year (Year 0) are required to meet with an adviser during the Advising period in August.

A list of courses for Freshman (Year 0) students is available as part of the advising material for each program at *www.mcgill.ca/edu-sao/new/advising*.

6.5 Judicial Record Verification for Students in the Bachelor of Education Programs

Quebec's Education Act, section 261.0.2, grants school boards the right to verify the judicial record of any person regularly in contact with minors, and this includes student teachers. Each school board or private school may have its own administrative procedures for verification. Students are responsible for complying with their request. Anyone unable to obtain the required security clearance will not be permitted to undertake their Field Experiences, which is a mandatory requirement of the program, and consequently would have to withdraw from the program.

6.6.6 Distance Education (online) Courses

A maximum of 6 credits of elective courses taught as distance education/online courses may be used toward the B.Ed. or B.Sc.(Kinesiology) degree at McGill. Courses taught through distance education/online may not be used to complete program requirements, including subject area courses for B.Ed. students, 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.

6.6.7 Courses Taken under Satisfactory/Unsatisfactory Option

Required or complementary courses, including subject area courses for B.Ed. students, cannot be taken under this option. Please consult *University Regulations and General Information > Courses Tak*

6.11.3 Reassessment of Course Work

Reassessment of course work is administered by the course instructor or the offering department. Requests, made by students, must be made within 10 working days of the date of return of the graded materials. The reviewer will assess the fairness of the original grade rather than remark the assignment as he or she would have graded it. Reassessments should normally be completed within 20 working days of the request. Grades may be lowered or raised, or they may remain the same, as a result of the reassessment. The grade obtained on the reassessment takes precedence over the original grade.

6.11.4 Rereads of Final Exams or Final Term Papers or Projects

These rereads are administered by the Student ojects

6.12.2.3 Students will be placed in Probationary Standing

- if their CGPA falls between 1.50 and 1.99, and if they were previously in Satisfactory Standing;
- if they receive a grade of D for a Field Experience course of any level and were previously in Satisfactory Standing;
- if their CGPA falls between 1.50 and 1.99 and their TGPA in Fall or Winter is 2.50 or higher, and if they were previously in Probationary or Interim Unsatisfactory Standing;
- if their CGPA is between 1.50 and 1.99 and their TGPA is 2.50 or higher, they were previously in Unsatisfactory Readmitted Standing, and have satisfied the relevant conditions specified in their letter of readmission.

6.12.3 Unsatisfactory/Interim Unsatisfactory Standing

6.12.3.1 Interim Unsatisfactory standing at the end of the Fall term

Students in Interim Unsatisfactory standing at the end of the Fall term:

- may continue in their program;
- should evaluate their course load and reduce it as appropriate;
- should consult a departmental adviser, before the withdrawal deadlines, about their course selection for the Winter term;
- will not be permitted to proceed with the next normally scheduled Field Experience.

6.12.3.2 Unsatisfactory Standing at the end of the Winter term

Students in Unsatisfactory Standing at the end of the Winter term:

- have failed to meet the minimum standards set by the Faculty;
- may not continue in their program.

6.12.3.3 Readmitted Unsatisfactory Standing

Students who were previously in Unsatisfactory Standing and who were readmitted to the Faculty by the Executive Director, Student Affairs or the Committee on Student Standing will have their standing changed to Readmitted Unsatisfactory 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.

6.12.3.4 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;
- if their TGPA falls below 2.50 and their CGPA is below 2.00 and they were previously in Probationary, Unsatisfactory Readmitted, or Interim Unsatisfactory Standing;
- if they receive a failure (F, J, KF, WF) in a student teaching/Field Experience course of any level;
- if they receive a failure in the English Examination for Teacher Certification (EETC) for the fourth time;
- if they were previously in Unsatisfactory Standing and were readmitted to the Faculty by the Executive Director, Student Affairs or the Committee on Student Standing and have not at least satisfied the conditions to attain Probationary Standing that were specified in the letter of readmission.

> **Note:** Students in either the Concurrent B.Sc. and B.Ed. or the B.Mus. and B.Ed. program who receive an F or J in any Education Field Experience course, or fail the English Examination for Teacher Certification (EETC) for the fourth time, are placed in Unsatisfactory Standing. Although they

Students must receive a Pass grade in order to proceed in the B.Ed. program. Failure (F, J, KF, WF) in any Field Experience places a student in Unsatisfactory Standing, requiring withdrawal from the Teacher Education Program. Students who fail in a Fall term Field Experience may be allowed to continue taking courses in the program to enable transfer to another faculty.

A student may appeal a failing grade or termination of a Field Experience by making a formal application to the Executive Director, Student Affairs.

7.4.1 Termination of Field Experience

At any time, students may be removed from their Field Experience placement at the request of the host school administrator and cooperating teacher, or at the request of the Director of Student Teaching. Students who are removed from a Field Experience placement will be informed of the reason for the termination and will meet with the Director.

Circumstances that could lead to termination include, but are not limited to:

- Prerequisite courses not successfully completed.
- Exceeding the number of permissible unexcused absences for corequisite courses (consult the syllabus for each course).
- Failure to pass a judicial record check, if required by the school or school board where the student is placed.
- Unprofessional behaviour; behaviour that contravenes the Code of Ethics for Student Teachers.
- Failure to make the improvements outlined on a Notification of Concern by the date indicated.

The final outcome for a Field Experience that is terminated will be decided by the director of Student Teaching.

Possible outcomes are:

- Reassignment during the same term, subject to availability of placements.
- "W" – Withdrawal (normally without refund).
- "D" – Student will be permitted to register for the Field Experience again during the next regularly scheduled term.
- "F, J, KF, WF" – Failure in any Field Experience places the student in Unsatisfactory Standing.

If a student cannot continue the Field Experience due to illness, see *section 7.4.2: Withdrawal from Field Experience*.

If a student chooses to end his or her Field Experience, the director of Student Teaching will evaluate the circumstances and determine an outcome. Possible outcomes are the same as those listed above.

7.4.2 Withdrawal from Field Experience

- Withdrawal (with refund) for any reason must be done at least two weeks before the start date of the Field Experience. The student is responsible for notifying the OST in writing by this deadline.
- Students having to withdraw for any reason, including illness, from a Field Experience that begins in less than two weeks or that is underway must immediately inform the OST. Based on the circumstances of the withdrawal, the director of the OST will determine the final outcome of the Field Experience and the Student Affairs Office will determine eligibility for refund.

7.4.3 Exemption and Transfer Credit

Students who hav

- **Goals and Rationale**

  The interests of the two Standing Committees of the Faculty of Education in promoting appropriate ethical and professional conduct have led us to develop the following Code of Ethics for Student Teachers. This code seeks to respond to and address the following needs:

  1. The Code addresses the interdependent duties, rights, and responsibilities of student teachers, faculty members, and educational partners.
  2. By addressing common issues and needs, the Code seeks to articulate and make explicit ethical principles that transcend disciplinary boundaries. These principles reflect the fundamental values that are expressed in the duties, rights, and responsibilities of all involved in Teacher Education.
  3. The Code requires a reasonable flexibility in the implementation of common principles. It is designed to help those involved in Teacher Education, as a matter of sound ethical reasoning, to understand and respect the contexts in which they w

- Respects the right of individuals to expect that student teachers will engage in practices that aim to ensure the physical, psychological, and emotional safety of students.

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Special services offered by the Department include the School and Counselling Psychology Clinic and the International Centre for Youth Gambling and High Risk Behaviour.

8.3 Department of Educational and Counselling Psychology Faculty

Emeritus Professors

Mark W. Aulls; B.S.(Ball St.), M.Ed.(Ind.), Ph.D.(Georgia)

Janet G. Donald; B.A., M.A.(W. Ont.), Ph.D.(Tor.)

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.)

Lynn McAlpine; B.A.(McG.), M.A.(C'dia.), Ph.D.(Tor.)

Eigil Pedersen; B.A.(Sir G. Wms.), M.A.(McG.), Ed.D.(Harv.)

Bruce M. Shore; B.Sc., M.A.(McG.), Ph.D.(Calg.)

Howard A. Stutt; B.A.(Qu.), B.Ed., M.Ed.(Montr.), F.C.C.T.

Professors

Roger Azev

Assistant Professors

Nathan Smith; M.Sc., Ph.D.(VCU)

Faculty Lecturer

Jack de Stefano; B.A.(Loyola), M.Ed., Ed.D.(McG.)

Associate Professor (Non-Tenure Track)

Marcia Delcourt; B.S.(Bloomsburg St.), M.A., Ph.D.(Conn.) (*part-time*)

Associate Members

Reut Gruber; B.A., M.A., Ph.D.(Tel Aviv)

Daniel Levitin; B.A.(Stan.), M.Sc., Ph.D.(Ore.)

Adjunct Professors

Dermot Bowler

Karen Cohen-Gazith

Yves de Roten

Judith Gradinger

Calvin Kalman

Judith McBride

Katherine Moxness

Judith Norton

Rhoda Root

Erica Shoshana Ross

David Shore

Anastassios Stalikas

Helen-Maria Vasiliadis

Harold Wynne

Research Associates

Rina Gupta

Jazvinder Magon

Diana Tabatabai

Part-time Instructors

Shawna Atkins

Maureen Baron

Dianne Bateman

Antonio Bernardelli

Sam Bruzzese

Karen Cohen-Gazith

Scott Conrod

David Hoida

Judith Norton

Monica Oala

Part-time Instructors

Caroline Zanni-Dansereau

9 Department of Integrated Studies in Education

9.1 Location

Faculty of Education
3700 McTavish Street, Room 244

Emeritus Professors

Jacques J. Rebuffot; B.ès L., L.ès L., D.E.S.(Aix-Marseille), Dip. I.E.P., Dr. 3rd Cy.(Strasbourg)

Bernard Shapiro; B.A.(McG.), M.A.T., Ed.D.(Harv.)

David C. Smith; B.Ed., M.A.(McG.), Ph.D.(Lond.), F.C.C.T., F.R.S.A.

R. Lynn Studham; UL

Assistant Professors

Sylvia Sklar; Dip.Ed.(McG.), B.A.(C'dia), M.Ed.(McG.)

Associate Member

Adrienne Carey Hurley; B.A.(Colo.), M.A.(Mich.), Ph.D.(Calif.)

Faculty Lecturers

Beverly Baker; B.A., B.Com.(St. Mary's), B.Ed.(McG.), M.A.(C'dia)

Fiona Benson; B.A.(Ott.), M.Ed., Ph.D.(McG.)

Charlotte Hussey; B.A.(Wheaton), M.A.(C'dia), M.F.A.(W. Wilson), Ph.D.(McG.)

Caroline Riches; B.A., M.Sc.(Alta.), Ph.D.(McG.)

Louise Savoie; B.S.S.(Laval), M.A.(Ott.)

Donna-Lee Smith; B.A., M.A.(C'dia)

Adjunct Professors

Colin J. Lankshear; B.A., M.A., Ph.D.(Cant.), M.Ed.(Qld.)

Robert E. Saggers; B.A.(Sir G. Wms.), M.Ed., Ph.D.(McG.)

Ruth Wells Sandwell; B.A.(Car.), M.A.(Vic., BC), Ph.D.(S. Fraser)

Ann L. Smith; B.A.(Natal), B.A., M.A., Ph.D.(Witw.)

9.4 Overview of Programs (Integrated Studies in Education)

The following is an overview of programs offered by the department of Integrated Studies in Education.

9.4.1 Bachelor of Education: Secondary Program (120 credits)

The aim of the B.Ed. Secondary program is to prepare strong beginning teachers for the secondary school level. This integrated 120-credit program (150 credits for out-of-province students) consists of academic studies to provide background depth in subjects taught in the secondary school, professional studies centred on school-based practicum, supported by studies in pedagogy, curriculum, and educational foundations. Students choose their teaching profiles from: English, Mathematics, Science and Technology, and Social Sciences (History and Citizenship, and one of Geography or Ethics and Religious Culture). Students applying to the B.Ed. Secondary in the areas of Mathematics or Science and Technology, depending on their academic record, may be required to complete additional courses in order to gain the appropriate subject area background.

9.4.2 Concurrent Bachelor of Music (Music Education)/Bachelor of Education in Music program (137 credits)

This program provides students with the opportunity to obtain a Bachelor of Music degree and a Bachelor of Education degree concurrently. The two degrees are awarded during the same convocation period. Students who have completed Quebec CEGEP, French Baccalaureate, International Baccalaureate or at least one year of university studies are normally enrolled in a program requiring the completion of 137 credits.

Concurrent Bachelor of Science/Bachelor of Education (Secondargree concureD) (135 credits)

This program provides students with the opportunity to attain a Bachelor of Science degree and a Bachelor of Education degree concurrently. The two degrees are awarded during the same convocation period. Students who have completed Quebec CEGEP, French Baccalaureate, International Baccalaureate, or at least one year of university studies are normally enrolled in a program requiring the completion of 135 credits.

9.4.4 Bachelor of Education (Kindergarten and ElementarD) (120 credits)

This program leads to certification to teach children between the ages of 5 and 11 years. It consists of four years of full-time study requiring the completion of 120 credits (150 credits or five years for out-of-province students) of academic and professional courses.

Options within the B.Ed. (Kinder

9.4.5 Baccalauréat en enseignement du français langue seconde (120 credits) (B.Ed. TFSL)

No admissions for 2011-2012.

This four-year program (normally 120 credits or four years for students who have completed Quebec CEGEP, French Baccalaureate, International Baccalaureate, or at least one year of university studies) prepares specialist teachers to teach French as a second language, in Core French programs, immersion programs, intensive programs, and classes 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* (*www.mcgill.ca/edu-dise/students/undergraduate/new/#TFSL*).

9.4.6 Bachelor of Education in Teaching English as a Second Language (120 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 re

EDEM 220	(3)	Contemporary Issues in Education
ENGL 201	(3)	Survey of English Literature 2
ENGL 215	(3)	Introduction to Shakespeare
ENGL 226	(3)	American Literature 2
FRSL 101D1	(3)	Beginners' French
FRSL 101D2	(3)	Beginners' French
FRSL 207D1	(3)	Elementary French 01
FRSL 207D2	(3)	Elementary French 01
FRSL 211D1	(3)	Oral and Written French 1
FRSL 211D2	(3)	Oral and Written French 1
RELG 207	(3)	The Study of World Religions 1

Required Courses (45 credits)

EDEC 201	(1)	First Year Professional Seminar
EDEC 215	(0)	English Language Requirement
EDEC 247	(3)	Policy Issues in Quebec Education
EDEC 254	(1)	Second Professional Seminar (Secondary)
EDEC 351	(2)	Third Professional Seminar (Secondary)
EDEC 404	(3)	Fourth Year Professional Seminar (Sec)
EDES 350	(3)	Classroom Practices (Secondary)
EDFE 200	(2)	First Field Experience (K/Elem & Secondary)
EDFE 254	(3)	Second Field Experience (Secondary)
EDFE 351	(8)	Third Field Experience (Secondary)
EDFE 451	(7)	Fourth Field Experience (Secondary)
EDPE 300	(3)	Educational Psychology
EDPE 304	(3)	Measurement and Evaluation
EDPI 309	(3)	Exceptional Students
EDPI 341	(3)	Instruction in Inclusive Schools

Complementary Courses (15 credits)

15 credits selected as described below.

Multicultural Education

3 credits from:

EDEC 233	(3)	First Nations and Inuit Education
EDEC 248	(3)	Multicultural Education
EDEC 249	(3)	Global Education and Social Justice

Philosophy of Education

3 credits from:

EDEC 260	(3)	Philosophical Foundations
EDEC 261	(3)	Philosophy of Catholic Education

Media, Technology, Computers and Education

3 credits from:

EDEC 262	(3)	Media, Technology and Education
EDPT 200	(3)	Integrating Educational Technology in Classrooms
EDPT 204	(3)	Educational Media 1

For students with a background in computers or other media applications in education, the following courses may be substituted for the above:

EDPT 341	(3)	Instructional Programming 1
EDPT 420	(3)	Media Literacy for Education

Secondary Teaching Methods - English

6 credits:

EDES 361	(3)	Teaching Secondary English 1
EDES 461	(3)	Teaching Secondary English 2

Secondary English Subject Area (54 credits)

Note: Students selecting 18 credits of English as their second 'teachable subject' will take EDES 361 Teaching Secondary English 1 (3 credits) to count as an elective in their program.

Option 1

54 credits distributed as follows:

Required Course (3 credits)

EDES 366	(3)	Literature for Young Adults

Complementary 'Language/Linguistics' courses (6 credits)

CEAP 250*	(3)	Research Essay & Rhetoric
EDEC 203*	(3)	Communication in Education
EDSL 305	(3)	L2 Learning: Classroom Settings
EDSL 350	(3)	Essentials of English Grammar
LING 200	(3)	Introduction to the Study of Language
LING 201	(3)	Introduction to Linguistics
LING 355	(3)	Language Acquisition 1

*Note: Students may take either CEAP 250 OR EDEC 203 for credit but not both

Complementary Courses

45 credits selected from the English Department undergraduate complementary course list (www.mcgill.ca/english/undergrad/complimentary-courses/) distributed as follows (including at least one course in Shakespeare):

Literature (33 credits)

A minimum of 15 credits must be at the 300 level or higher

Cultural Studies (9 credits)

At least 3 credits must be at the 300 level or higher

Drama/Theatre (3 credits)

Option 2 (54 credits)

54 credits distributed as follows:

Required Course (3 credits)

EDES 366	(3)	Literature for Young Adults

Complementary 'Language/Linguistics' courses. (6 credits)

Select 6 credits from the following course list:

CEAP 250*	(3)	Research Essay & Rhetoric
EDEC 203*	(3)	Communication in Education
EDSL 305	(3)	L2 Learning: Classroom Settings
EDSL 350	(3)	Essentials of English Grammar
LING 200	(3)	Introduction to the Study of Language
LING 201	(3)	Introduction to Linguistics
LING 355	(3)	Language Acquisition 1

*Note: Students may take either CEAP 250 OR EDEC 203 for credit but not both

Complementary Courses

27 credits selected from the English Department undergraduate complementary course list (www.mcgill.ca/english/undergrad/complimentary- courses/), distributed as follo

LING 200	(3)	Introduction to the Study of Language
LING 201	(3)	Introduction to Linguistics
LING 355	(3)	Language Acquisition 1

Note: students may select either EDEC 203 or CEAP 250

Complementary Courses (12 credits)

12 credits selected from the English Department undergraduate complementary course list (www.mcgill.ca/english/undergrad/complimentary-courses/). A minimum of 6 credits at the 300 level or higher

Literature (6 credits)

Cultural Studies (3 credits)

Drama/Theatre (3 credits)

9.6 Bachelor of Education (B.Ed.) - Secondary Mathematics (120 credits)

The Bachelor of Education (B.Ed.) – Secondary Mathematics program requires 120 credits and leads to teacher certification. Students who have not completed Quebec CEGEP, French Baccalaureate, International Baccalaureate, or at least one year of university studies prior to commencing the B.Ed. must also complete a minimum of 30 credits of Freshman courses (in addition to the 120 credits for the program) for a total of 150 credits.

The aim of the B.Ed. Secondary Education program is to prepare strong beginning teachers for the secondary school level. This integrated program consists of academic studies, professional studies, and school-based practicum components. All of this is supported by studies in pedagogy, curriculum, and educational foundations.

The Secondary Mathematics program provides students with the learning opportunities needed to become proficient Mathematics teachers.

Please note that graduates of teacher education programs are recommended by the University for Quebec certification to the Quebec Ministère de l'Éducation, du Loisir et du Sport (MELS). For more information about teacher certification in Quebec, please refer to the Faculty of Education section under "Overview of Faculty Programs", "Undergraduate Education Programs", and "Quebec Teacher Certification".

Freshman Program

Students normally complete 30 credits in their Freshman (U0) year.

The Freshman year is the time to take introductory-level courses in Mathematics, as well as to explore areas that are not normally taken as teachable subject areas within B.Ed. programs (e.g., Sociology, Psychology, Political Science, etc.). Students should also investigate the possibility of taking one of the First Year Seminar courses offered by the Faculty of Arts or the Faculty of Science.

Students in the Secondary Mathematics program must complete three Math prerequisite courses in their freshman year, MATH 133, MATH 140, and MATH 141.

In addition, students select courses from the recommended list below or other courses in consultation with the Program Adviser. The French Second Language (FRSL) courses suggested require a placement test to determine the appropriate course level.

CEAP 250	(3)	Research Essay & Rhetoric
EDEM 220	(3)	Contemporary Issues in Education
FRSL 101D1	(3)	Beginners' French
FRSL 101D2	(3)	Beginners' French
FRSL 207D1	(3)	Elementary French 01
FRSL 207D2	(3)	Elementary French 01
FRSL 211D1	(3)	Oral and Written French 1
FRSL 211D2	(3)	Oral and Written French 1
MATH 133	(3)	Linear Algebra and Geometry
MATH 140	(3)	Calculus 1
MATH 141	(4)	Calculus 2
RELG 204	(3)	Judaism, Christianity and Islam
RELG 207	(3)	The Study of World Religions 1

Required Courses (45 credits)

EDEC 201	(1)	First Year Professional Seminar
EDEC 215	(0)	English Language Requirement
EDEC 247	(3)	Policy Issues in Quebec Education
EDEC 254	(1)	Second Professional Seminar (Secondary)
EDEC 351	(2)	Third Professional Seminar (Secondary)
EDEC 404	(3)	Fourth Year Professional Seminar (Sec)
EDES 350	(3)	Classroom Practices (Secondary)
EDFE 200	(2)	First Field Experience (K/Elem & Secondary)
EDFE 254	(3)	Second Field Experience (Secondary)
EDFE 351	(8)	Third Field Experience (Secondary)
EDFE 451	(7)	Fourth Field Experience (Secondary)
EDPE 300	(3)	Educational Psychology
EDPE 304	(3)	Measurement and Evaluation
EDPI 309	(3)	Exceptional Students
EDPI 341	(3)	Instruction in Inclusive Schools

Complementary Courses (15 credits)

15 credits selected as described below.

Multicultural Education

3 credits from:

EDEC 233	(3)	First Nations and Inuit Education
EDEC 248	(3)	Multicultural Education
EDEC 249	(3)	Global Education and Social Justice

Philosophy of Education

3 credits from:

EDEC 260	(3)	Philosophical Foundations
EDEC 261	(3)	Philosophy of Catholic Education

Media, Technology, Computers and Education

3 credits from:

EDEC 262	(3)	Media, Technology and Education
EDPT 200	(3)	Integrating Educational Technology in Classrooms
EDPT 204	(3)	Educational Media 1

For students with a background in computers or other media applications in education, the following courses may be substituted for the above:

EDPT 341	(3)	Instructional Programming 1
EDPT 420	(3)	Media Literacy for Education

Secondary Teaching Methods - Mathematics

6 credits:

Note: Students selecting 18 credits of Secondary Mathematics courses as their other "teachable" subject will take 3 credits of Mathematics Secondary Teaching Methods courses to count as an elective in their program.

EDES 353	(3)	Teaching Secondary Mathematics 1
EDES 453	(3)	Teaching Secondary Mathematics 2

Secondary Mathematics Subject Area (54 credits)

Secondary Mathematics students complete 54 credits selected in consultation with the Program Adviser in one of two options. They are expected to have completed the prerequisite courses MATH 133, MATH 140, and MATH 141 or their equivalents. Freshman students will take them as part of their Freshman program.

Students entering from CEGEP should only choose this program if they have a strong background in their CEGEP Mathematics courses. The 100-level prerequisite courses (MATH 133, MATH 140, and MATH 141) are considered CEGEP level and only students entering a five-year program (out-of-province and directly from high school) are eligible to take them. Students entering with advanced standing without having completed these prerequisites will be required to make up any deficiencies in these courses over and above the degree requirements.

Option 1

30 credits from the list of "Required Mathematics Courses" and

24 credits from the list of "Complementary Mathematics Courses"

Or

Option 2:

30 credits from the list of "Required Mathematics Courses" and

6 credits from the list of "Complementary Mathematics Courses"

And

18 credits of designated courses in another "teachable" subject area (English, Social Sciences, or Science and Technology - see these Secondary Education programs for courses)

Students must also take

3 credits of Secondary Teaching Methods for the teachable subject area

(Note: this additional Methods course counts as a 3-credit elective in the program.)

Students in the English Secondary Profile who select Mathematics as their other "teachable subject area" take

18 credits from the list of "Mathematics Courses for Other Secondary Subject Areas"

And

3 credits of "e subject area Teaching Methods - Mathe.524"Ma4c 4.062 m 1 67.52.382 Tm(Optionor Tm(T)Tj1 0 0 1 226.3e requirt are 466.962(v)Tj1 04.

MATH 338	(3)	History and Philosophy of Mathematics
MATH 348	(3)	Topics in Geometry

Complementary Mathematics Courses

24 credits from the list below for Secondary Mathematics Option 1 students or

6 credits from the list below for Secondary Mathematics Option 2 students

Note: Students with Mathematics as their "other teachable subject area" select from the list of "Mathematics Courses for Students in Other Secondary Subject Areas".

COMP 230	(3)	Logic and Computability
MATH 314	(3)	Advanced Calculus
MATH 317	(3)	Numerical Analysis
MATH 318	(3)	Mathematical Logic
MATH 326	(3)	Nonlinear Dynamics and Chaos
MATH 329	(3)	Theory of Interest
MATH 339	(3)	Foundations of Mathematics
MATH 340	(3)	Discrete Structures 2
MATH 346	(3)	Number Theory

Mathematics Courses for Students in Other Secondary Subject Areas

Students in other secondary subject areas selecting Mathematics as their "other teachable subject area" take the following 18 credits.

MATH 222	(3)	Calculus 3
MATH 223	(3)	Linear Algebra
MATH 315	(3)	Ordinary Differential Equations
MATH 323	(3)	Probability
MATH 324	(3)	Statistics
MATH 348	(3)	Topics in Geometry

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Freshman Program

Students normally complete 30 credits in their freshman (U0) year.

The freshman year is the time to take introductory level courses in a teachable subject area, as well as to explore areas that are not normally taken as within B.Ed. programs (e.g., Sociology, Psychology, Political Science, etc.). Students should also investigate the possibility of taking one of the First Year Seminar courses offered by the Faculty of Arts or the Faculty of Science.

In addition, in consultation with the program adviser, students may select courses from the recommended course list below or other courses. The list includes History, Geography and Religious Studies courses that may be used toward the academic component of the Secondary Social Sciences course requirements. Also included are several French Second Language (FRSL) courses for which placement tests are required to determine the appropriate level.

CEAP 250	(3)	Research Essay & Rhetoric
EDEM 220	(3)	Contemporary Issues in Education
FRSL 101D1	(3)	Beginners' French
FRSL 101D2	(3)	Beginners' French
FRSL 207D1	(3)	Elementary French 01
FRSL 207D2	(3)	Elementary French 01
FRSL 211D1	(3)	Oral and Written French 1
FRSL 211D2	(3)	Oral and Written French 1
GEOG 200	(3)	Geographical Perspectives: World Environmental Problems
GEOG 205	(3)	Global Change: Past, Present and Future
GEOG 210	(3)	Global Places and Peoples
HIST 202	(3)	Survey: Canada to 1867
HIST 203	(3)	Survey: Canada since 1867
HIST 214	(3)	Introduction to European History
HIST 215	(3)	Modern European History
RELG 204	(3)	Judaism, Christianity and Islam
RELG 207	(3)	The Study of World Religions 1
RELG 252	(3)	Hinduism and Buddhism

Required Courses (45 credits)

EDEC 201	(1)	First Year Professional Seminar
EDEC 215	(0)	English Language Requirement
EDEC 247	(3)	Policy Issues in Quebec Education
EDEC 254	(1)	Second Professional Seminar (Secondary)
EDEC 351	(2)	Third Professional Seminar (Secondary)
EDEC 404	(3)	Fourth Year Professional Seminar (Sec)
EDES 350	(3)	Classroom Practices (Secondary)
EDFE 200	(2)	First Field Experience (K/Elem & Secondary)
EDFE 254	(3)	Second Field Experience (Secondary)
EDFE 351	(8)	Third Field Experience (Secondary)
EDFE 451	(7)	Fourth Field Experience (Secondary)
EDPE 300	(3)	Educational Psychology
EDPE 304	(3)	Measurement and Evaluation
EDPI 309	(3)	Exceptional Students
EDPI 341	(3)	Instruction in Inclusive Schools

Complementary Courses (15 credits)

15 credits selected as described below.

Multicultural Education

3 credits from:

18 credits chosen from the Ethics and Religious Culture course list as specified below.

Required Histor

Ethics and Religious Culture

18 credits as specified below.

6 credits from:

* Note: Either EDER 309 or RELG 204 may be selected but not both.

EDER 309*	(3)	The Religious Quest
RELG 204*	(3)	Judaism, Christianity and Islam
RELG 207	(3)	The Study of World Religions 1
RELG 252	(3)	Hinduism and Buddhism

6 credits from:

Search for

Freshman Program

Students normally complete 30 credits in their Freshman (U0) year.

The Freshman year is the time to take introductory-level courses in a teachable subject area, as well as to explore areas that are not normally taken within

Complementary Courses (15 credits)

15 credits selected as described below.

Multicultural Education

3 credits from:

EDEC 233	(3)	First Nations and Inuit Education
EDEC 248	(3)	Multicultural Education
EDEC 249	(3)	Global Education and Social Justice

Philosophy of Education

3 credits from:

EDEC 260	(3)	Philosophical Foundations
EDEC 261	(3)	Philosophy of Catholic Education

Media, Technology, Computers and Education

3 credits from:

EDEC 262	(3)	Media, Technology and Education
EDPT 200	(3)	Integrating Educational Technology in Classrooms
EDPT 204	(3)	Educational Media 1

For students with a background in computers or other media applications in education, the following courses may be substituted for the above:

EDPT 341	(3)	Instructional Programming 1
EDPT 420	(3)	Media Literacy for Education

Secondary Teaching Methods - Social Sciences

6 credits:

EDES 334	(3)	Teaching Secondary Social Studies 1
EDES 434	(3)	Teaching Secondary Social Studies 2

Secondary Social Sciences - History and Citizenship, Geography Subject Area (54 credits)

Secondary Social Sciences - History and Citizenship, Geography students complete 54 credits selected in consultation with the Program Adviser with the following specifications:

36 credits of History and Citizenship courses

9 credits of "Required History" courses from the list

and

27 credits "Complementary History" distributed as follows:

3-9 credits in European History

3-9 credits in Asian, African, American, Latin American or Ancient History

9 credits at the 300- or 400-level of history courses on social history, gender history, identity, culture, religion and values, political life and institutions, conflict, wealth and poverty, science and health

(Students may consult the course lists for History programs offered by the Faculty of Arts for guidance on course choices.)

and

18 credits of Geography chosen from the "Geography" course list or chosen from the courses that comprise the B.A. Minor Concentration Geography program.

Required History

9 credits selected from:

HIST 202	(3)	Survey: Canada to 1867
HIST 203	(3)	Survey: Canada since 1867
HIST 303*	(3)	History of Quebec
HIST 353*	(3)	History of Montreal

* Note: Students select either HIST 303 or HIST 353.

Complementary Courses

6-12 credits selected from the following list. Students must choose a minimum of 3 credits of ECON and a minimum of 3 credits of POLI

ANTH 338	(3)	Native Peoples of North America
CANS 200	(3)	Introduction to the Study of Canada
	(3)	FYS: Aspects of Globalization

Geography

18 credits from:

ENVR 202	(3)	The Evolving Earth
GEOG 200	(3)	Geographical Perspectives: World Environmental Problems
GEOG 205	(3)	Global Change: Past, Present and Future
GEOG 210	(3)	Global Places and Peoples
GEOG 216	(3)	Geography of the World Economy
GEOG 217	(3)	Cities in the Modern World
GEOG 272	(3)	Earth's Changing Surface
GEOG 301	(3)	Geography of Nunavut
GEOG 309	(3)	Geography of Canada
GEOG 311	(3)	Economic Geography
GEOG 331	(3)	Urban Social Geography

Note: In consultation with the program adviser, students may choose their Geography courses from those that comprise the B.A. Minor Concentration Geography program.

Electives (6 credits)

6 credits

9.9 Bachelor of Education (B.Ed.) - Secondary Science and Technology (120 credits)

The Bachelor of Education (B.Ed.) - Secondary Science and Technology program requires 120 credits and leads to teacher certification. Students who have not completed Quebec CEGEP, French Baccalaureate, International Baccalaureate, or at least one year of university studies prior to commencing the B.Ed. must also complete a minimum of 30 credits of Freshman courses (in addition to the 120 credits for the program) for a total of 150 credits.

The aim of the B.Ed. Secondary Education program is to prepare strong beginning teachers for the secondary school level. This integrated program consists of academic studies, professional studies, and school-based practicum components. All of this is supported by studies in pedagogy, curriculum, and educational foundations.

The Secondary Science and Technology program provides students with the subject matter expertise in the Living World, Earth and Space, the Material World, and the Technological World needed to teach the secondary science curriculum in Quebec schools.

Please note that graduates of teacher education programs are recommended by the University for Quebec certification to the Quebec Ministère de l'Éducation, du Loisir et du Sport (MELS). For more information about teacher certification in Quebec, please refer to the Faculty of Education section under "Overview of Faculty Programs", "Undergraduate Education Programs", and "Quebec Teacher Certification".

Freshman Program - Basic Sciences

Students who start their Education program in U0 normally complete 30 credits in their Freshman year.

Freshmen in the Science and Technology program must complete the 29 to 30 credits of Basic Science courses listed below in their first year of studies.

Fall term: BIOL 111, CHEM 110, MATH 139 or MATH 140 or MATH 150, PHYS 101 or PHYS 131

Winter term: BIOL 112, CHEM 120, MATH 141 or MATH 151, PHYS 102 or PHYS 142

Students should consult a program adviser for guidance on which fall and winter term Math and Physics courses should be taken. Course choices depend on a student's background in science and plans for upper-level Physics courses.

BIOL 111	(3)	Principles: Organismal Biology
BIOL 112	(3)	Cell and Molecular Biology
CHEM 110	(4)	General Chemistry 1
CHEM 120	(4)	General Chemistry 2
MATH 139	(4)	Calculus 1 with Precalculus
MATH 140	(3)	Calculus 1
MATH 141	(4)	Calculus 2

MATH 150	(4)	Calculus A
MATH 151	(4)	Calculus B
PHYS 101	(4)	Introductory Physics - Mechanics
PHYS 102	(4)	Introductory Physics - Electromagnetism
PHYS 131	(4)	Mechanics and Waves
PHYS 142	(4)	Electromagnetism and Optics

EDEC 249	(3)	Global Education and Social Justice

Philosophy of Education

3 credits from:

EDEC 260	(3)	Philosophical Foundations
EDEC 261	(3)	Philosophy of Catholic Education

Media, Technology, Computers and Education

3 credits from:

EDEC 262	(3)	Media, Technology and Education
EDPT 200	(3)	Integrating Educational Technology in Classrooms
EDPT 204	(3)	Educational Media 1

For students with a background in computers or other media applications in education, the following courses may be substituted for the above:

EDPT 341	(3)	Instructional Programming 1
EDPT 420	(3)	Media Literacy for Education

Secondary Teaching Methods - Science and Technology

6 credits

EDES 335	(3)	Teaching Secondary Science 1
EDES 435	(3)	Teaching Secondary Science 2

ter

Statistics

3 credits:

MATH 203	(3)	Principles of Statistics 1

History of Science

3 credits from:

BIOL 210	(3)	Perspectives of Science
HIST 238	(3)	Histories of Science
HIST 319	(3)	The Scientific Revolution
HIST 350	(3)	Science and the Enlightenment

The Living World - Required

6 credits:

* Note: Students select either BIOL 200 or LSCI 202, but not both.

BIOL 200*	(3)	Molecular Biology
BIOL 206	(3)	Methods in Biology of Organisms
LSCI 202*	(3)	Molecular Cell Biology

The Living World - Complementary

Students select a minimum of 3 credits to a maximum of 15 credits from courses on the Living World in the areas of:

Cell and Molecular Biology

Human and Organismal Biology

Populations, Ecosystems, and Evolution

The Living World - Cell and Molecular Biology

BIOL 201	(3)	Cell Biology and Metabolism
BIOL 202	(3)	Basic Genetics
BIOL 300	(3)	Molecular Biology of the Gene
BIOL 301	(4)	Cell and Molecular Laboratory
BIOL 313	(3)	Eukaryotic Cell Biology

The Living World - Human and Organismal Biology

BIOL 205	(3)	Biology of Organisms
EDKP 292	(3)	Nutrition and Wellness
EDKP 395	(3)	Exercise Physiology
NUTR 207	(3)	Nutrition and Health
NUTR 307	(3)	Human Nutrition
PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2

The Living World - Populations, Ecosystems, and Evolution

BIOL 215	(3)	Introduction to Ecology and Evolution

BIOL 240	(3)	Monteregian Flora
BIOL 304	(3)	Evolution
BIOL 305	(3)	Animal Diversity
BIOL 308	(3)	Ecological Dynamics
BIOL 310	(3)	Biodiversity and Ecosystems
BIOL 331	(3)	Ecology/Behaviour Field Course
BIOL 352	(3)	Vertebrate Evolution
ENVB 305	(3)	Population & Community Ecology
EPSC 334	(3)	Invertebrate Paleontology

Earth and Space - Complementary

Students select a minimum of 9 credits to a maximum of 24 credits from courses on Earth and Space with the following specifications:

a minimum of 6 to a maximum of 21 credits from Earth and Space

a minimum of 3 to a maximum of 18 credits from Environment

ATOC 214	(3)	Introduction: Physics of the Atmosphere
ATOC 215	(3)	Oceans, Weather and Climate
ATOC 219	(3)	Introduction to Atmospheric Chemistry
ATOC 309	(3)	Weather Radars and Satellites
ATOC 315	(3)	Thermodynamics and Convection
ENVR 202	(3)	The Evolving Earth
EPSC 201	(3)	Understanding Planet Earth
EPSC 203	(3)	Structural Geology
EPSC 210	(3)	Introductory Mineralogy
EPSC 212	(3)	Introductory Petrology
EPSC 220	(3)	Principles of Geochemistry
EPSC 221	(3)	General Geology
EPSC 225	(1)	Properties of Minerals
EPSC 233	(3)	Earth and Life History
EPSC 320	(3)	Elementary Earth Physics
EPSC 330	(3)	Earthquakes and Earth Structure
EPSC 350	(3)	Tectonics
EPSC 405	(3)	Planetary Geology
ESYS 200	(3)	Earth System Processes
ESYS 300	(3)	Investigating the Earth System
ESYS 301	(3)	Earth System Modelling
GEOG 272	(3)	Earth's Changing Surface
GEOG 321	(3)	Climatic Environments
PHYS 214	(3)	Introductory Astrophysics

Earth and Space - Environment

ENVR 200	(3)	The Global Environment
ENVR 201	(3)	Society, Environment and Sustainability

ENVR 203	(3)	Knowledge, Ethics and Environment
ENVR 301	(3)	Environmental Research Design
GEOG 200	(3)	Geographical Perspectives: World Environmental Problems
GEOG 203	(3)	Environmental Systems
GEOG 205	(3)	Global Change: Past, Present and Future
GEOG 221	(3)	Environment and Health

The Material World - Required

Students complete 9 credits of required courses on the Material World as specified below.

CHEM 281	(3)	Inorganic Chemistry 1

One of:

CHEM 203	(3)	Survey of Physical Chemistry
CHEM 223	(2)	Introductory Physical Chemistry 1

One of :

CHEM 211	(3)	Organic Chemistry 1 Lectures
CHEM 212	(4)	Introductory Organic Chemistry 1
CHEM 232	(4)	Organic Chemistry Principles

The Material World - Complementary

Students select 0 to 15 credits of complementary courses on the Material World.

* Note: If CHEM 287 is selected, CHEM 297 must also be taken.

CHEM 222	(4)	Introductory Organic Chemistry 2
CHEM 243	(2)	Introductory Physical Chemistry 2
CHEM 253	(1)	Introductory Physical Chemistry 1 Laboratory
CHEM 263	(1)	Introductory Physical Chemistry 2 Laboratory
CHEM 287*	(2)	Introductory Analytical Chemistry
CHEM 297*	(1)	Introductory Analytical Chemistry Laboratory
CHEM 301	(3)	Modern Inorganic Chemistry 2
CHEM 302	(3)	Introductory Organic Chemistry 3
CHEM 307	(3)	Analytical Chemistry of Pollutants
CHEM 319	(3)	Chemistry of Energy, Storage and Utilization
CHEM 381	(3)	Inorganic Chemistry 2
CHEM 392	(3)	Integrated Inorganic/Organic Laboratory
MATH 222	(3)	Calculus 3
PHYS 224	(3)	Physics of Music
PHYS 230	(3)	Dynamics of Simple Systems
PHYS 232	(3)	Heat and Waves
PHYS 241	(3)	Signal Processing
PHYS 242	(2)	Electricity and Magnetism

PHYS 257	(3)	Experimental Methods 1
PHYS 258	(3)	Experimental Methods 2
PHYS 271	(3)	Introduction to Quantum Physics
PHYS 328	(3)	Electronics
PHYS 331	(3)	Topics in Classical Mechanics
PHYS 333	(3)	Thermal and Statistical Physics
PHYS 339	(3)	Measurements Laboratory in General Physics
PHYS 340	(3)	Majors Electricity and Magnetism
PHYS 342	(3)	Majors Electromagnetic Waves
PHYS 432	(3)	Physics of Fluids
PHYS 434	(3)	Optics
PHYS 436	(3)	Modern Physics
PHYS 439	(3)	Majors Laboratory in Modern Physics
PHYS 446	(3)	Majors Quantum Physics

The Technological World

Students select a minimum of 6 credits to a maximum of 15 credits from courses on the Technological World.

* Note: Students may take either COMP 102 or COMP 280, but not both.

** Note: Credit will not be given for COMP 102 if it is tak

- 18 credits of Minor Chemistry

- 15 credits of Additional Science Courses

6 credits of Electives, of which at least 3 credits must be Science Electives, depending on how many credits count toward both the B.Sc. and the B.Ed. de

MATH 150	(4)	Calculus A

Second calculus course, one of:

MATH 141	(4)	Calculus 2
MATH 151	(4)	Calculus B

First physics course, one of:

PHYS 101	(4)	Introductory Physics - Mechanics
PHYS 131	(4)	Mechanics and Waves

Second physics course, one of:

PHYS 102	(4)	Introductory Physics - Electromagnetism
PHYS 142	(4)	Electromagnetism and Optics

Electives

Students wishing to take elective courses may choose them from introductory courses offered by departments in the Faculties of Science or of Arts. A list of recommended courses is found at http://www.mcgill.ca/science/sousa/new_students/u0/bsc_freshman/approved/. Certain courses offered by other faculties may also be taken, but some restrictions apply.

Consult the SOUSA website at http://www.mcgill.ca/science/sousa/continuing_students/bsc/outside/ for more information about taking courses from other faculties.

Education Component (60 credits)

60 credits of Education Component consisting of:

54 credits of required courses

6 credits of complementary courses

Required Courses

54 credits

* Note: The courses marked with an asterisk are counted toward both degrees. They will count as "electives" for the B.Sc. degree, although a grade of "C" or better is required.

The English Language Requirement (EDEC 215) must be taken in the Fall semester following the Freshman year.

EDEC 201	(1)	First Year Professional Seminar
EDEC 215	(0)	English Language Requirement
EDEC 247*	(3)	Policy Issues in Quebec Education
EDEC 254	(1)	Second Professional Seminar (Secondary)
EDEC 262*	(3)	Media, Technology and Education

EDFE 351	(8)	Third Field Experience (Secondary)
EDFE 451	(7)	Fourth Field Experience (Secondary)
EDPE 300*	(3)	Educational Psychology
EDPE 304	(3)	Measurement and Evaluation
EDPI 309*	(3)	Exceptional Students
EDPI 341	(3)	Instruction in Inclusive Schools

Complementary Courses

6 credits selected as follows:

* Note: The courses marked with an asterisk are counted toward both degrees. They will count as "electives" for the B.Sc. degree, although a grade of "C" or better is required.

3 credits, one of the three follo

BIOL 373	(3)	Biometry
BIOL 413	(1)	Directed Reading
BIOL 568	(3)	Topics on the Human Genome
BIOL 575	(3)	Human Biochemical Genetics

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

Minor Chemistry (18 credits)

Required Courses

18 credits selected as follows:

* Note: denotes courses with CEGEP equivalents.

Substitutions for these by more advanced courses may be made at the discretion of the Adviser.

CHEM 203	(3)	Survey of Physical Chemistry
CHEM 212*	(4)	Introductory Organic Chemistry 1
CHEM 222*	(4)	Introductory Organic Chemistry 2
CHEM 253	(1)	Introductory Physical Chemistry 1 Laboratory
CHEM 281	(3)	Inorganic Chemistry 1
CHEM 287	(2)	Introductory Analytical Chemistry
CHEM 297	(1)	Introductory Analytical Chemistry Laboratory

Additional Science Courses

15 credits selected as follows:

12 credits:

BIOL 210	(3)	Perspectives of Science
CHEM 381	(3)	Inorganic Chemistry 2
MATH 203	(3)	Principles of Statistics 1
MATH 222	(3)	Calculus 3

plus 3 credits, one of:

CHEM 180	(3)	World of Chemistry: Environment
CHEM 181	(3)	World of Chemistry: Food
CHEM 182	(3)	World of Chemistry: Technology
CHEM 183	(3)	World of Chemistry: Drugs

Electives (6 credits)

6 credits, of which at least 3 credits must be Science Electives.

The electives must be chosen in such a way that the credit counts needed for graduation are satisfied.

9.11 Concurrent Bachelor of Science (B.Sc.) and Bachelor of Education (B.Ed.) - Major Concentration Biology - Cell/Molecular with Minor Physics for Teachers (135 credits)

The Concurrent Bachelor of Science (B.Sc.) and Bachelor of Education (B.Ed.) - Major Concentration Biology - Cell/Molecular with Minor Physics for Teachers is jointly offered by the Faculty of Science and the Faculty of Education. Separately, the Bachelor of Science degree requires 90 credits (or 120 credits for students who have not completed the basic sciences) and the Bachelor of Education degree requires 120 credits. In the concurrent program, the

requirements for the two degrees are combined in such a way that students complete 135 (or 165 credits) to fulfil all the requirements for graduation for both the B.Sc. and the B.Ed.

Graduates of the B.Ed. degree are recommended by the University to the Quebec Ministère de l'Éducation, du Loisir et du Sport (MELS) for Quebec Teacher Certification. For more information about teacher certification in Quebec, please refer to the Faculty of Education section under "Overview of Faculty Programs", "Undergraduate Education Programs", and "Quebec Teacher Certification".

The Major Concentration Biology - Cell/Molecular with Minor Physics is one of the nine variations of the program and allows students to focus their Science degree in Cell/Molecular Biology with a subspecialization in Physics.

To fulfil the requirements for graduation for the Concurrent Bachelor of Science and Bachelor of Education, the 135 credits (or 165 credits for students admitted without basic sciences) include the following:

(30 credits of Science Freshman Program (for students admitted without basic sciences))

60 credits of Education Component

69 credits of Science Component consisting of:

- 36 credits of Major Concentration Biology - Cell/Molecular

- 18 credits of Minor Physics

- 15 credits of Additional Science Courses

6 credits of Electives, of which at least 3 credits must be Science Electives, depending on how many credits count toward both the B.Sc. and the B.Ed. degrees.

For details on the counting of credits toward both degrees (double-counting) visit the program website http://www.mcgill.ca/scienceforteachers/.

B.Sc. Freshman Program

Students who enter Science in U0 will normally be registered in the Science Freshman Program until they complete their first year. They must consult an adviser in the Science Office for Undergraduate Student Advising (SOUSA) to obtain advice and approval of their course selection. Full details are available on the SOUSA website at counting of credits to3-0.364 4Tm(9.321 Tmts t0 05 Tm(Advisi9Susa.j1 0 0 1 276.11.0439.(9.321 TmtAc9eiBmcieaing (SOne alsoj1 0 0 1 5

CHEM 110	(4)	General Chemistry 1
CHEM 115*	(4)	Accelerated General Chemistry: Giants in Science
CHEM 120*	(4)	General Chemistry 2
COMP 202	(3)	Introduction to Computing 1
ESYS 104	(3)	The Earth System
MATH 133	(3)	Linear Algebra and Geometry
PSYC 100	(3)	Introduction to Psychology

First calculus course, one of:

MATH 139	(4)	Calculus 1 with Precalculus
MATH 140	(3)	Calculus 1
MATH 150	(4)	Calculus A

Second calculus course, one of:

MATH 141	(4)	Calculus 2
MATH 151	(4)	Calculus B

First physics course, one of:

PHYS 101	(4)	Introductory Physics - Mechanics
PHYS 131	(4)	Mechanics and Waves

Second physics course, one of:

PHYS 102	(4)	Introductory Physics - Electromagnetism
PHYS 142	(4)	Electromagnetism and Optics

Electives

Students wishing to take elective courses may choose them from introductory courses offered by departments in the Faculties of Science or of Arts. A list of recommended courses is found at http://www.mcgill.ca/science/sousa/new_students/u0/bsc_freshman/approved/. Certain courses offered by other faculties may also be taken, but some restrictions apply.

Consult the SOUSA website at http://www.mcgill.ca/science/sousa/continuing_students/bsc/outside/ for more information about taking courses from other faculties.

Education Component (60 credits)

60 credits of Education Component, consisting of:

54 credits of required courses

6 credits of complementary courses

Required Courses

54 credits

* Note: The courses marked with an asterisk are counted toward both degrees. They will count as "electives" for the B.Sc. degree, although a grade of "C" or better is required.

The English Language Requirement (EDEC 215) must be taken in the Fall semester following the Freshman year.

EDEC 201	(1)	First Year Professional Seminar

EDEC 215	(0)	English Language Requirement
EDEC 247*	(3)	Policy Issues in Quebec Education
EDEC 254	(1)	Second Professional Seminar (Secondary)
EDEC 262*	(3)	Media, Technology and Education
	(2)	Third Professional Seminar (Secondary)

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)	Introductory Organic Chemistry 1

Complementary Courses

At least 7 credits selected from:

BIOL 306	(3)	Neural Basis of 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)	Directed Reading
BIOL 568	(3)	Topics on the Human Genome
BIOL 575	(3)	Human Biochemical Genetics

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

Minor Physics (18 credits)

Required Course

3 credits

PHYS 257	(3)	Experimental Methods 1

Complementary Courses

15 credits to be selected as follows:

One of:

PHYS 230	(3)	Dynamics of Simple Systems
PHYS 251	(3)	Honours Classical Mechanics 1

One of:

PHYS 232	(3)	Heat and Waves
PHYS 253	(3)	Thermal Physics

One of:

PHYS 241	(3)	Signal Processing
PHYS 258	(3)	Experimental Methods 2

One of:

PHYS 214	(3)	Introductory Astrophysics
PHYS 224	(3)	Physics of Music
PHYS 260	(3)	Modern Physics and Relativity
PHYS 271	(3)	Introduction to Quantum Physics

One of:

PHYS 340	(3)	Majors Electricity and Magnetism
PHYS 350	(3)	Honours Electricity and Magnetism

Additional Science Courses (15 credits)

BIOL 210	(3)	Perspectives of Science
MATH 203	(3)	Principles of Statistics 1
MATH 222	(3)	Calculus 3
MATH 223	(3)	Linear Algebra
MATH 314	(3)	Advanced Calculus

Electives (6 credits)

6 credits, of which at least 3 credits must be Science Electives.

The electives must be chosen in such a way that the credit counts needed for graduation are satisfied.

9.12 Concurrent Bachelor of Science (B.Sc.) and Bachelor of Education (B.Ed.) - Major Concentration Biology - Organismal with Minor Chemistry for Teachers (135 credits)

The Concurrent Bachelor of Science (B.Sc.) and Bachelor of Education (B.Ed.) - Major Concentration Biology - Organismal with Minor Chemistry for Teachers is jointly offered by the Faculty of Science and the Faculty of Education. Separately, the Bachelor of Science degree requires 90 credits (or 120 credits for students who have not completed the basic sciences) and the Bachelor of Education degree requires 120 credits. In the concurrent program, the requirements for the two degrees are combined in such a way that students complete 135 (or 165 credits) to fulfil all the requirements for graduation for both the B.Sc. and the B.Ed.

Graduates of the B.Ed. degree are recommended by the University to the Quebec Ministère de l'Éducation, du Loisir et du Sport (MELS) for Quebec Teacher Certification. For more information about teacher certification in Quebec, please refer to the Faculty of Education section under "Overview of Faculty Programs", "Undergraduate Education Programs", and "Quebec Teacher Certification".

The Major Concentration Biology - Organismal with Minor Chemistry is one of the nine variations of the program and allows students to focus their Science degree in Organismal Biology with a subspecialization in Chemistry.

To fulfil the requirements for graduation for the Concurrent Bachelor of Science and Bachelor of Education, the 135 credits (or 165 credits for students admitted without basic sciences) include the following:

(30 credits of Science Freshman Program (for students admitted without basic sciences))

60 credits of Education Component

69 credits of Science Component consisting of:

- 36 credits of Major Concentration Biology - Organismal

- 18 credits of Minor Chemistry

- 15 credits of Additional Science Courses

6 credits of Electives, of which at least 3 credits must be Science Electives, depending on how many credits count toward both the B.Sc. and the B.Ed. degrees.

For details on the counting of credits toward both degrees (double-counting) visit the program website http://www.mcgill.ca/scienceforteachers/.

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Students who enter Science in U0 will normally be registered in the Science Freshman Program until they complete their first year. They must consult an adviser in the Science Office for Undergraduate Student Advising (SOUSA) to obtain advice and approval of their course selection. Full details are available on the SOUSA website at http://www.mcgill.ca/science/sousa. Academic advising is also available by email. The address is newstudentadvising.science@mcgill.ca.

Students normally complete 30 credits which must include at least seven courses from the list of Approved Freshman Science courses, selected as follows:

General Math and Science Breadth

Six of the Freshman courses must satisfy one of the following:

Option 1) 2 courses from MATH and 4 courses from BIOL, CHEM or PHYS;

or

Option 2) 3 courses from MATH and 3 courses from BIOL, CHEM or PHYS.

Science Complementary

The seventh course is chosen from the list of Approved Freshman Science Courses.

Notes:

1. Students who have not studied all of Biology, Chemistry and Physics at the grade 12 level or equivalent are strongly advised to include at least one course in the missing discipline in their Freshman Program.

2. Many students will complete more than seven courses from the Approved Freshman Science Courses list, particularly those who wish to leave several options open for their choice of major.

3. Students entering the Freshman Program must be aware of the department specific requirements when selecting their courses. Detailed advising information is available at http://www.mcgill.ca/science/sousa/bsc/freshman.

4. The maximum number of courses per term, required, complementary, and elective, is five.

List of Approved Freshman Science Courses

Select the approved courses according to the instructions above.

Note:

* CHEM 115 (not open to students who are taking or have taken CHEM 110 or CHEM 120)

* CHEM 120 (not open to students who have taken CHEM 115)

BIOL 111	(3)	Principles: Organismal Biology
BIOL 112	(3)	Cell and Molecular Biology
CHEM 110	(4)	General Chemistry 1
CHEM 115*	(4)	Accelerated General Chemistry: Giants in Science
CHEM 120*	(4)	General Chemistry 2
COMP 202	(3)	Introduction to Computing 1
ESYS 104	(3)	The Earth System
MATH 133	(3)	Linear Algebra and Geometry
PSYC 100	(3)	Introduction to Psychology

First calculus course, one of:

MATH 139	(4)	Calculus 1 with Precalculus
MATH 140	(3)	Calculus 1
MATH 150	(4)	Calculus A

Second calculus course, one of:

MATH 141	(4)	Calculus 2
MATH 151	(4)	Calculus B

First physics course, one of:

PHYS 101	(4)	Introductory Physics - Mechanics
PHYS 131	(4)	Mechanics and Waves

Second physics course, one of:

PHYS 102	(4)	Introductory Physics - Electromagnetism
PHYS 142	(4)	Electromagnetism and Optics

Electives

Students wishing to take elective courses may choose them from introductory courses offered by departments in the Faculties of Science or of Arts. A list of recommended courses is found at http://www.mcgill.ca/science/sousa/new_students/u0/bsc_freshman/approved/. Certain courses offered by other faculties may also be taken, but some restrictions apply.

Consult the SOUSA website at http://www.mcgill.ca/science/sousa/continuing_students/bsc/outside/ for more information about taking courses from other faculties.

Education Component (60 credits)

60 credits of Education Component consisting of:

54 credits of required courses

6 credits of complementary courses

Required Courses

54 credits

* Note: The courses marked with an asterisk are counted toward both degrees. They will count as "electives" for the B.Sc. degree, although a grade of "C" or better is required.

The English Language Requirement (EDEC 215) must be taken in the Fall semester following the Freshman year.

EDEC 201	(1)	First Year Professional Seminar
EDEC 215	(0)	English Language Requirement
EDEC 247*	(3)	Policy Issues in Quebec Education
EDEC 254	(1)	Second Professional Seminar (Secondary)
EDEC 262*	(3)	Media, Technology and Education
EDEC 351	(2)	Third Professional Seminar (Secondary)
EDEC 404	(3)	Fourth Year Professional Seminar (Sec)
EDES 335	(3)	Teaching Secondary Science 1
EDES 350	(3)	Classroom Practices (Secondary)
EDES 435	(3)	Teaching Secondary Science 2
EDFE 200	(2)	First Field Experience (K/Elem & Secondary)
EDFE 254	(3)	Second Field Experience (Secondary)
EDFE 351	(8)	Third Field Experience (Secondary)
EDFE 451	(7)	Fourth Field Experience (Secondary)
EDPE 300*	(3)	Educational Psychology
EDPE 304	(3)	Measurement and Evaluation
EDPI 309*	(3)	Exceptional Students
EDPI 341	(3)	Instruction in Inclusive Schools

Complementary Courses

6 credits selected as follows:

* Note: The courses marked with an asterisk are counted toward both degrees. They will count as "electives" for the B.Sc. degree, although a grade of "C" or better is required.

3 credits, one of the three following courses:

EDEC 233*	(3)	First Nations and Inuit Education
EDEC 248*	(3)	Multicultural Education
EDEC 249*	(3)	Global Education and Social Justice

3 credits, one of the two following courses:

EDEC 260*	(3)	Philosophical Foundations
EDEC 261*	(3)	Philosophy of Catholic Education

Major Concentration Biology - Organismal (36 credits)

The Major Concentration Biology - Organismal is a planned sequence of courses designed to permit a degree of specialization in organismal biology.

Advising Note: Freshman students should be aware that PHYS 101 and/or PHYS 102 are required for some of the courses in the major and minor concentrations in Biology.

Required Courses

24 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

Complementary Courses

12 credits selected from:

BIOL 303	(3)	Developmental Biology
BIOL 305	(3)	Animal Diversity
BIOL 306	(3)	Neural Basis of Behaviour
BIOL 307	(3)	Behavioural Ecology/Sociobiology
BIOL 310	(3)	Biodiversity and Ecosystems
BIOL 331	(3)	Ecology/Behaviour Field Course
BIOL 342	(3)	Marine Biology
BIOL 350	(3)	Insect Biology and Control
BIOL 373	(3)	Biometry
BIOL 427	(3)	Herpetology

BIOL 435	(3)	Natural Selection
BIOL 441	(3)	Biological Oceanography
BIOL 465	(3)	Conservation Biology

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

Minor Chemistry (18 credits)

Required Courses

18 credits selected as follows:

* Note: denotes courses with CEGEP equivalents.

Substitutions for these by more advanced courses may be made at the discretion of the Adviser.

CHEM 203	(3)	Survey of Physical Chemistry
CHEM 212*	(4)	Introductory Organic Chemistry 1
CHEM 222*	(4)	Introductory Organic Chemistry 2
CHEM 253	(1)	Introductory Physical Chemistry 1 Laboratory
CHEM 281	(3)	Inorganic Chemistry 1
CHEM 287	(2)	Introductory Analytical Chemistry
CHEM 297	(1)	Introductory Analytical Chemistry Laboratory

Additional Science Courses (15 credits)

15 credits selected as follows:

12 credits:

BIOL 210	(3)	Perspectives of Science
CHEM 381	(3)	Inorganic Chemistry 2
MATH 203	(3)	Principles of Statistics 1
MATH 222	(3)	Calculus 3

plus 3 credits, one of:

CHEM 180	(3)	World of Chemistry: Environment
CHEM 181	(3)	World of Chemistry: Food
CHEM 182	(3)	World of Chemistry: Technology
CHEM 183	(3)	World of Chemistry: Drugs

Electives (6 credits)

6 credits, of which at least 3 credits must be Science Electives.

The electives must be chosen in such a way that the credit counts needed for graduation are satisfied.

9.13 Concurrent Bachelor of Science (B.Sc.) and Bachelor of Education (B.Ed.) - Major Concentration Biology - Organismal with Minor Physics for Teachers (135 credits)

The Concurrent Bachelor of Science (B.Sc.) and Bachelor of Education (B.Ed.) - Major Concentration Biology - Organismal with Minor Physics for Teachers is jointly offered by the Faculty of Science and the Faculty of Education. Separately, the Bachelor of Science degree requires 90 credits (or 120 credits for students who have not completed the basic sciences) and the Bachelor of Education de

for the two degrees are combined in such a way that students complete 135 (or 165 credits) to fulfil all the requirements for graduation for both the B.Sc. and the B.Ed.

Graduates of the B.Ed. degree are recommended by the University to the Quebec Ministère de l'Éducation, du Loisir et du Sport (MELS) for Quebec Teacher Certification. For more information about teacher certification in Quebec, please refer to the Faculty of Education section under "Overview of Faculty Programs", "Undergraduate Education Programs", and "Quebec Teacher Certification".

The Major Concentration Biology - Organismal with Minor Physics is one of the nine variations of the program and allows students to focus their Science degree in Organismal Biology with a subspecialization in Physics.

To fulfil the requirements for graduation for the Concurrent Bachelor of Science and Bachelor of Education, the 135 credits (or 165 credits for students admitted without basic sciences) include the following:

(30 credits of Science Freshman Program (for students admitted without basic sciences))

60 credits of Education Component

70 credits of Science Component consisting of:

- 37 credits of Major Concentration Biology - Organismal

- 18 credits of Minor Physics

- 15 credits of Additional Science Courses

5 credits of Electives, of which at least 2 credits must be Science Electives, depending on how many credits count toward both the B.Sc. and the B.Ed. degrees.

For details on the counting of credits toward both degrees (double-counting) visit the program website http://www.mcgill.ca/scienceforteachers/.

B.Sc. Freshman Program

Students who enter Science in U0 will normally be registered in the Science Freshman Program until they complete their first year. They must consult an adviser in the Science Office for Undergraduate Student Advising (SOUSA) to obtain advice and approval of their course selection. Full details are available on the SOUSA website at http://www.mcgill.ca/science/sousa. Academic advising is also available by email. The address is newstudentadvising.science@mcgill.ca.

Students normally complete 30 credits which must include at least se

CHEM 110	(4)	General Chemistry 1
CHEM 115*	(4)	Accelerated General Chemistry: Giants in Science
CHEM 120*	(4)	General Chemistry 2
COMP 202	(3)	Introduction to Computing 1
ESYS 104	(3)	The Earth System
MATH 133	(3)	Linear Algebra and Geometry
PSYC 100	(3)	Introduction to Psychology

EDEC 215	(0)	English Language Requirement
EDEC 247*	(3)	Policy Issues in Quebec Education
EDEC 254	(1)	Second Professional Seminar (Secondary)
EDEC 262*	(3)	Media, Technology and Education
EDEC 351	(2)	Third Professional Seminar (Secondary)
EDEC 404	(3)	Fourth Year Professional Seminar (Sec)
EDES 335	(3)	Teaching Secondary Science 1
EDES 350	(3)	Classroom Practices (Secondary)
EDES 435	(3)	Teaching Secondary Science 2
EDFE 200	(2)	First Field Experience (K/Elem & Secondary)
EDFE 254	(3)	Second Field Experience (Secondary)
EDFE 351	(8)	Third Field Experience (Secondary)
EDFE 451	(7)	Fourth Field Experience (Secondary)
EDPE 300*	(3)	Educational Psychology
EDPE 304	(3)	Measurement and Evaluation
EDPI 309*	(3)	Exceptional Students
EDPI 341	(3)	Instruction in Inclusive Schools

Complementary Courses

6 credits selected as follows:

* Note: The courses marked with an asterisk are counted toward both degrees. They will count as "electives" for the B.Sc. degree, although a grade of "C" or better is required.

3 credits, one of the three following courses:

EDEC 233*	(3)	First Nations and Inuit Education
EDEC 248*	(3)	Multicultural Education
EDEC 249*	(3)	Global Education and Social Justice

3 credits, one of the two following courses:

EDEC 260*	(3)	Philosophical Foundations
EDEC 261*	(3)	Philosophy of Catholic Education

Major Concentration Biology - Organismal (37 credits)

The Major Concentration Biology - Organismal is a planned sequence of courses designed to permit a degree of specialization in organismal biology.

Advising Note: Freshman students should be aware that PHYS 101 and/or PHYS 102 are required for some of the courses in the major and minor concentrations in Biology.

Required Courses*

28 credits selected as follows:

* Students who have already taken CHEM 212 or its equivalent will choose another appropriate complementary course, to be approved by the Adviser. Regardless of the substitution, students must take at least 36 credits in this program.

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
	(3)	Ecological Dynamics

One of:

PHYS 241	(3)	Signal Processing
PHYS 258	(3)	Experimental Methods 2

One of:

PHYS 214	(3)	Introductory Astrophysics
PHYS 224	(3)	Physics of Music
PHYS 260	(3)	Modern Physics and Relativity
PHYS 271	(3)	Introduction to Quantum Physics

One of:

PHYS 340	(3)	Majors Electricity and Magnetism
PHYS 350	(3)	Honours Electricity and Magnetism

Additional Science Courses (15 credits)

BIOL 210	(3)	Perspectives of Science
MATH 203	(3)	Principles of Statistics 1
MATH 222	(3)	Calculus 3
MATH 223	(3)	Linear Algebra
MATH 314	(3)	Advanced Calculus

Electives (5 credits)

5 credits, of which at least 2 credits must be Science Electives.

The electives must be chosen in such a way that the credit counts needed for graduation are satisfied.

9.14 Concurrent Bachelor of Science (B.Sc.) and Bachelor of Education (B.Ed.) - Major Concentration Chemistry with Minor Biology for Teachers (135 credits)

The Concurrent Bachelor of Science (B.Sc.) and Bachelor of Education (B.Ed.) - Major Concentration Chemistry with Minor Biology for Teachers is jointly offered by the Faculty of Science and the Faculty of Education. Separately, the Bachelor of Science degree requires 90 credits (or 120 credits for students who have not completed the basic sciences) and the Bachelor of Education degree requires 120 credits. In the concurrent program, the requirements for the two degrees are combined in such a way that students complete 135 (or 165 credits) to fulfil all the requirements for graduation for both the B.Sc. and the B.Ed.

- 24 credits of the Minor Biology

- 9 credits of Additional Science Courses

6 credits of Electives, of which at least 3 credits must be Science Electives, depending on how many credits count toward both the B.Sc. and the B.Ed. degrees.

For details on the counting of credits toward both degrees (double-counting) visit the program website http://www.mcgill.ca/scienceforteachers/.

B.Sc. Freshman Program

Students who enter Science in U0 will normally be registered in the Science Freshman Program until they complete their first year. They must consult an adviser in the Science Office for Undergraduate Student Advising (SOUSA) to obtain advice and approval of their course selection. Full details are available on the SOUSA website at http://www.mcgill.ca/science/sousa. Academic advising is also available by email. The address is newstudentadvising.science@mcgill.ca.

Students normally complete 30 credits which must include at least seven courses from the list of Approved Freshman Science Courses, selected as follows:

General Math and Science Breadth

Six of the Freshman courses must satisfy one of the following:

Option 1) 2 courses from MATH and 4 courses from BIOL, CHEM or PHYS;

or

Option 2) 3 courses from MATH and 3 courses from BIOL, CHEM or PHYS.

Science Complementary

The seventh course is chosen from the list of Approved Freshman Science Courses.

Notes:

1. Students who have not studied all of Biology, Chemistry, and Physics at the grade 12 level or equivalent are strongly advised to include at least one course in the missing discipline in their Freshman Program.

2. Many students will complete more than seven courses from the Approved Freshman Science Courses list, particularly those who wish to leave several options open for their choice of major.

3. Students entering the Freshman Program must be aware of the department specific requirements when selecting their courses. Detailed advising information is available at http://www.mcgill.ca/science/sousa/new_students/u0/bsc_freshman/specific/.

4. The maximum number of courses per term, required, complementary, and elective, is five.

List of Approved Freshman Science Courses

Select the approved courses according to the instructions above.

Note:

* CHEM 115 (not open to students who are taking or have taken CHEM 110 or CHEM 120)

* CHEM 120 (not open to students who have taken CHEM 115)

BIOL 111	(3)	Principles: Organismal Biology
BIOL 112	(3)	Cell and Molecular Biology
CHEM 110	(4)	General Chemistry 1
CHEM 115*	(4)	Accelerated General Chemistry: Giants in Science
CHEM 120*	(4)	General Chemistry 2
COMP 202	(3)	Introduction to Computing 1
ESYS 104	(3)	The Earth System
MATH 133	(3)	Linear Algebra and Geometry
PSYC 100	(3)	Introduction to Psychology

First calculus course, one of:

MATH 150	(4)	Calculus A

Second calculus course, one of:

MATH 141	(4)	Calculus 2
MATH 151	(4)	Calculus B

First physics course, one of:

PHYS 101	(4)	Introductory Physics - Mechanics
PHYS 131	(4)	Mechanics and Waves

Second physics course, one of:

PHYS 102	(4)	Introductory Physics - Electromagnetism
PHYS 142	(4)	Electromagnetism and Optics

Electives

Students wishing to take elective courses may choose them from introductory courses offered by departments in the Faculties of Science or of Arts. A list of recommended courses is found at http://www.mcgill.ca/science/sousa/new_students/u0/bsc_freshman/approved/. Certain courses offered by other faculties may also be taken, but some restrictions apply.

Consult the SOUSA website at http://www.mcgill.ca/science/sousa/continuing_students/bsc/outside/ for more information about taking courses from other faculties.

Education Component (60 credits)

60 credits of Education Component, consisting of:

54 credits of required courses

6 credits of complementary courses

Required Courses

54 credits

* Note: The courses marked with an asterisk are counted toward both degrees. They will count as "electives" for the B.Sc. degree, although a grade of "C" or better is required.

The English Language Requirement (EDEC 215) must be taken in the Fall semester following the Freshman year.

EDEC 201	(1)	First Year Professional Seminar
EDEC 215	(0)	English Language Requirement
EDEC 247*	(3)	Policy Issues in Quebec Education
EDEC 254	(1)	Second Professional Seminar (Secondary)
EDEC 262*	(3)	Media, Technology and Education
EDEC 351	(2)	Third Professional Seminar (Secondary)
		Fourth

EDFE 351	(8)	Third Field Experience (Secondary)
EDFE 451	(7)	Fourth Field Experience (Secondary)
EDPE 300*	(3)	Educational Psychology
EDPE 304	(3)	Measurement and Evaluation
EDPI 309*	(3)	Exceptional Students
EDPI 341	(3)	Instruction in Inclusive Schools

Complementary Courses

6 credits selected as follows:

* Note: The courses marked with an asterisk are counted toward both degrees. They will count as "electives" for the B.Sc. degree, although a grade of "C" or better is required.

3 credits, one of the three following courses:

EDEC 233*	(3)	First Nations and Inuit Education
EDEC 248*	(3)	Multicultural Education
EDEC 249*	(3)	Global Education and Social Justice

3 credits, one of the two following courses:

EDEC 260*	(3)	Philosophical Foundations
EDEC 261*	(3)	Philosophy of Catholic Education

Major Concentration Chemistry (36 credits)

The Major Concentration 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 Major concentration is a planned sequence of courses designed to permit a degree of specialization in this discipline.

Required Courses*

18 credits

* Note: Required courses tak

To fulfil the requirements for graduation for the Concurrent Bachelor of Science and Bachelor of Education, the 135 credits (or 165 credits for students admitted without basic sciences) include the following:

(30 credits of Science Freshman Program (for students admitted without basic sciences))

60 credits of Education Component

MATH 133	(3)	Linear Algebra and Geometry
PSYC 100	(3)	Introduction to Psychology

First calculus course, one of:

MATH 139	(4)	Calculus 1 with Precalculus
MATH 140	(3)	Calculus 1
MATH 150	(4)	Calculus A

Second calculus course, one of:

MATH 141	(4)	Calculus 2
MATH 151	(4)	Calculus B

First physics course, one of:

PHYS 101	(4)	Introductory Physics - Mechanics
PHYS 131	(4)	Mechanics and Waves

Second physics course, one of:

PHYS 102	(4)	Introductory Physics - Electromagnetism
PHYS 142	(4)	Electromagnetism and Optics

Electives

Students wishing to take elective courses may choose them from introductory courses offered by departments in the Faculties of Science or of Arts. A list of recommended courses is found at http://www.mcgill.ca/science/sousa/ne

EDEC 404	(3)	Fourth Year Professional Seminar (Sec)
EDES 335	(3)	Teaching Secondary Science 1
EDES 350	(3)	Classroom Practices (Secondary)
EDES 435	(3)	Teaching Secondary Science 2
EDFE 200	(2)	First Field Experience (K/Elem & Secondary)
EDFE 254	(3)	Second Field Experience (Secondary)
EDFE 351	(8)	Third Field Experience (Secondary)
EDFE 451	(7)	Fourth Field Experience (Secondary)
EDPE 300*	(3)	Educational Psychology
EDPE 304	(3)	Measurement and Evaluation
EDPI 309*	(3)	Exceptional Students
EDPI 341	(3)	Instruction in Inclusive Schools

Complementary Courses

6 credits selected as follows:

* Note: The courses marked with an asterisk are counted toward both degrees. They will count as "electives" for the B.Sc. degree, although a grade of "C" or better is required.

3 credits, one of the three following courses:

EDEC 233*	(3)	First Nations and Inuit Education
EDEC 248*	(3)	Multicultural Education
EDEC 249*	(3)	Global Education and Social Justice

3 credits, one of the two following courses:

EDEC 260*	(3)	Philosophical Foundations
EDEC 261*	(3)	Philosophy of Catholic Education

Major Concentration Chemistry (36 credits)

The Major Concentration 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 Major concentration is a planned sequence of courses designed to permit a degree of specialization in this discipline.

Required Courses*

18 credits selected as follows:

* Note: Required courses taken at CEGEP or elsewhere that are not credited toward the Concurrent B.Sc. and 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.

CHEM 203	(3)	Survey of Physical Chemistry
CHEM 212	(4)	Introductory Organic Chemistry 1
CHEM 222	(4)	Introductory Organic Chemistry 2
CHEM 253	(1)	Introductory Physical Chemistry 1 Laboratory
CHEM 281	(3)	Inorganic Chemistry 1
CHEM 287	(2)	Introductory Analytical Chemistry
CHEM 297	(1)	Introductory Analytical Chemistry Laboratory

Complementary Courses

18 credits selected from:

CHEM 219	(3)	Introduction to Atmospheric Chemistry
CHEM 263	(1)	Introductory Physical Chemistry 2 Laboratory
CHEM 302	(3)	Introductory Organic Chemistry 3
CHEM 307	(3)	Analytical Chemistry of Pollutants
CHEM 334	(3)	Advanced Materials
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

Minor Physics (18 credits)

Required Course

3 credits

PHYS 257	(3)	Experimental Methods 1

Complementary Courses

15 credits to be selected as follows:

One of:

PHYS 230	(3)	Dynamics of Simple Systems
PHYS 251	(3)	Honours Classical Mechanics 1

One of:

PHYS 232	(3)	Heat and Waves
PHYS 253	(3)	Thermal Physics

One of:

PHYS 241	(3)	Signal Processing
PHYS 258	(3)	Experimental Methods 2

One of:

PHYS 214	(3)	Introductory Astrophysics
PHYS 224	(3)	Physics of Music
PHYS 260	(3)	Modern Physics and Relativity
PHYS 271	(3)	Introduction to Quantum Physics

One of:

PHYS 340	(3)	Majors Electricity and Magnetism
PHYS 350	(3)	Honours Electricity and Magnetism

Additional Science Courses (15 credits)

BIOL 210	(3)	Perspectives of Science
MATH 203	(3)	Principles of Statistics 1
MATH 222	(3)	Calculus 3
MATH 223	(3)	Linear Algebra
MATH 314	(3)	Advanced Calculus

Electives (6 credits)

6 credits, of which at least 3 credits must be Science Electives.

The electives must be chosen in such a way that the credit counts needed for graduation are satisfied.

General Math and Science Breadth

Six of the Freshman courses must satisfy one of the following:

Option 1) 2 courses from MATH and 4 courses from BIOL, CHEM or PHYS;

or

Option 2) 3 courses from MATH and 3 courses from BIOL, CHEM or PHYS.

Science Complementary

The seventh course is chosen from the list of Approved Freshman Science Courses.

Notes:

1. Students who have not studied all of Biology, Chemistry, and Physics at the grade 12 level or equivalent are strongly advised to include at least one course in the missing discipline in their Freshman Program.

2. Many students will complete more than seven courses from the Approved Freshman Science Courses list, particularly those who wish to leave several options open for their choice of major.

3. Students entering the Freshman Program must be aware of the department specific requirements when selecting their courses. Detailed advising information is available at http://www.mcgill.ca/science/sousa/new_students/u0/bsc_freshman/specific/.

4. The maximum number of courses per term, required, complementary, and elective, is five.

List of Approved Freshman Science Courses

Select the approved courses according to the instructions above.

Note:

* CHEM 115 (not open to students who are taking or have taken CHEM 110 or CHEM 120)

* CHEM 120 (not open to students who have taken CHEM 115)

BIOL 111	(3)	Principles: Organismal Biology
BIOL 112	(3)	Cell and Molecular Biology
		General Chemistry 1 0 1 221.949 389.963 TGGaUi74((3))Tj1 0 0 1 79.963 TGGaUi(en CHEL 112)Tj1 0 0 1 221..5224

Second physics course, one of:

PHYS 102	(4)	Introductory Physics - Electromagnetism
PHYS 142	(4)	Electromagnetism and Optics

Electives

Students wishing to take elective courses may choose them from introductory courses offered by departments in the Faculties of Science or of Arts. A list of recommended courses is found at http://www.mcgill.ca/science/sousa/new_students/u0/bsc_freshman/approved/. Certain courses offered by other faculties may also be taken, but some restrictions apply.

Consult the SOUSA website at http://www.mcgill.ca/science/sousa/continuing_students/bsc/outside/ for more information about taking courses from other faculties.

Education Component (60 credits)

60 credits of Education Component, consisting of:

54 credits of required courses

6 credits of complementary courses

Required Courses

54 credits

* Note: The courses marked with an asterisk are counted toward both degrees. They will count as "electives" for the B.Sc. degree, although a grade of "C" or better is required.

The English Language Requirement (EDEC 215) must be taken in the Fall semester following the Freshman year.

EDEC 201	(1)	First Year Professional Seminar
EDEC 215	(0)	English Language Requirement
EDEC 247*	(3)	Policy Issues in Quebec Education
EDEC 254	(1)	Second Professional Seminar (Secondary)
EDEC 262*	(3)	Media, Technology and Education
EDEC 351	(2)	Third Professional Seminar (Secondary)
EDEC 404	(3)	Fourth Year Professional Seminar (Sec)
EDES 335	(3)	Teaching Secondary Science 1
EDES 350	(3)	Classroom Practices (Secondary)
EDES 435	(3)	Teaching Secondary Science 2
EDFE 200	(2)	First Field Experience (K/Elem & Secondary)
EDFE 254	(3)	Second Field Experience (Secondary)
EDFE 351	(8)	Third Field Experience (Secondary)
EDFE 451	(7)	Fourth Field Experience (Secondary)
EDPE 300*	(3)	Educational Psychology
EDPE 304	(3)	Measurement and Evaluation
EDPI 309*	(3)	Exceptional Students
EDPI 341	(3)	Instruction in Inclusive Schools

Complementary Courses

6 credits selected as follows:

* Note: The courses marked with an asterisk are counted toward both degrees. They will count as "electives" for the B.Sc. degree, although a grade of "C" or better is required.

3 credits, one of the three following courses:

EDEC 233*	(3)	First Nations and Inuit Education
EDEC 248*	(3)	Multicultural Education
EDEC 249*	(3)	Global Education and Social Justice

3 credits, one of the two following courses:

EDEC 260*	(3)	Philosophical Foundations
EDEC 261*	(3)	Philosophy of Catholic Education

Major Concentration Physics (36 credits)

The Major Concentration Physics is a planned sequence of courses designed to permit a degree of specialization in this discipline.

Required Courses*

30 credits selected as follows:

* Note: Required courses taken at CEGEP or elsewhere that are not credited toward the Concurrent B.Sc. and B.Ed. must be replaced by courses from the Complementary Course List equal to or exceeding their credit value. Reg

Required Courses

15 credits

BIOL 200	(3)	Molecular Biology
BIOL 201	(3)	Cell Biology and Metabolism
BIOL 202	(3)	Basic Genetics
BIOL 205	(3)	Biology of Organisms
		Introduction to Ecology and Ev

6 credits of Electives, of which at least 3 credits must be Science Electives, depending on how many credits count toward both the B.Sc. and the B.Ed. degrees.

For details on the counting of credits toward both degrees (double-counting) visit the program website http://www.mcgill.ca/scienceforteachers/.

B.Sc. Freshman Program

Students who enter Science in U0 will normally be registered in the Science Freshman Program until they complete their first year. They must consult an adviser in the Science Office for Undergraduate Student Advising (SOUSA) to obtain advice and approval of their course selection. Full details are available on the SOUSA website at http://www.mcgill.ca/science/sousa. Academic advising is also available by email. The address is newstudentadvising.science@mcgill.ca.

Students normally complete 30 credits which must include at least seven courses from the list of Approved Freshman Science courses, selected as follows:

General Math and Science Breadth

Six of the Freshman courses must satisfy one of the following:

Option 1) 2 courses from MATH and 4 courses from BIOL, CHEM or PHYS;

or

Option 2) 3 courses from MATH and 3 courses from BIOL, CHEM or PHYS.

Science Complementary

The seventh course is chosen from the list of Approved Freshman Science Courses.

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Second calculus course, one of:

MATH 141	(4)	Calculus 2
MATH 151	(4)	Calculus B

First physics course, one of:

PHYS 101	(4)	Introductory Physics - Mechanics
PHYS 131	(4)	Mechanics and Waves

Second physics course, one of:

PHYS 102	(4)	Introductory Physics - Electromagnetism
PHYS 142	(4)	Electromagnetism and Optics

Electives

Students wishing to take elective courses may choose them from introductory courses offered by departments in the Faculties of Science or of Arts. A list of recommended courses is found at http://www.mcgill.ca/science/sousa/new_students/u0/bsc_freshman/approved/. Certain courses offered by other faculties may also be taken, but some restrictions apply.

Consult the SOUSA website at http://www.mcgill.ca/science/sousa/continuing_students/bsc/outside/ for more information about taking courses from other faculties.

Education Component (60 credits)

60 credits of Education Component, consisting of:

54 credits of required courses

6 credits of complementary courses

Required Courses

54 credits

* Note: The courses marked with an asterisk are counted toward both degrees. They will count as "electives" for the B.Sc. degree, although a grade of "C" or better is required.

The English Language Requirement (EDEC 215) must be taken in the Fall semester following the Freshman year.

EDEC 201	(1)	First Year Professional Seminar
EDEC 215	(0)	English Language Requirement
EDEC 247*	(3)	Policy Issues in Quebec Education
EDEC 254	(1)	Second Professional Seminar (Secondary)
EDEC 262*	(3)	Media, Technology and Education
EDEC 351	(2)	Third Professional Seminar (Secondary)
EDEC 404	(3)	Fourth Year Professional Seminar (Sec)
EDES 335	(3)	Teaching Secondary Science 1
EDES 350	(3)	Classroom Practices (Secondary)
EDES 435	(3)	Teaching Secondary Science 2
EDFE 200	(2)	First Field Experience (K/Elem & Secondary)
EDFE 254	(3)	Second Field Experience (Secondary)
EDFE 351	(8)	Third Field Experience (Secondary)
EDFE 451	(7)	Fourth Field Experience (Secondary)

EDPE 300*	(3)	Educational Psychology
EDPE 304	(3)	Measurement and Evaluation
EDPI 309*	(3)	Exceptional Students
EDPI 341	(3)	Instruction in Inclusive Schools

Complementary Courses

6 credits selected as follows:

* Note: The courses marked with an asterisk are counted toward both degrees. They will count as "electives" for the B.Sc. degree, although a grade of "C" or better is required.

3 credits, one of the three following courses:

EDEC 233*	(3)	First Nations and Inuit Education
EDEC 248*	(3)	Multicultural Education
EDEC 249*	(3)	Global Education and Social Justice

3 credits, one of the two following courses:

EDEC 260*	(3)	Philosophical Foundations
EDEC 261*	(3)	Philosophy of Catholic Education

Major Concentration Physics (36 credits)

The Major Concentration Physics is a planned sequence of courses designed to permit a degree of specialization in this discipline.

Required Courses*

30 credits

* Note: Required courses taken at CEGEP or elsewhere that are not credited toward the Concurrent B.Sc. and 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.

MATH 222	(3)	Calculus 3
MATH 223	(3)	Linear Algebra
MATH 314	(3)	Advanced Calculus
MATH 315	(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)	Majors Electricity and Magnetism
PHYS 446	(3)	Majors Quantum Physics

Complementary Courses

6 credits selected from:

PHYS 214	(3)	Introductory Astrophysics
PHYS 224	(3)	Physics of Music
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.

Minor Chemistry (18 credits)

Required Courses

18 credits selected as follows:

* denotes courses with CEGEP equivalents.

Substitutions for these by more advanced courses may be made at the discretion of the Adviser.

CHEM 203	(3)	Survey of Physical Chemistry
CHEM 212*	(4)	Introductory Organic Chemistry 1
CHEM 222*	(4)	Introductory Organic Chemistry 2
CHEM 253	(1)	Introductory Physical Chemistry 1 Laboratory
CHEM 281	(3)	Inorganic Chemistry 1
CHEM 287	(2)	Introductory Analytical Chemistry
CHEM 297	(1)	Introductory Analytical Chemistry Laboratory

Additional Science Courses (15 credits)

15 credits selected as follows:

9 credits

BIOL 210	(3)	Perspectives of Science
CHEM 381	(3)	Inorganic Chemistry 2
MATH 203	(3)	Principles of Statistics 1

plus 3 credits, one of:

CHEM 180	(3)	World of Chemistry: Environment
CHEM 181	(3)	World of Chemistry: Food
CHEM 182	(3)	World of Chemistry: Technology
CHEM 183	(3)	World of Chemistry: Drugs

plus 3 credits, one additional Physics (PHYS) course approved by the Physics Department.

Electives (6 credits)

6 credits, of which at least 3 credits must be Science Electives.

The electives must be chosen in such a way that the credit counts needed for graduation are satisfied.

9.18 Concurrent Bachelor of Science (B.Sc.) and Bachelor of Education (B.Ed.) - Major Mathematics for Teachers (135 credits)

The Concurrent Bachelor of Science (B.Sc.) and Bachelor of Education (B.Ed.) - Major Mathematics for Teachers is jointly offered by the Faculty of Science and the Faculty of Education. Separately, the Bachelor of Science degree requires 90 credits (or 120 credits for students who have not completed the basic sciences) and the Bachelor of Education degree requires 120 credits. In the concurrent program, the requirements for the two degrees are combined in such a way that students complete 135 (or 165 credits) to fulfil all the requirements for graduation for both the B.Sc. and the B.Ed.

Graduates of the B.Ed. degree are recommended by the University to the Quebec Ministère de l'Éducation, du Loisir et du Sport (MELS) for Quebec Teacher Certification. For more information about teacher certification in Quebec, please refer to the Faculty of Education section under "Overview of Faculty Programs", "Undergraduate Education Programs", and "Quebec Teacher Certification".

The Major Mathematics is one of the nine variations of the program and allows students to focus their Science degree in Mathematics.

To fulfil the requirements for graduation for the Concurrent Bachelor of Science and Bachelor of Education, the 135 credits (or 165 credits for students admitted without basic sciences) include the following:

(30 credits of Science Freshman Program (for students admitted without basic sciences))

60 credits of Education Component

54 credits of Science Component consisting of:

- 54 credits of the Major Mathematics

21 credits of Electives, of which at least 18 credits must be Science Electives, depending on how many credits count toward both the B.Sc. and the B.Ed. degrees.

For details on the counting of credits toward both degrees (double-counting) visit the program website http://www.mcgill.ca/scienceforteachers/.

B.Sc. Freshman Program

Students who enter Science in U0 will normally be registered in the Science Freshman Program until they complete their first year. They must consult an adviser in the Science Office for Undergraduate Student Advising (SOUSA) to obtain advice and approval of their course selection. Full details are available on the SOUSA website at http://www.mcgill.ca/science/sousa. Academic advising is also available by email. The address is newstudentadvising.science@mcgill.ca.

Students normally complete 30 credits which must include at least seven courses from the list of Approved Freshman Science Courses, selected as follows:

General Math and Science Breadth

Six of the Freshman courses must satisfy one of the following:

Option 1) 2 courses from MATH and 4 courses from BIOL, CHEM or PHYS;

or

Option 2) 3 courses from MATH and 3 courses from BIOL, CHEM or PHYS.

Science Complementary

The seventh course is chosen from the list of Approved Freshman Science Courses.

Notes:

1. Students who have not studied all of Biology, Chemistry, and Physics at the grade 12 level or equivalent are strongly advised to include at least one course in the missing discipline in their Freshman Program.

2. Many students will complete more than seven courses from the Approved Freshman Science Courses list, particularly those who wish to leave several options open for their choice of major.

3. Students entering the Freshman Program must be aware of the department specific requirements when selecting their courses. Detailed advising information is available at http://www.mcgill.ca/science/sousa/new_students/u0/bsc_freshman/specific/.

4. The maximum number of courses per term, required, complementary, and elective, is five.

List of Approved Freshman Science Courses

Select the approved courses according to the instructions above.

Note:

* CHEM 115 (not open to students who are taking or have taken CHEM 110 or CHEM 120)

* CHEM 120 (not open to students who have taken CHEM 115)

BIOL 111	(3)	Principles: Organismal Biology
BIOL 112	(3)	Cell and Molecular Biology
CHEM 110	(4)	General Chemistry 1
CHEM 115*	(4)	Accelerated General Chemistry: Giants in Science
CHEM 120*	(4)	General Chemistry 2
COMP 202	(3)	Introduction to Computing 1

ESYS 104	(3)	The Earth System
MATH 133	(3)	Linear Algebra and Geometry
PSYC 100	(3)	Introduction to Psychology

First calculus course, one of:

MATH 139	(4)	Calculus 1 with Precalculus
MATH 140	(3)	Calculus 1
MATH 150	(4)	Calculus A

Second calculus course, one of:

MATH 141	(4)	Calculus 2
MATH 151	(4)	Calculus B

First physics course, one of:

PHYS 101	(4)	Introductory Physics - Mechanics
PHYS 131	(4)	Mechanics and Waves

Second physics course, one of:

PHYS 102	(4)	Introductory Physics - Electromagnetism
PHYS 142	(4)	Electromagnetism and Optics

Electives

Students wishing to take elective courses may choose them from introductory courses offered by departments in the Faculties of Science or of Arts. A list of recommended courses is found at http://www.mcgill.ca/science/sousa/new_students/u0/bsc_freshman/approved/. Certain courses offered by other faculties may also be taken, but some restrictions apply.

Consult the SOUSA website at http://www.mcgill.ca/science/sousa/continuing_students/bsc/outside/ for more information about taking courses from other faculties.

Education Component (60 credits)

60 credits of Education Component, consisting of:

54 credits of required courses

6 credits of complementary courses

Required Courses

54 credits

* Note: The courses marked with an asterisk are counted toward both degrees. They will count as "electives" for the B.Sc. degree, although a grade of "C" or better is required.

The English Language Requirement (EDEC 215) must be taken in the Fall semester following the Freshman year.

EDEC 201	(1)	First Year Professional Seminar
EDEC 215	(0)	English Language Requirement
EDEC 247*	(3)	Policy Issues in Quebec Education
EDEC 254	(1)	Second Professional Seminar (Secondary)
EDEC 262*	(3)	Media, Technology and Education

EDEC 351	(2)	Third Professional Seminar (Secondary)
EDEC 404	(3)	Fourth Year Professional Seminar (Sec)
EDES 350	(3)	Classroom Practices (Secondary)
EDES 353	(3)	Teaching Secondary Mathematics 1
EDES 453	(3)	Teaching Secondary Mathematics 2
EDFE 200	(2)	First Field Experience (K/Elem & Secondary)
EDFE 254	(3)	Second Field Experience (Secondary)
EDFE 351	(8)	Third Field Experience (Secondary)
EDFE 451	(7)	Fourth Field Experience (Secondary)
EDPE 300*	(3)	Educational Psychology
EDPE 304	(3)	Measurement and Evaluation
EDPI 309*	(3)	Exceptional Students
EDPI 341	(3)	Instruction in Inclusive Schools

Complementary Courses

6 credits selected as follows:

* Note: The courses marked with an asterisk are counted toward both de

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MATH 525	(4)	Sampling Theory and Applications

In consultation with an adviser, 3 of the 12 credits may be selected from other MATH courses or related disciplines.

Electives (21 credits)

21 credits of electives, of which at least 18 credits must be Science Electives chosen in consultation with the Science Adviser.

The electives must be chosen in such a way that the credit counts needed for graduation are satisfied.

9.19 Concurrent Bachelor of Music (B.Mus.) - Major Music Education and Bachelor of Education (B.Ed.) - Music Elementary and Secondary (137 credits)

The Bachelor of Music (B.Mus.) - Major Music Education, when offered concurrently with the The Bachelor of Education - Major Music Elementary and Secondary, provides students with the opportunity to obtain a Bachelor of Music degree and a Bachelor of Education degree after the completion of 137 credits, normally five years (172 credits or six 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.

* Out-of-province students or those who have not completed Quebec CEGEP, French Baccalaureate, International Baccalaureate, or at least one year of university studies prior to commencing the Concurrent program.

To be admitted to the Concurrent program, students must satisfy the regular admission requirements of the Schulich School of Music and Faculty of Education. 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, should apply for admission to the Concurrent program.

All applications for the Concurrent program are to be made to the Admissions Office of the Schulich School of Music.

The B.Mus. Major Music Education program in the Schulich School 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 B.Ed. Music Elementary and Secondary program in the Faculty of Education focuses on the development of the musician as an educator. This is achieved through courses in educational foundations, music pedagogy and pedagogical support, and a practicum component comprised of four field experiences and supporting professional seminars.

Students who decide to complete only a Bachelor of Music may transfer at any time into the Bachelor of Music, Faculty Program. Students who wish to complete only the Bachelor of Education Music program have the option of doing so after the successful completion of the first two years of the Concurrent Program and MUIN 283 "BMus Concentration Final Examination" or equivalent. They would be required to complete 61 music credits, 6 elective credits, and 55 education credits from the program given below.

The components of the 137-credit Concurrent Bachelor of Music - Major Music Education and Bachelor of Education - Music Elementary and Secondary are as follows:

55 professional Education credits

70 Music academic credits

9 music elective credits

3 non-music elective credits

Program Prerequisites - Freshman Program

35 credits

Prerequisite Courses

35 credits distributed as follows:

2 credits (1 credit per term) Assigned Small Ensemble

4 credits (2 credits per term) Basic Ensemble Training

6 credits of Non-Music Electives

and 23 credits in the following course list:

Students who can demonstrate through auditions and placement tests that they have mastered the material in any of the courses below will be exempt from them and may proceed to more advanced courses. First-year students enrolled in the Bachelor of Music program who have completed the Quebec Diploma of Collegial Studies (Diplôme d'études collégiales) in a Music concentration or equivalent, or students transferring from other universities or colleges, who have successfully completed a course in the history of Western music, with a grade of C or better, will be exempted from the first-year Western Musical Traditions requirement (MUHL 186).

MUHL 186	(3)	Western Musical Traditions
MUIN 180	(3)	BMus Practical Lessons 1
MUIN 181	(3)	BMus Practical Lessons 2
MUPD 135	(1)	Music as a Profession 1
MUPD 136	(1)	Music as a Profession 2
MUSP 140	(2)	Musicianship Training 1
MUSP 141	(2)	Musicianship Training 2
MUSP 170	(1)	Musicianship (Keyboard) 1
MUSP 171	(1)	Musicianship (Keyboard) 2
MUTH 150	(3)	Theory and Analysis 1
MUTH 151	(3)	Theory and Analysis 2

Required Music Components (49 credits)

49 credits of required Music courses distributed as follows:

25 credits of Music Education

11 credits of Theory

4 credits of Musicianship

3 credits of Music History

6 credits of Performance

Music Education

25 credits:

MUCT 235	(3)	Vocal Techniques
MUGT 215	(1)	Basic Conducting Techniques
MUGT 354	(3)	Music for Children
MUGT 358	(3)	General Music for Adults and Teenagers
MUGT 401	(3)	Issues in Music Education
MUIT 202	(3)	Woodwind Techniques
MUIT 203	(3)	Brass Techniques
MUIT 204	(3)	Percussion Techniques
MUIT 356	(3)	Jazz Instruction: Philosophy and Techniques

Theory

11 credits:

MUTH 250	(3)	Theory and Analysis 3
MUTH 251	(3)	Theory and Analysis 4
MUTH 350	(3)	Theory and Analysis 5
MUTH 461	(2)	Choral and Keyboard Arranging

Musicianship

4 credits:

MUSP 240	(2)	Musicianship Training 3
MUSP 241	(2)	Musicianship Training 4

Music History

3 credits:

(3)	Critical Thinking About Music	

1 credit from:

EDEC 253	(1)	Second Professional Seminar (Kindergarten/Elementary)
EDEC 254	(1)	Second Professional Seminar (Secondary)

3 credits from:

EDEC 260	(3)	Philosophical Foundations
EDEC 261	(3)	Philosophy of Catholic Education

3 credits from:

		Media, Technology and Education

9.20 Bachelor of Education (B.Ed.) - Kindergarten and Elementary Education (120 credits)

The Bachelor of Education (B.Ed.) - Kindergarten and Elementary Education program requires 120 credits and leads to teacher certification. Students who have not completed Quebec CEGEP, French Baccalaureate, International Baccalaureate, or at least one year of university studies prior to commencing the B.Ed. must also complete a minimum of 30 credits of Freshman courses (in addition to the 120 credit program) for a total of 150 credits.

The Kindergarten and Elementary Education program leads to certification to teach children between the ages of 5 and 11 years (kindergarten and elementary school). The program consists of academic and professional courses, as well as studies in pedagogy and educational foundations. Each year of the program provides a school-based practicum.

Please note that graduates of teacher education programs are recommended by the University for Quebec certification to the Quebec Ministère de l'Éducation, du Loisir et du Sport (MELS). For more information about teacher certification in Quebec, please refer to the Faculty of Education section under "Overview of Faculty Programs", "Undergraduate Education Programs", and "Quebec Teacher Certification".

Freshman Program

Students normally complete 30 credits in their Freshman (U0) year.

The Freshman year is the time to take introductory-level courses in the subjects taught in elementary school, as well as to explore areas that are not normally taken as "teachable" subject area courses within B.Ed. programs (e.g. Sociology, Psychology, Political Science, etc.). Students should also investigate the possibility of taking one of the First Year Seminar courses offered by the Faculty of Arts or the Faculty of Science.

In addition, in consultation with the Program Adviser, students may select courses from the recommended course list below or other courses. Included in the list are several French Second Language (FRSL) courses for which placement tests are required to determine the appropriate level. Also recommended are any 100- or 200-level courses with the subject codes of ANTH (Anthropology), ENGL (English), GEOG (Geography), HIST (History), MUAR (Music-Arts Faculty), POLI (Political Science), PSYC (Psychology), RELG (Religious Studies), and SOCI (Sociology). For 200-level courses, information about any required prerequisites is found in the Minerva Class Schedule by "clicking on" the course CRN for re

EDEE 280	(3)	Geography, History and Citizenship Education
EDEE 282	(2)	Teaching Social Sciences
		Children's Literature

RELG 207	(3)	The Study of World Religions 1

Kindergarten and Elementary Teaching Methods - Art, Drama, or Music

3-6 credits from:

COMS 210	(3)	Introduction to Communication Studies
COMS 300	(3)	Media and Modernity in the 20th Century
COMS 310	(3)	Media and Feminist Studies
COMS 320	(3)	Media and Empire
COMS 330	(3)	Media in Cultural Life
EDEE 325*	(3)	Children's Literature
EDES 366	(3)	Literature for Young Adults
EDSL 350	(3)	Essentials of English Grammar
ENGL 200	(3)	Survey of English Literature 1
ENGL 201	(3)	Survey of English Literature 2
	(3)	English Literature and the Bible

EDER 494	(3)	Ethics in Practice
JWST 211	(3)	Jewish Studies 1: Biblical Period
JWST 240*	(3)	The Holocaust
PHIL 200	(3)	Introduction to Philosophy 1
PHIL 230	(3)	Introduction to Moral Philosophy 1
PHIL 237	(3)	Contemporary Moral Issues
RELG 203	(3)	Bible and Western Culture
RELG 204	(3)	Judaism, Christianity and Islam
RELG 207	(3)	The Study of World Religions 1
RELG 252	(3)	Hinduism and Buddhism
RELG 253	(3)	Religions of East Asia
RELG 256	(3)	Women in Judaism and Islam
RELG 270	(3)	Religious Ethics and the Environment
RELG 271	(3)	Sexual Ethics
WMST 200*	(3)	Introduction to Women's Studies

French

Students may choose up to 12 credits of French as a Second Language (FRSL) courses and/or French (FREN) courses.

ATOC 185	(3)	Natural Disasters
BIOL 115	(3)	Essential Biology
CHEM 180	(3)	World of Chemistry: Environment
CHEM 181	(3)	World of Chemistry: Food
CHEM 182	(3)	World of Chemistry: Technology
CHEM 183	(3)	World of Chemistry: Drugs
EDEE 473	(3)	Ecological Studies
EDEE 474	(3)	Problems of the Environment
EPSC 180	(3)	The Terrestrial Planets
EPSC 181	(3)	Environmental Geology
EPSC 185	(3)	Natural Disasters
EPSC 201	(3)	Understanding Planet Earth
PHYS 180	(3)	Space, Time and Matter
PHYS 181	(3)	Everyday Physics
PHYS 182	(3)	Our Evolving Universe
PHYS 183	(3)	The Milky Way Inside and Out

Physical Education

Students may take up to 12 credits of Physical Education (EDKP) courses from the list with the permission of the Department of Kinesiology and Physical Education.

* Note: EDKP 292 is available as an academic Physical Education course. All other EDKP courses are restricted.

EDKP 204	(3)	Health Education
EDKP 205	(3)	Structural Anatomy
EDKP 206	(3)	Biomechanics of Human Movement
EDKP 224	(3)	Foundations of Movement Education
EDKP 261	(3)	Motor Development
EDKP 292*	(3)	Nutrition and Wellness
EDKP 391	(3)	Physiology in Sport and Exercise
EDKP 495	(3)	Scientific Principles of Training
EDKP 498	(3)	Sport Psychology

Social Studies

Students may take up to 12 credits from this list below which represents a balance of History (HIST), Geography (GEOG), and Citizenship courses offered by several departments. Anthropology (ANTH) and Sociology (SOCI) courses not on the list below may not be counted as Social Studies courses in the program requirements. Students may take them as electives only.

Students may select additional History courses as follows:

Any 3 credits in European History

Any 3 credits in Asian, African, or Latin American History

Any 3 credits in any topic or field of history

* Note: Courses marked with an asterisk ("*") may be used as Ethics and Religious Culture or Social Studies courses.

ANTH 202	(3)	Comparative Cultures
ANTH 205	(3)	Cultures of the World
CANS 200	(3)	Introduction to the Study of Canada
CANS 202	(3)	Canadian Cultures: Context and Issues

GEOG 200	(3)	Geographical Perspectives: World Environmental Problems
GEOG 205	(3)	Global Change: Past, Present and Future
GEOG 210	(3)	Global Places and Peoples
GEOG 217	(3)	Cities in the Modern World
HIST 202	(3)	Survey: Canada to 1867
HIST 203	(3)	Survey: Canada since 1867
JWST 240*	(3)	The Holocaust
POLI 221	(3)	Government of Canada
POLI 222	(3)	Political Process and Behaviour in Canada
WMST 200*	(3)	Introduction to Women's Studies

Electives (6 credits)

6 credits

9.21 Bachelor of Education (B.Ed.) - Kindergarten and Elementary Education - First Nations and Inuit Studies (120 credits)

The Bachelor of Education (B.Ed.) - Kindergarten and Elementary Education - First Nations and Inuit Studies program requires 120 credits and leads to teacher certification. Interested applicants must contact the office of First Nations and Inuit Education for admission information; please call 514-398-4533.

Students who have not completed Quebec CEGEP, French Baccalaureate, International Baccalaureate, or at least one year of university studies prior to commencing the B.Ed. must also complete a minimum of 30 credits of freshman courses (in addition to the 120 credit program) for a total of 150 credits. Students who are admitted as "mature students" are not required to complete the 30 credits of freshman courses. These students are admitted to U1.

Please note that graduates of teacher education programs are recommended by the University for Quebec Certification to the Quebec Ministère de l'Éducation, du Loisir et du Sport (MELS). For more information about teacher certification in Quebec, please refer to the Faculty of Education section under "Overview of Faculty Programs", "Undergraduate Education Programs", and "Quebec Teacher Certification".

Freshman Program

Students normally complete 30 credits in their Freshman (U0) year.

The Freshman year is the time to take introductory-level courses in the subjects taught in Elementary school, as well as to explore areas that are not normally taken as teachable subject area courses within B.Ed. programs (e.g., Sociology, Psychology, Political Science, etc.).

Students admitted to the First Nations and Inuit Studies program in U0 should consult with their program adviser for guidance on course selection. More information is also found for newly admitted students to the B.Ed. Kindergarten and Elementary Education program on the Faculty of Education website at http://www.mcgill.ca/edu-dise/students/undergraduate/new/#KE.

Required Courses (108 credits)

EDEA 242	(3)	Cultural Skills 1
EDEA 243	(3)	Cultural Skills 2
EDEC 201	(1)	First Year Professional Seminar
EDEC 203	(3)	Communication in Education
EDEC 215	(0)	English Language Requirement
EDEC 216	(0)	Aboriginal Language Requirement
EDEC 247	(3)	Policy Issues in Quebec Education
EDEC 253	(1)	Second Professional Seminar (Kindergarten/Elementary)
EDEC 260	(3)	Philosophical Foundations
EDEC 405	(3)	Fourth Year Professional Seminar (K/Elem)
EDEE 223	(3)	Language Arts
EDEE 230	(3)	Elementary School Mathematics

EDEE 250	(2)	The Kindergarten Classroom
EDEE 270	(3)	Elementary School Science
EDEE 275	(2)	Science Teaching
EDEE 280	(3)	Geography, History and Citizenship Education
EDEE 282	(2)	Teaching Social Sciences
EDEE 291	(3)	Cultural Values and Socialization
EDEE 325	(3)	Children's Literature
EDEE 332	(3)	Teaching Mathematics 1
EDEE 342	(3)	Intermediate Inuktitut/Amerindian Language
EDEE 344	(3)	Advanced Inuktitut/Amerindian Language
EDEE 353	(3)	Teaching and Learning in the Elementary Classroom
EDEE 355	(3)	Classroom-based Evaluation
EDER 360	(2)	Ethics and Religious Culture (K/Elementary)
EDFE 200	(2)	First Field Experience (K/Elem & Secondary)
EDFE 256	(3)	Second Field Experience (Kindergarten/Elementary)
EDFE 306	(8)	Third Field Experience (Kindergarten/Elementary)
EDFE 406	(7)	Fourth Field Experience (K/Elem)
EDKP 241	(3)	Aboriginal Physical Activities
EDKP 292	(3)	Nutrition and Wellness
EDPE 300	(3)	Educational Psychology
EDPI 309	(3)	Exceptional Students
EDPI 341	(3)	Instruction in Inclusive Schools
EDSL 247	(3)	Second Language Education in Aboriginal Communities
EDSL 305	(3)	L2 Learning: Classroom Settings
EDSL 447	(3)	Methods in TESL 1
RELG 207	(3)	The Study of World Religions 1

Complementary Courses (12 credits)

12 credits of courses selected as described below.

Language - Complementary Component

6 credits from the following language courses chosen according to language group and fluency:

Algonquin

EDEC 234	(3)	Algonquin Second Language 2
EDEE 293	(3)	Algonquin Second Language 1
EDEE 294	(3)	Algonquin Language 1
EDEE 295	(3)	Algonquin Language 2

Cree

EDEC 241	(3)	Cree Language 1
EDEC 242	(3)	Cree Language 2

Inuktitut

EDEC 403	(3)	The Dialects of Inuktitut
EDEE 249	(3)	Inuktitut Orthography and Grammar

Mi'kmaq

EDEC 237	(3)	Mi'kmaq Second Language 1
EDEC 238	(3)	Mi'kmaq Second Language 2
EDEC 239	(3)	Mi'kmaq Language 1
EDEC 240	(3)	Mi'kmaq Language 2

Mohawk

EDEC 236	(3)	Mohawk Second Language 2
EDEE 296	(3)	Mohawk Second Language 1
EDEE 297	(3)	Mohawk Language 1
EDEE 298	(3)	Mohawk Language 2

Naskapi

EDEC 227	(3)	Naskapi Language 1
EDEC 228	(3)	Naskapi Language 2

Media, Technology, Computers and Education - Complementary Component

3 credits from:

EDEC 262	(3)	Media, Technology and Education
EDPT 341	(3)	Instructional Programming 1
EDPT 420	(3)	Media Literacy for Education

Education - Complementary Component

3 credits from:

EDEC 233	(3)	First Nations and Inuit Education
EDEC 248	(3)	Multicultural Education
EDEC 249	(3)	Global Education and Social Justice
EDPC 208	(3)	Native Families' Dynamics

9.22 Bachelor of Education (B.Ed.) - Kindergarten and Elementary Jewish Studies (126 credits)

Bachelor of Education (B.Ed.) - Kindergarten and Elementary Jewish Studies program requires 126 credits and leads to teacher certification. Students who have not completed Quebec CEGEP, French Baccalaureate, International Baccalaureate, or at least one year of university studies prior to commencing the B.Ed. must also complete a minimum of 30 credits of freshman courses (in addition to the 126-credit program) for a total of 156 credits.

The Kindergarten and Elementary program leads to certification to teach children between the ages of 5 and 11 years (kindergarten and elementary school). The program consists of academic and professional courses, as well as studies in pedagogy and educational foundations. Each year of the program provides a school-based practicum.

The Jewish Studies option requires an additional 6 credits of courses and is addressed to students enrolled in the Kindergarten and Elementary program who wish to teach Jewish studies as well as general studies. Students are encouraged to acquire a strong background in Bible, Jewish prayer, Jewish holidays,

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and Jewish history prior to registering in the option. Students lacking the ability to teach in Hebrew should consider spending a semester at an Israeli university or seek other avenues to improve their language skills.

Please note that graduates of teacher education programs are recommended by the University for Quebec certification to the Quebec Ministère de l'Éducation, du Loisir et du Sport (MELS). For more information about teacher certification in Quebec, please refer to the Faculty of Education section under "Overview of Faculty Programs", "Undergraduate Education Programs", and "Quebec Teacher Certification."

Freshman Program

Students normally complete 30 credits in their Freshman (U0) year.

The Freshman year is the time to take introductory level courses in the subjects taught in Elementary school, as well as to explore areas that are not normally taken as teachable subject area courses within B.Ed. programs (e.g. Sociology, Psychology, Political Science, etc.). Students should also investigate the possibility of taking one of the First Year Seminar courses offered by the Faculty of Arts or the Faculty of Science.

In addition, in consultation with the Program Adviser, students may select courses from the recommended course list below or other courses. Included in the list are several French Second Language (FRSL) courses for which placement tests are required to determine the appropriate level. Also recommended are any 100- or 200-level courses with the subject codes of ANTH (Anthropology), ENGL (English), GEOG (Geography), HIST (History), MUAR (Music-Arts Faculty), POLI (Political Science), PSYC (Psychology), RELG (Religious Studies), and SOCI (Sociology). For 200-level courses, information about any required prerequisites is found in the Minerva Class Schedule by clicking on the course CRN for registration. Check prerequisites before registering.

CEAP 250	(3)	Research Essay & Rhetoric

EDER 252	(3)	Understanding and Teaching Jewish Life
EDER 318	(3)	Teaching the Jewish Liturgy
EDER 319	(3)	Teaching the Holocaust
EDER 320	(3)	Visions and Realities of Jewish Education
EDER 360	(2)	Ethics and Religious Culture (K/Elementary)
EDER 401	(3)	Teaching Biblical Literature - Jewish School 1
EDFE 200	(2)	First Field Experience (K/Elem & Secondary)
EDFE 256	(3)	Second Field Experience (Kindergarten/Elementary)
EDFE 306	(8)	Third Field Experience (Kindergarten/Elementary)
EDFE 406	(7)	Fourth Field Experience (K/Elem)
EDPE 300	(3)	Educational Psychology
EDPI 309	(3)	Exceptional Students
EDPI 341	(3)	Instruction in Inclusive Schools
JWST 211	(3)	Jewish Studies 1: Biblical Period

Kindergarten and Elementary Teaching Methods - Art, Drama, or Music (3 credits)

3 credits from:

JWST 314	(3)	Denominations in North American Judaism
SOCI 327	(3)	Jews in North America

One of:

JWST 365	(3)	Modern Jewish Ideologies
JWST 366	(3)	History of Zionism

One of:

POLI 347	(3)	Arab-Israel Conflict, Crisis, Peace
POLI 437	(3)	Politics in Israel

One of:

HIST 207	(3)	Jewish History: 400 B.C.E. to 1000
JWST 216	(3)	Jewish Studies 2: 400 B.C.E. - 1000

One of:

HIST 219	(3)	Jewish History: 1000 - 2000
JWST 217	(3)	Jewish Studies 3: 1000 - 2000

One of:

JWST 367	(3)	Studies in Hebrew Language and Literature
JWST 368	(3)	Studies in Hebrew Language and Literature
JWST 369	(3)	Studies in Hebrew Language and Literature
JWST 370	(3)	Studies in Hebrew Language and Literature

Kindergarten and Elementary Jewish Studies - Subject Area - Group 2 (6 credits)

Students select 6 credits from the courses below.

* Note: Only one of the three courses identified with an asterisk ("*") may be selected.

JWST 327	(3)	A Book of the Bible
JWST 328	(3)	A Book of the Bible
JWST 329	(3)	A Book of the Bible
JWST 330	(3)	A Book of the Bible
JWST 331*	(3)	Bible Interpretation/Medieval Ashkenaz
JWST 332*	(3)	Bible Interpretation/Sefardic Tradition
JWST 510*	(3)	Jewish Bible Interpretation 1

Kindergarten & Elementary Education - Subject Areas (6 credits)

6 credits of teachable subject area courses:

3 credits from two of the following elementary school curriculum course lists: Art, English, Ethics and Religious Culture, French, Mathematics, Music, Natural Sciences, Physical Education, and Social Studies.

ENGL 386	(3)	Fans, Celebrities, Audiences
ENGL 388	(3)	Studies in Popular Culture
LING 200	(3)	Introduction to the Study of Language
LING 201	(3)	Introduction to Linguistics

Ethics and Religious Culture

* Note: Courses marked with an asterisk ("*") may be used as Ethics and Religious Culture courses or as Social Studies.

EDER 207	(3)	'Who is Christ?'
EDER 209	(3)	Search for Authenticity
EDER 252	(3)	Understanding and Teaching Jewish Life
EDER 290	(3)	Guide to Reading the Bible
EDER 309	(3)	The Religious Quest
EDER 394	(3)	Philosophy of God
EDER 395	(3)	Moral Values and Human Action
EDER 461	(3)	Society and Change
EDER 473	(3)	Living with Insight
EDER 494	(3)	Ethics in Practice
	(3)	Jewish Studies 1: Biblical Period

* Note: Courses marked with a single asterisk ("*") require permission from the Schulich School of Music to register.

** Note: Courses marked with two asterisks ("**") require a placement test.

EDEA 314	(3)	Instruments in the Classroom
EDEA 341	(3)	Listening for Learning
EDEA 352	(3)	Music Listening in Education
EDEA 362	(3)	Movement, Music and Communication
MUJZ 160*	(3)	Jazz Materials 1
MUJZ 161*	(3)	Jazz Materials 2
MUTH 110**	(3)	Melody and Counterpoint
MUTH 111**	(3)	Elementary Harmony and Analysis

Natural Sciences

ATOC 181	(3)	Introduction to Atmospheric Science
ATOC 182	(3)	Introduction to Oceanic Sciences
ATOC 184	(3)	Science of Storms
ATOC 185	(3)	Natural Disasters
BIOL 115	(3)	Essential Biology
CHEM 180	(3)	World of Chemistry: Environment
CHEM 181	(3)	World of Chemistry: Food
CHEM 182	(3)	World of Chemistry: Technology
CHEM 183	(3)	World of Chemistry: Drugs
EDEE 473	(3)	Ecological Studies
EDEE 474	(3)	Problems of the Environment
EPSC 180	(3)	The Terrestrial Planets
EPSC 181	(3)	Environmental Geology
EPSC 185	(3)	Natural Disasters
EPSC 201	(3)	Understanding Planet Earth
PHYS 180	(3)	Space, Time and Matter
PHYS 181	(3)	Everyday Physics
PHYS 182	(3)	Our Evolving Universe
PHYS 183	(3)	The Milky Way Inside and Out

EDKP 498	(3)	Sport Psychology

Social Studies

Students may take 3 credits from this list below which represents a balance of History (HIST), Geography (GEOG) and Citizenship courses offered by several departments. Anthropology (ANTH) and Sociology (SOCI) courses not on the list below may not be counted as Social Studies courses in the program requirements. Students may take them as electives only.

Students may select other History courses as follows:

Any 3 credits in European History

Any 3 credits in Asian, African, or Latin American History

Any 3 credits in any topic or field of history

* Note: Courses marked with an asterisk ("*") may be used as Ethics and Religious Culture or Social Studies courses.

ANTH 202	(3)	Comparative Cultures
ANTH 205	(3)	Cultures of the World
CANS 200	(3)	Introduction to the Study of Canada
CANS 202	(3)	Canadian Cultures: Context and Issues
GEOG 200	(3)	Geographical Perspectives: World Environmental Problems
GEOG 205	(3)	Global Change: Past, Present and Future
GEOG 210	(3)	Global Places and Peoples

Montréal or McGill as their "home" university. Courses will be offered at the Université de Montréal during the Fall term and at McGill during the Winter term.

Additional Requirements for Students admitted to B.Ed.

EDUM 392	(3)	Gestion de classe en langues secondes
EDUM 393	(3)	Adolescent et expérience scolaire
EDUM 402	(3)	Évaluation en français langue seconde
EDUM 491	(3)	Didactique des mathématiques en langues secondes
EDUM 492	(3)	Didactique des sciences-technologies
FREN 251	(3)	Littérature française depuis 1800
FREN 252	(3)	Littérature québécoise

9 credits to increase the student's proficiency level in the teaching of French, the following courses (or equivalent courses if not available):

FREN 239	(3)	Stylistique comparée
FREN 245	(3)	Grammaire avancée
FREN 334	(3)	Analyse des textes littéraires

Complementary Courses (40 credits)

40 credits selected as described below.

3 credits from:

EDEC 260	(3)	Philosophical Foundations
EDEC 261	(3)	Philosophy of Catholic Education

8 credits, one of two sets of courses:

Either set:

EDFE 362	(7)	Stage d'enseignement en Français langue seconde
EDSL 320	(1)	Séminaire 3 professionnel

Or set:

EDFM 361	(7)	Stage d'enseignement 1
EDUM 394	(1)	Séminaire de stage-3e

11 credits, one of two sets of courses:

Either set:

EDFE 461	(9)	Stage d'enseignement - immersion
EDSL 420	(2)	Séminaire 4 professionnel

Or set:

EDFM 460	(9)	Stage d'enseignement 2
EDUM 499	(2)	Séminaire de stage-4e

3 credits from:

EDSL 345	(3)	Enseignement du FLS-immersion

EDUM 498	(3)	Didactique du français en accueil 2

3 credits from:

EDSL 472	(3)	Enseignement du français langue seconde-secondaire
EDUM 391	(3)	Didactique du français en accueil 1

3 credits from:

EDUM 493	(3)	Sciences humaines au primaire
EDUM 494	(3)	Didactique de l'univers social et TIC
EDUM 495	(3)	Recherche-résolution de problèmes
EDUM 496	(3)	Laboratoire de formation professionnelle
EDUM 497	(3)	Problématique en éducation préscolaire

3 credits from:

Multicultural Education

In consultation with the Program Adviser, students may select courses from the recommended course list below or other courses. Included in the list are several French Second Language (FRSL) courses for which placement tests are required to determine the appropriate level. In Quebec, ESL is taught within the French school system. Thus, proficiency in French is an asset for student teaching placements, and is a requirement for employment in Quebec.

To ensure that students are able to function effectively in French in the French school setting, EDSL 215 Effective Communication in French (placement test required) is a required course in the TESL program. This course is offered in alternate years and must be taken in students' first or second year of their program. Students may need to take prerequisite FRSL courses prior to taking EDSL 215. If so, the Freshman year is an ideal time in which to do so.

Other language courses (selected from CLAS Greek/Latin; EAST Korean/Chinese/Japanese; GERM German; HISP Spanish, ISLA Arabic; ITAL Italian; RUSS Russian/Polish) are also good choices for the Freshman year.

EDEC 203	(3)	Communication in Education
EDEE 325	(3)	Children's Literature
EDEM 220	(3)	Contemporary Issues in Education
ENGL 201	(3)	Survey of English Literature 2
FRSL 101D1	(3)	Beginners' French
FRSL 101D2	(3)	Beginners' French
FRSL 207D1	(3)	Elementary French 01
FRSL 207D2	(3)	Elementary French 01
FRSL 211D1	(3)	Oral and Written French 1
FRSL 211D2	(3)	Oral and Written French 1
LING 200	(3)	Introduction to the Study of Language
LING 201	(3)	Introduction to Linguistics

Required Courses (79 credits)

EDEC 203	(3)	Communication in Education
EDEC 215	(0)	English Language Requirement
EDEC 247	(3)	Policy Issues in Quebec Education
EDES 350	(3)	Classroom Practices (Secondary)
EDFE 209	(2)	First Field Experience (TESL)
EDFE 255	(3)	Second Field Experience (TESL)
EDFE 359	(8)	Third Field Experience (TESL)
EDFE 459	(7)	Fourth Field Experience (TESL)
EDPE 300	(3)	Educational Psychology
EDPI 309	(3)	Exceptional Students
EDSL 210	(1)	First Professional Seminar
EDSL 215	(3)	Effective Communication in French
EDSL 255D1	(1)	Second Professional Seminar
EDSL 255D2	(1)	Second Professional Seminar
EDSL 300	(3)	Foundations of L2 Education
EDSL 304	(3)	Sociolinguistics and L2 Education
EDSL 305	(3)	L2 Learning: Classroom Settings
EDSL 311	(3)	Pedagogical Grammar
EDSL 315	(2)	Third Year Professional Seminar
EDSL 330	(3)	Literacy 1:Teaching Reading in ESL
EDSL 332	(3)	Literacy 2: Teaching Writing in ESL
EDSL 334	(3)	Teaching Oral Skills in ESL

EDSL 350	(3)	Essentials of English Grammar
EDSL 412	(3)	Assessment in TESL
EDSL 415	(3)	Fourth Professional Seminar
EDSL 447	(3)	Methods in TESL 1
EDSL 458	(3)	Methods in TESL 2

Complementary Courses (36 credits)

36 credits selected as described below:

3 credits from:

EDEC 233	(3)	First Nations and Inuit Education
EDEC 248	(3)	Multicultural Education
EDEC 249	(3)	Global Education and Social Justice

3 credits from:

EDEC 260	(3)	Philosophical Foundations
EDEC 261	(3)	Philosophy of Catholic Education

3 credits from:

EDEC 262	(3)	Media, Technology and Education
EDPT 200	(3)	Integrating Educational Technology in Classrooms
EDPT 204	(3)	Educational Media 1
EDPT 341	(3)	Instructional Programming 1
EDPT 420	(3)	Media Literacy for Education

3 credits from:

EDEE 325	(3)	Children's Literature
EDES 366	(3)	Literature for Young Adults

3 credits from:

EDPI 341	(3)	Instruction in Inclusive Schools
EDPI 440	(3)	Managing the Inclusive Classroom

3 credits from:

LING 200	(3)	Introduction to the Study of Language
LING 201	(3)	Introduction to Linguistics

18 credits of English and other academic courses distributed as follows:

6-9 credits of English (ENGL) courses

And

EDFE 200	(2)	First Field Experience (K/Elem & Secondary)
EDFE 256	(3)	Second Field Experience (Kindergarten/Elementary)
EDFE 300	(5)	Aboriginal Education Field Experience

Complementary Courses

30 credits selected as described below:

w:

10.2 Certificate in Education for First Nations and Inuit Physical Education (60 credits)

This 60-credit program provides an opportunity for Algonquin, Cree, Inuit, Mi'kmaq, and Mohawk people to become qualified as teachers. It is offered on a part-time basis in Indigenous communities throughout Quebec in collaboration with, for example, the Cree School Board, the Kativik School Board, and various Mi'kmaq, Mohawk, and Algonquin education authorities.

Quebec graduates of this program receive Ministry (MELS) certification to teach at the elementary school level in First Nations and Inuit schools.

On completion of the Certificate requirements, trainees may apply for admission to the Bachelor of Education for Certified Teachers program with up to 30 1 8j52 632.56 e 1 Tf2r e

EDEE 249	(3)	Inuktitut Orthography and Grammar
EDEE 342	(3)	Intermediate Inuktitut/Amerindian Language

Mi'kmaq

EDEC 237	(3)	Mi'kmaq Second Language 1
EDEC 238	(3)	Mi'kmaq Second Language 2
EDEC 239	(3)	Mi'kmaq Language 1
EDEC 240	(3)	Mi'kmaq Language 2

Mohawk(3)

EDEE 282 (2) Teaching Social Sciences

10.4 Certificate in Aboriginal Literacy Education (30 credits)

This 30-credit program is designed for Algonquin, Cree, Inuit, Mi'kmaq, and Kanienkehaka (Mohawk) students who wish to gain a deeper understanding of their Indigenous language, especially in its written form. It is aimed mainly at those who will be teaching their Indigenous language.

This certificate may be taken concurrently and completed within the Bachelor of Education for Certified Teachers program if the requirements for B.Ed. are fulfilled.

Required Courses (6 credits)

EDEE 342	(3)	Intermediate Inuktitut/Amerindian Language
EDEE 344	(3)	Advanced Inuktitut/Amerindian Language

Complementary Courses (18 credits)

18 credits selected as described below.

Language Courses

6 credits from the following language courses (or other courses as approved by the Director of Programs in First Nations and Inuit Education) including a beginning course (3 credits) in the Indigenous language as a first language (e.g., EDEC 241 Cree Language 1) and a second-level course (3 credits) in the same language (e.g., EDEC 242 Cree Language 2).

EDEC 227	(3)	Naskapi Language 1
EDEC 228	(3)	Naskapi Language 2
EDEC 239	(3)	Mi'kmaq Language 1
EDEC 240	(3)	Mi'kmaq Language 2
EDEC 241	(3)	Cree Language 1
EDEC 242	(3)	Cree Language 2
EDEE 249	(3)	Inuktitut Orthography and Grammar
EDEE 294	(3)	Algonquin Language 1
EDEE 295	(3)	Algonquin Language 2
EDEE 297	(3)	Mohawk Language 1
EDEE 298	(3)	Mohawk Language 2

Education Courses

12 credits from the list below:

EDEA 242	(3)	Cultural Skills 1
EDEC 220	(3)	Curriculum Development
EDEC 403	(3)	The Dialects of Inuktitut
EDEE 223	(3)	Language Arts
EDEE 224	(3)	Language Arts Part 2
EDEE 240	(3)	Use and Adaptation of Curricula
EDEE 243	(3)	Reading Methods in Inuktitut/Cree
EDEE 247	(6)	Individualized Instruction
EDEE 248	(3)	Reading and Writing Inuktitut/Cree
EDEE 345	(3)	Literature and Creative Writing 1
EDEE 346	(3)	Literature and Creative Writing 2
EDES 365	(3)	Experiences in Communications
EDPE 304	(3)	Measurement and Evaluation

Electives (6 credits)

6 credits of suitable courses approved by the Director of Programs in First Nations and Inuit Education.

10.4.1 Admission to the Certificate in Aboriginal Literacy Education

Students admitted to this program will be recommended by their communities. If the program is used for professional development, students will be Indigenous teachers employed in local schools. They must be mature students, or hold a Secondary V diploma or equivalent. The right of final decision for acceptance of candidates rests with McGill.

10.5 Certificate in Middle School Education in Aboriginal Communities (30 credits)

This 30-credit program focuses on developing the particular skills and abilities required of the Indigenous teacher in the middle school of his/her community. It does not lead to provincial certification. Rather, it prepares Indigenous teachers, who are bilingual or have some knowledge of their Indigenous language and who have already established themselves as teachers, to teach students at this level in ways that are developmentally and culturally appropriate. The program focuses on the particular psychological, emotional, and social needs of Aboriginal adolescents and the teacher's role in facilitating the transition between elementary and high school.

This certificate may be taken concurrently and completed within the Bachelor of Education for Certified Teachers program if the requirements for the B.Ed. are fulfilled.

Required Courses (15 credits)

EDEC 245	(3)	Middle School Teaching
EDEC 246	(3)	Middle School Curriculum
EDFE 210	(3)	Middle School Practicum
EDPE 377	(3)	Adolescence and Education

3 credits from the list below:

Language and Learning -e School CurriculumLanguage and Lear55.969.403 ool Curriculumfi

Admission to the Certificate in Middle Sc

completed before the B.Ed. Students completing the Bachelor of Education for Certified Teachers following the Certificate in Education for First Nations and Inuit will have accumulated a total of 120 credits, 60 for the certificate and a further 60 for the B.Ed.

The Certificate in Aboriginal Literacy Education, the Certificate in Middle School Education in Aboriginal Communities, or the Certificate in First Nations and Inuit Educational Leadership may be taken concurrently and completed within the Bachelor of Education for Certified Teachers if the required B.Ed. profile is fulfilled.

This program does not lead to further certification.

Complementary Courses

Candidates enrolled in the program complete 90 credits within the following general pattern.

Academic Concentration (30 credits)

30 credits in five (5) subject areas relevant to elementary education in a 12-9-3-3-3 pattern (i.e., 12 credits in one subject, 9 credits in a second subject, and 3 credits in each of three (3) other subject areas), or 30 academic credits in three subject areas in a 15-9-6 pattern.

Note: Subject areas relevant to elementary education, in broad terms, are the Arts (Art, Music and Drama), English, French, Science, Mathematics, Physical Education, Moral and Religious Education, Social Studies, Educational Technology, or an Aboriginal language.

Cultural Development (15 credits)

15 credits of courses that will enhance the candidate's cultural development. These are to be chosen in consultation with the Director of Programs in First Nations and Inuit Education.

Education Concentration (30 credits)

30 credits. Normally the Education concentration is completed within the Certificate in Education for First Nations and Inuit.

Electives (15 credits)

15 credits selected by the candidate after consultation with the Director of Programs in First Nations and Inuit Education.

10.7.1 Admission Requirements for the B.Ed. for Certified Teachers

Applicants apply on the basis of having completed the Certificate in Education for First Nations and Inuit or equivalent and must have the continued support of their education authority to attend the field-based program. The right of final decision for acceptance of candidates rests with McGill.

10.8 Certificate in Aboriginal Education for Certified Teachers (30 credits)

This 30-credit program provides training to assist mainstream teachers in becoming more effective teachers in First Nations and Inuit communities. It is designed to address subjects of particular interest and need in First Nations and Inuit schools, such as cultural socialization, cooperative learning, second-language teaching, and curriculum development.

Required Courses (18 credits)

EDEC 220	(3)	Curriculum Development
EDEC 233	(3)	First Nations and Inuit Education
EDEE 240	(3)	Use and Adaptation of Curricula
EDEE 291	(3)	Cultural Values and Socialization
EDEE 444	(3)	First Nations and Inuit Curriculum
EDSL 247	(3)	Second Language Education in Aboriginal Communities

Complementary Courses (12 credits)

12 credits selected as described below.

Language

3 credits of an introductory language course in the language of the community.

Education

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9 credits of Education courses selected from the list below or any other suitable course approved by the Director of Programs in First Nations and Inuit Education.

EDEA 242	(3)	Cultural Skills 1
EDEC 200	(3)	Introduction to Inuit Studies
EDEE 247	(6)	Individualized Instruction
EDEE 290	(3)	Cooperative Learning
EDEM 202	(3)	Native Family Dynamics & Supporting Institutions

10.8.1 Admission to the Certificate in Aboriginal Education for Certified Teachers

Applicants must provide the following:

- a Diploma of Collegial Studies (DEC) or its equivalent;
- evidence of having completed teacher training at an approved institution;
- a letter of recommendation from a competent authority.

All courses are normally given off campus and are normally limited to students enrolled in off-campus programs delivered through First Nations and Inuit Education. The right of final decision for acceptance of candidates rests with McGill.

10.9 Certificate in First Nations and Inuit Student Personnel Services (30 credits)

This program is offered by the Department of Educational and Counselling Psychology through First Nations and Inuit Education.

This 30-credit program is designed to provide Aboriginal school personnel advisers with a training program that will enable them to learn about the principles and practice of personnel services as generally applied in educational settings, to help Aboriginal student personnel advisers develop their personal skills, and to modify or adapt their services and the content to best suit the cultural and educational needs of Aboriginal students; to encourage Aboriginal student personnel advisers to take leadership in developing educational programs that address the social needs of their communities, to upgrade their academic qualifications and professional development; and to develop and make available, in English and in the languages of instruction, collections of professional and scholarly knowledge about students' needs, and services in First Nations and Inuit communities.

Bearers of this certificate will be qualified to work as educational and school personnel advisers within the employ of an Aboriginal educational authority.

Required Courses (21 credits)

EDPC 201	(3)	Introduction to Student Advising
EDPC 202	(3)	Helping Skills Practicum 1
EDPC 203	(3)	Helping Skills Practicum 2
EDPC 205	(3)	Career/Occupational Development
EDPC 208	(3)	Native Families' Dynamics
EDPC 209	(3)	Basic Crisis Intervention Skills
EDPC 210	(3)	Field Experience

Complementary Courses (9 credits)

9 credits selected from the list below or an

Professors

CEAP 250	(3)	Research Essay & Rhetoric
EDEC 202	(3)	Effective Communication
EDEM 220	(3)	Contemporary Issues in Education

Required Courses (95 credits)

EDEC 215	(0)	English Language Requirement
EDEC 247	(3)	Policy Issues in Quebec Education
EDEC 260	(3)	Philosophical Foundations
EDFE 246	(3)	First Field Experience (Physical Education)
EDFE 373	(3)	Second Field Experience (Physical Education)
EDFE 380	(7)	Third Field Experience (Physical Education)
EDFE 480	(7)	Fourth Field Experience (Physical Education)
EDKP 204	(3)	Health Education
EDKP 208	(3)	Biomechanics and Motor Learning
EDKP 213	(1)	Aquatics 1
EDKP 214	(1)	Basketball 1
EDKP 215	(0)	Standard First Aid/Cardio-Pulmonary Resuscitation Level C
EDKP 217	(2)	Track & Field / Cross Country
EDKP 218	(1)	Volleyball 1
		Healthy Lifestyle A 70.52 643.441 T8P1 0 n .361 Tm(A 723.36s6t 0 0 1 165.864 454.801m(A 723.36Tj1 0 0 1 70.52 43

EDKP 405	(3)	Sport in Society
EDKP 443	(3)	Research Methods
EDKP 447	(3)	Motor Control
EDKP 485	(3)	Exercise Pathophysiology 1
EDKP 495	(3)	Scientific Principles of Training
EDKP 498	(3)	Sport Psychology
PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2

Complementary Courses (12 credits)

12 credits selected as described below.

3 credits of Statistics from:

BIOL 373	(3)	Biometry
MATH 203	(3)	Principles of Statistics 1
PSYC 204	(3)	Introduction to Psychological Statistics
SOCI 350	(3)	Statistics in Social Research

9 credits from:

EDKP 200	(1)	Weight Training
EDKP 201	(3)	Physical Activity Leadership
EDKP 244	(1)	Dance and Fitness
EDKP 249	(1)	Physical Activity Appraisal
EDKP 250	(3)	Practicum 1
EDKP 311	(3)	Athletic Injuries
EDKP 350	(3)	Physical Fitness Evaluation Methods
EDKP 444	(3)	Ergonomics
EDKP 445	(3)	Exercise Metabolism
EDKP 446	(3)	Physical Activity and Ageing
EDKP 448	(3)	Exercise and Health Psychology
EDKP 449	(3)	Exercise Pathophysiology 2
EDKP 450	(3)	Practicum 3
EDKP 451	(3)	Personal Trainer Practicum
EDKP 452	(3)	Fitness & Lifestyle Consulting
EDKP 453	(3)	Research Practicum in Kinesiology
EDKP 542	(3)	Environmental Exercise Physiology
EDKP 553	(3)	Physical Activity Assessments
EDKP 566	(3)	Advanced Biomechanics Theory
NUTR 503	(3)	Bioenergetics and the Lifespan

Elective Courses (20 credits)

Students are encouraged to obtain some of their remaining credits by completing one of the minors or minor concentrations offered by the Faculty of Arts, the Desautels Faculty of Management, or the Faculty of Science.

A maximum of 6 credits of overlap is allowed between the Minor and the primary program. A minimum of 18 new credits must be completed in the Minor or Minor concentration. Science minors require 18-24 credits. Arts Minor concentrations and Management Minors generally require 18 credits.

11.6 Bachelor of Science (Kinesiology) (B.Sc.(Kinesiology)) - Kinesiology - Honours (90 credits)

The McGill Bachelor of Science (Kinesiology) program received accreditation from the Canadian Council of University Physical Education and Kinesiology Administrators (CCUPEKA) in April 2007.

The Honours version of the B.Sc.(Kinesiology) is a 90-credit program. Students who have not completed Quebec CEGEP, French Baccalaureate, International Baccalaureate, or at least one year of university studies are normally enrolled in a four-year B.Sc.(Kinesiology) program, which includes a 30-credit Freshman year for a total of 120 credits.

The Kinesiology - Honours program offers particularly strong students aspiring to continue their studies at the graduate level the opportunity to pursue more advanced coursework. The program requires the completion of a research project under the direction of a professor during the final year. To qualify for the Honours program, students must obtain a CGPA of 3.3 after two years in Kinesiology and must retain this CGPA until graduation.

Graduation Requirement:

Prior to graduation, students are required to show proof of certification in Standard Level Safety Oriented First Aid/Level C in Cardiopulmonary Resuscitation, or equivalencies.

Freshman Program

29-30 credits of basic science courses depending on the Fall term MATH course selected.

Students admitted from CEGEP or with other advanced standing should have equivalencies for these courses to be exempt from Freshman Program requirements.

Fall term BIOL and CHEM courses:

BIOL 111	(3)	Principles: Organismal Biology
CHEM 110	(4)	General Chemistry 1

In consultation with a program adviser, one of the following Fall term MATH courses:

MATH 139	(4)	Calculus 1 with Precalculus
MATH 140	(3)	Calculus 1
MATH 150	(4)	Calculus A

In consultation with a program adviser, one of the following Fall term PHYS courses:

PHYS 101	(4)	Introductory Physics - Mechanics
PHYS 131	(4)	Mechanics and Waves

Winter term BIOL and CHEM courses:

BIOL 112	(3)	Cell and Molecular Biology
CHEM 120	(4)	General Chemistry 2

One of the following Winter term MATH courses:

MATH 141	(4)	Calculus 2
MATH 151	(4)	Calculus B

One of the following Winter term PHYS courses:

PHYS 102	(4)	Introductory Physics - Electromagnetism

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PHYS 142	(4)	Electromagnetism and Optics

Required Courses (67 credits)

In addition to the 58 credits of required courses for the Major, Honours students complete EDKP 453 "Research Practicum in Kinesiology" and EDKP 499 "Undergraduate Honours Research Project".

ANAT 315	(4)	Anatomy/Limbs and Back
ANAT 316	(2)	Human Visceral Anatomy
BIOL 200	(3)	Molecular Biology
CHEM 212	(4)	Introductory Organic Chemistry 1
EDKP 206	(3)	Biomechanics of Human Movement
EDKP 215	(0)	Standard First Aid/Cardio-Pulmonary Resuscitation Level C
EDKP 261	(3)	Motor Development
EDKP 292	(3)	Nutrition and Wellness
EDKP 330	(3)	Physical Activity and Health
EDKP 394	(3)	Historical Perspectives
EDKP 395	(3)	Exercise Physiology
EDKP 396	(3)	Adapted Physical Activity
EDKP 405	(3)	Sport in Society
EDKP 443	(3)	Research Methods
EDKP 447	(3)	Motor Control
EDKP 453	(3)	Research Practicum in Kinesiology
EDKP 485	(3)	Exercise Pathophysiology 1
EDKP 495	(3)	Scientific Principles of Training
EDKP 498	(3)	Sport Psychology
EDKP 499	(6)	Undergraduate Honours Research Project
PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2

Complementary Courses (15 credits)

15 credits selected as described below.

3 credits of statistics from:

BIOL 373	(3)	Biometry
MATH 203	(3)	Principles of Statistics 1
PSYC 204	(3)	Introduction to Psychological Statistics
SOCI 350	(3)	Statistics in Social Research

12 credits from:

BIOC 311	(3)	Metabolic Biochemistry

Professors

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Associate Professors

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France Bouthillier; B.Ed.(UQAM), M.B.S.I.(Montr.), Ph.D.(Tor.)

Kim Dalkir; B.Sc., M.B.A.(McG.), Ph.D.(C'dia)

Catherine Guastavino; B.Sc.(McG.), M.Sc.(Aix-Marseille), Ph.D.(Paris)

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Joy Bennett; B.A., M.A.(C'dia), M.L.I.S.(McG.), Ph.D.(C'dia)

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