This publication provides guidance to prospects, applicants, students, faculty and staff.

1. McGill University reserves the right to mak

## Publication Information

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7.4.2.2 Bachelor of Science (Agricultural and Environmental Sciences) (B.Sc.(Agric.&E.S.)) or Bachelor of

## 1 [illegible]

McGill's Faculties of Agricultural and Environmental Sciences, Arts, Science, and Law have forged a unique approach to the study of environment through the inter-faculty, trans-disciplinary McGill School of Environment (MSE).

The growth of technology, globalizing economies, and rapid increase in population have had dramatic and significant environmental impacts. These changes have been accompanied by an increasing awareness of the relationship between human activity and the environment. Environmental problems range from local and short-term degradation through to the perturbation observed over the entire globe and for many years. The importance of human-environment relations for environmental and social well-being, and the complexity and conflict involved in environmental analysis and decision making, requires a depth and breadth of knowledge. The MSE has developed its programs with the approach of introducing students to a broad range of ideas early in the program to provide a foundation and an openness upon which more specialized, disciplinary knowledge can be built.

## 2 [illegible]

The mission of the McGill School of Environment is:

- to provide a program that will develop a broad-based environmental literacy in the undergraduate population;
- to develop opportunities for graduate students to pursue studies of the environment at an advanced level to create future leaders and researchers; and
- to generate new ideas, new insights, new technologies, and new approaches to understanding and redressing environmental problems through academic research and outreach that builds on the University's existing strength in research and spans disciplinary boundaries.

Through a range of research and educational initiatives, the MSE aims to aid society in making environmental choices, in the context of diverse environmental world views that will sustain healthy societies within a flourishing biosphere.

The MSE focuses on four themes:

- Health in a Changing Environment
- Ecosystems, Biodiversity, and Conservation
- Citizens, Communities, In1 2anvions and the cn

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## 2 [illegible]s

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Chemistry: Christopher Barrett

Civil Engineering and Applied Mechanics: Susan Gaskin, Van-Thanh-Van Nguyen, Jim Nicell

Earth and Planetary Sciences: Jeanne Paquette

Economics: Chris Green, Tom Naylor

Electrical and Computer Engineering:

## 4 [illegible]

If you are unsure of the domain that you want to pursue in U1, you may register in the Major or Faculty Program in Environment without picking a domain. However, you must pick a domain by your U2 year.

Note: You must select a domain in order to graduate.

(This section does not apply to students in the B.A. & Sc., Minor, or Diploma programs.)

## 5 [illegible]

Regulations concerning the method of evaluation of any course (including those governing supplemental examinations) are those of the faculty that offers the course. You should note that supplemental exams are available for courses taught in the Faculties of Arts, of Science, and of Education, but not for courses taught in the Faculties of Agricultural and Environmental Sciences, Engineering, or Management.

Note: All ENVR courses, regardless of where they are taught, are offered only by the Faculty of Science.

For more information on the University regulations and procedures, see University Regulations and Resources > Undergraduate > : Examinations: General Information

## 6 [illegible]

Students in the School of B.A., B.A. & Sc., B.Sc., and B.Sc.(Ag.Env.Sc.) programs may take courses outside their faculty according to the regulations of their faculty of admission.

These regulations are not identical:

- Arts students, see Faculty of Arts > Undergraduate > Faculty of Arts Degree Requirements > Course Requirements > : Programs Outside the Faculties of Arts or Science ± for Arts Students
- Arts and Science students, see Bachelor of Arts and Science > Undergraduate > Degree Requirements > Course Requirements > : Courses Outside the Faculties of Arts and of Science
- Science students, see Faculty of Science > Undergraduate > Faculty Degree Requirements > Course Requirements > : Courses Outside the Faculties of Arts and Science
- Agricultural and Environmental Sciences students, see Faculty of Agricultural & Environmental Sciences > Undergraduate > About the Faculty of Agricultural and Environmental Sciences, including Macdonald Campus > School of Human Nutrition (Undergraduate) > Faculty Information and Regulations > : Minimum Credit Requirement
- Faculty of Science students in particular should be aware that some courses are restricted and cannot be taken for credit. See the Science Office for Undergraduate Student Advising (SOUSA) website at www.mcgill.ca/science/student/continuingstudents/bsc/outside
- Students in the Diploma of Environment follow the program as specified; see section 7.8 Diploma in Environment.

## 5 [illegible]

The McGill School of Environment has developed nine programs, which are offered on the Downtown and Macdonald campuses:

1. A Minor in Environment is open to all undergraduate students. For more information, see section 7.1 Minor in Environment.
2. A Faculty Program in Environment leading to a B.A. is open to students meeting the entrance requirements of the Faculty of Arts. For more information, see section 7.2 B.A. Faculty Program in Environment.
3. An Interfaculty Program in Environment leading to a B.A. & Sc. is open to students meeting the entrance requirements for the Bachelor of Arts and Science. For more information, see section 7.3 Bachelor of Arts and Science (B.A. & Sc.) ± Interfaculty Programs
4. An Interfaculty Program in Sustainability, Science and Society leading to a B.A. & Sc. is offered by the McGill School of Environment in partnership with the Department of Geography. It is open to students meeting the entrance requirements for the Bachelor of Arts and Science. For more information, see Bachelor of Arts and Science > Undergraduate

6. A Major in Environment leading to a B.Sc. is open to students meeting the entrance requirements of the Faculty of Science. For more information, see section 7.4, Major in Environment – B.Sc. (Ag.Env.Sc.) and B.Sc.
7. An Honours Program in Environment is open to senior Environment students in the B.A., B.A. & Sc., B.Sc. (Ag.Env.Sc.) and B.Sc. degrees. For more information, see section 7.6, Honours Program in Environment.
8. A Joint Honours Program in Environment is open to senior Environment students in the B.A. degree. For more information, see section 7.7.1, Bachelor of Arts (B.A.) - Joint Honours Component Environment (36 credits).
9. A Diploma in Environment is available only to students who have already completed a Bachelor or an equivalent degree, and who want to return to university for further undergraduate study. The Diploma is offered by the Faculty of Agricultural and Environmental Sciences, the Faculty of Arts, and the Faculty of Science. For more information, see section 7.8, Diploma in Environment.

These programs strive to offer the flexibility necessary to deal with the environment through a set of core courses that provide the general knowledge base of the program combined with a progressive series of courses in a trans-disciplinary area of environmental specialization, referred to as a domain.

The programs are designed to prepare students for further study in environment or discipline-based graduate programs, and for employment in industry, government, and education.

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## 6 [illegible]

The MSE does not recommend that students in their Freshman (U0) year take ENVR Core courses. Students in their U1 to U3 years are welcome to take selected ENVR courses, even if they are not in the Environment programs. For Freshman year course selections, students should refer to the website of their respective faculty.

- Students in the B.Sc. degree, see www.mcgill.ca/science/students/undergrad/students/u0/bsc-freshman/specific
- Students in the B.Sc. (Ag.Env.Sc.) degree, see www.mcgill.ca/macdonald/prospective/freshmanyear/courses
- Students in the B.A. & Sc. 326 J 475 T 3.

Consultation with the Program Adviser for approval of course selection to meet program requirements is advisable. Only courses at the 200 level and above will be approved.

For more information, contact:

Ms. Kathy Roulet, MSE Program Adviser

Email: kathy.roulet@mcgill.ca

Telephone: 514-398-4306

**[illegible]**

18 credits of complementary courses are selected as follows:

12 credits of MSE core courses:

Location Note: Core courses are taught at both McGill's Downtown campus and at the Macdonald campus in Sainte-Anne-de-Bellevue. You should register in Section 001 of an ENVR course that you plan to take at the Downtown campus, and in Section 051 of an ENVR course that you plan to take at the Macdonald campus.

| | | |
|---|---|---|
| ENVR 200 | (3) | The Global Environment |
| ENVR 201 | (3) | Society, Environment and Sustainability |
| ENVR 202 | (3) | The Evolving Earth |
| ENVR 203 | (3) | Knowledge, Ethics and Environment |
| ENVR 400 | (3) | Environmental Thought |

6 credits of environmentally related courses selected with the approval of the Program Adviser (at least 3 credits must be in natural sciences). A list of Suggested Courses is given below.

**[illegible]**

The Suggested Course List is divided into two thematic categories: Social Sciences and Policy, and Natural Sciences and Technology.

Most courses listed at the 3 1 42.3st is diel and aboMosed Cnot mea41 2 T crd at the 3 1 4n

| | | |
|---|---|---|
| ECON 205 | (3) | An Introduction to Political Economy |
| ECON 225 | (3) | Economics of the Environment |
| ECON 326 | (3) | Ecological Economics |
| ECON 347 | (3) | Economics of Climate Change |
| ECON 405 | (3) | Natural Resource Economics |
| ENVB 437 | (3) | Assessing Environmental Impact |
| ENVR 201 | (3) | Society Environment and Sustainability |
| ENVR 203 | (3) | Knowledge, Ethics and Environment |
| ENVR 400 | (3) | Environmental Thought |
| | | Geographical Perspectives: World En |

| | | |
|---|---|---|
| SOCI 235 | (3) | Technology and Society |
| SOCI 254 | (3) | Development and Underdevelopment |
| SOCI 386 | (3) | Contemporary Social Movements |
| URBP 201 | (3) | Planning the 21st Century City |
| URBP 506 | (3) | Environmental Policy and Planning |
| URBP 530 | (3) | Urban Environmental Planning |
| WILD 415* | (2) | Conservation Law |

**Additional Technology**

** Note: you may take MIMM 211 or LSCI 230, but not both; you may take ENVB 315 or BIOL 432, but not both; you may take BIOL 308 or ENVB 305, but not both.

| | | |
|---|---|---|
| AGRI 340 | (3) | Principles of Ecological Agriculture |
| AGRI 435 | (3) | Soil and Water Quality Management |
| ANSC 326 | (3) | Fundamentals of Population Genetics |
| ANTH 311 | (3) | Primate Behaviour and Ecology |
| ARCH 375 | (2) | Landscape |
| ARCH 377 | (3) | Energy, Environment and Buildings |
| ARCH 378 | (3) | Site Usage |
| ATOC 215 | (3) | Oceans, Weather and Climate |
| BIOL 240 | (3) | Montregian Flora |
| BIOL 305 | (3) | Animal Diversity |
| BIOL 308** | (3) | Ecological Dynamics |
| BIOL 310 | (3) | Biodiversity and Ecosystems |
| BIOL 342 | (3) | Contemporary Topics in Aquatic Ecology |
| BIOL 418 | (3) | Freshwater Invertebrate Ecology |
| BIOL 432** | (3) | Limnology |
| BIOL 436 | (3) | Evolution and Society |
| BIOL 465 | (3) | Conservation Biology |
| BREE 217 | (3) | Hydrology and Water Resources |
| BREE 322 | (3) | Organic Waste Management |
| BREE 518 | (3) | Ecological Engineering |
| BTEC 502 | (3) | Biotechnology Ethics and Society |
| CHEE 230 | (3) | Environmental Aspects of Technology |
| CHEM 212 | (4) | Introductory Organic Chemistry 1 |
| CHEM 281 | (3) | Inorganic Chemistry 1 |
| CHEM 462 | (3) | Green Chemistry |
| CIVE 225 | (4) | Environmental Engineering |
| CIVE 323 | (3) | Hydrology and Water Resources |
| CIVE 550 | (3) | Water Resources Management |
| ENTO 340 | (3) | Field Entomology |
| ENVB 210 | (3) | The Biophysical Environment |
| ENVB 301 | (3) | Meteorology |
| ENVB 305** | (3) | Population & Community Ecology |

| | | |
|---|---|---|
| ENVB 315** | (3) | Science of Inland Waters |
| ENVB 410 | (3) | Ecosystem Ecology |
| ENVB 415 | (3) | Ecosystem Management |
| ENVB 529 | (3) | GIS for Natural Resource Management |
| ENVR 200 | (3) | The Global Environment |
| ENVR 202 | (3) | The Evolving Earth |
| EPSC 201 | (3) | Understanding Planet Earth |
| EPSC 233 | (3) | Earth and Life History |
| EPSC 425 | (3) | Sediments to Sequences |
| EPSC 549 | (3) | Hydrogeology |
| ESYS 301 | (3) | Earth System Modelling |
| GEOG 200 | (3) | Geographical Perspectives: World Environmental Problems |
| GEOG 201 | (3) | Introductory Geo-Information Science |
| GEOG 205 | (3) | Global Change: Past, Present and Future |
| GEOG 272 | (3) | Earth©s Changing Surface |
| GEOG 308 | (3) | Principles of Remote Sensing |
| GEOG 321 | (3) | Climatic Environments |
| GEOG 322 | (3) | Environmental Hydrology |

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(3) Global Perspectiv

## Environment Minor

This 18-credit Minor is intended for Faculty of Agricultural and Environmental Science students and Faculty of Science students, but is open to students from other faculties as well, except Arts, Law and Management.

### Advising

Consultation with the Program Adviser for approval of course selection to meet program requirements is advised. Only courses at the 200 level and above will be approved.

For more information, contact:

Ms Kathy Roulet, MSE Program Adviser

Email: Kathy.roulet@mcgill.ca

Telephone: 514-398-4306

### Program Requirements

18 credits of complementary courses are selected as follows:

12 credits of MSE core courses:

Location Note: MSE core courses are taught at both McGill's Downtown campus and at the Macdonald campus in Sainte-Anne-de-Bellevue. You should register in Section 001 of an ENVR course that you plan to take at the Downtown campus, and in Section 051 of an ENVR course that you plan to take at the Macdonald campus.

| | | |
|---|---|---|
| ENVR 200 | (3) | The Global Environment Society En |

| | | |
|---|---|---|
| ANTH 339 | (3) | Ecological Anthropology |
| ANTH 418 | (3) | Environment and Development |
| ANTH 512 | (3) | Political Ecology |
| BREE 503 | (3) | Water: Society, Law and Policy |
| CIVE 433 | (3) | Urban Planning |
| ECON 205 | (3) | An Introduction to Political Economy |
| ECON 225 | (3) | Economics of the Environment |
| ECON 326 | (3) | Ecological Economics |
| ECON 347 | (3) | Economics of Climate Change |
| ECON 405 | (3) | Natural Resource Economics |

| | | |
|---|---|---|
| RELG 270 | (3) | Religious Ethics and the Environment |
| RELG 340 | (3) | Religion and the Sciences |
| RELG 370 | (3) | Religion and Human Rights |
| RELG 376 | (3) | Religious Ethics |
| SOCI 222 | (3) | Urban Sociology |
| SOCI 234 | (3) | Population and Society |

3 credits from the following, or equivalent (e.g., CEGEP objectives 00UN):

| | | |
|---|---|---|
| MATH 139 | (4) | Calculus 1 with Precalculus |
| MATH 140 | (3) | Calculus 1 |

**B**

3 credits of basic science from the following, or equivalent (e.g., CEGEP objectives 00UK):

| | | |
|---|---|---|
| AEBI 120 | (3) | General Biology |
| BIOL 111 | (3) | Principles: Organismal Biology |

**Suggestions for Your First Year**

For suggestions on courses to take your first year (U1), you can consult the "MSE Student Handbook" available on the MSE website (http://www.mcgill.ca/mse), or contact Kathy Roulet, the Program Adviser (kathy.roulet@mcgill.ca).

**Program**

Note: You are required to take a maximum of 30 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes core and required courses, but does not include the program prerequisites or corequisites listed above.

Location Note: When planning your schedule and registering for courses, you should verify where each course is offered because courses for this program are taught at both McGill's Downtown campus and at the Macdonald campus in Sainte-Anne-de-Bellevue.

**Core Required Courses**

Location Note: Core required courses are taught at both McGill's Downtown campus and at the Macdonald campus in Sainte-Anne-de-Bellevue. You should register in Section 001 of an ENVR course that you plan to take at the Downtown campus, and in Section 051 of an ENVR course that you plan to take at the Macdonald campus.

| | | |
|---|---|---|
| ENVR 200 | (3) | The Global Environment |
| ENVR 201 | (3) | Society, Environment and Sustainability |
| ENVR 202 | (3) | The Evolving Earth |
| ENVR 203 | (3) | Knowledge, Ethics and Environment |
| ENVR 301 | (3) | Environmental Research Design |
| ENVR 400 | (3) | Environmental Thought |

**Complementary Courses Required**

Only 3 credits will be applied to the program; extra credits will count as electives.

| | | |
|---|---|---|
| AEBI 427 | (6) | Barbados Interdisciplinary Project |
| AGRI 519 | (6) | Sustainable Development Plans |
| ENVR 401 | (3) | Environmental Research |
| ENVR 451 | (6) | Research in Panama |

**Complementary Courses**

33 credits of complementary courses are chosen as follows:

6 credits of Health and Environment

12 credits of Fundamentals, maximum 3 credits from any one category

9 credits from List A

6 credits from List B

**Health and Environment**

| | | |
|---|---|---|
| GEOG 221* | (3) | Environment and Health |

**[illegible]**

* Note: You may take BREE 217 or GEOG 322, but not both.

| | | |
|---|---|---|
| AGRI 452 | (3) | Water Resources in Barbados |
| BREE 217* | (3) | Hydrology and Water Resources |
| GEOG 321 | (3) | Climatic Environments |
| GEOG 322* | (3) | Environmental Hydrology |

**[illegible]**

| | | |
|---|---|---|
| AEBI 425 | (3) | Tropical Energy and Food |
| AGRI 340 | (3) | Principles of Ecological Agriculture |
| AGRI 411 | (3) | Global Issues on Development, Food and Agriculture |
| AGRI 550 | (3) | Sustained Tropical Agriculture |
| NUTR 341 | (3) | Global Food Security |

**[illegible]**

| | | |
|---|---|---|
| AGEC 333 | (3) | Resource Economics |
| ECON 440 | (3) | Health Economics |
| PHIL 343 | (3) | Biomedical Ethics |
| RELG 270 | (3) | Religious Ethics and the Environment |
| URBP 507 | (3) | Planning and Infrastructure |

**[illegible]**

* Note: You may take BIOL 308 or ENVB 305, but not both.

| | | |
|---|---|---|
| AEBI 210 | (3) | Organisms 1 |
| | (3) | Organisms 2 |

**A vg**

* Note: You may take BIOL 451 or NRSC 451, but not both.

| | | |
|---|---|---|
| AEBI 421 | (3) | Tropical Horticultural Ecology |
| BIOL 451* | (3) | Research in Ecology and Development in Africa |
| BIOL 465 | (3) | Conservation Biology |
| BIOL 553 | (3) | Neotropical Environments |
| ENVB 410 | (3) | Ecosystem Ecology |
| ENVB 500 | (3) | Advanced Topics in Ecotoxicology |
| NRSC 451* | (3) | Research in Ecology and Development in Africa |

**P C P M gm**

| | | |
|---|---|---|
| ENTO 350 | (3) | Insect Biology and Control |
| ENTO 352 | (3) | Biocontrol of Pest Insects |
| NRSC 333 | (3) | Pollution and Bioremediation |
| PARA 515 | (3) | Water, Health and Sanitation |

**Te M gm**

* Note: You may take ENVB 529 or GEOG 201, but not both.

| | | |
|---|---|---|
| AEBI 423 | (3) | Sustainable Land Use |
| CHEE 230 | (3) | Environmental Aspects of Technology |
| ENVB 529* | (3) | GIS for Natural Resource Management |
| ENVR 422 | (3) | Montreal Urban Sustainability Analysis |
| GEOG 201* | (3) | Introductory Geo-Information Science |
| GEOG 302 | (3) | Environmental Management 1 |
| GEOG 404 | (3) | Environmental Management 2 |
| WILD 421 | (3) | Wildlife Conservation |

or, advanced quantitative methods course (with approval of al of

| | | |
|---|---|---|
| MIMM 413* | (3) | Parasitology |
| PARA 438 | (3) | Immunology |
| PPHS 501 | (3) | Population Health and Epidemiology |
| WILD 424* | (3) | Parasitology |

**P**

**B**

3 credits of Basic Science, one of the following, or their equivalents (e.g., CEGEP objectives Chemistry OOUL):

| | | |
|---|---|---|
| AECH 110 | (4) | General Chemistry 1 |
| CHEM 110 | (4) | General Chemistry 1 |

**P g gE s Y P s**

For suggestions on courses to take your first year (U1), you can consult the "MSE Student Handbook" available on the MSE website (http://www.mcgill.ca/mse), or contact Ms. Kathy Roulet, the Program Adviser (kathy.roulet@mcgill.ca).

**P g**

Note: Students are required to take a maximum of 34 credits at the 200-level and a minimum of 12 credits at the 400-level or higher in this program. This includes core and required courses, but does not include the program pre-requisites or co-requisites listed above.

Location Note: When planning your schedule and registering for courses, you should verify where each course is offered because courses for this program are taught at both McGill's Downtown campus and at the Macdonald campus in Sainte-Anne-de-Bellevue.

**C E P**

Location Note: Core required courses for this program are taught at both McGill's Downtown campus and at the Macdonald campus in Sainte-Anne-de-Bellevue. You should register in Section 001 of an ENVR course that you plan to take on the Downtown campus, and in Section 051 of an ENVR course that you plan to take on the Macdonald campus.

| | | |
|---|---|---|
| ENVR 200 | (3) | The Global Environment |
| ENVR 201 | (3) | Society Environment and Sustainability |
| ENVR 202 | (3) | The Evolving Earth |
| ENVR 203 | (3) | Knowledge, Ethics and Environment |
| ENVR 301 | (3) | Environmental Research Design |
| ENVR 400 | (3) | Environmental Thought |

**C P g R P**

Only 3 credits will be applied to the program; extra credits will count as electives.

| | | |
|---|---|---|
| AEBI 427 | (6) | Barbados Interdisciplinary Project |
| AGRI 519 | (6) | Sustainable Development Plans |
| ENVR 401 | (3) | Environmental Research |
| ENVR 451 | (6) | Research in Panama |

**D E P**

| | | |
|---|---|---|
| ECON 230D1 | (3) | Microeconomic Theory |
| ECON 230D2 | (3) | Microeconomic Theory |
| ECON 405 | (3) | Natural Resource Economics |
| EPSC 210 | (3) | Introductory Mineralogy |
| EPSC 240 | (3) | Geology in the Field |

**D P g**

18 credits are selected from various categories as follows:

**S**

One of the following Statistics courses or equivalent:

Note: Credit given for Statistics courses is subject to certain restrictions. Students should consult the "Graduation Information" in the "Course Requirements" section for the Faculty of Arts.

| | | |
|---|---|---|
| AEMA 310 | (3) | Statistical Methods 1 |
| GEOG 202 | (3) | Statistics and Spatial Analysis |
| MATH 203 | (3) | Principles of Statistics 1 |

**Option**

6 credits from:

| | | |
|---|---|---|
| AGEC 333 | (3) | Resource Economics |
| ECON 209 | (3) | Macroeconomic Analysis and Applications |
| ECON 326 | (3) | Ecological Economics |
| ECON 347 | (3) | Economics of Climate Change |
| ECON 416 | (3) | Topics in Economic Development 2 |
| ECON 511 | (3) | Energy, Economy and Environment |

**Advanced Electives**

9 credits chosen from two areas:

**Area 1: Environmental Science**

**Area 2: Environmental Management**

* Note: You can take ENVB 529 or GEOG 201 but not both; you can take BIOL 451 or NRSC 451 but not both; you can take ANTH 451 or GEOG 451 but not both.

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### A Environment

* Note: You can take BREE 217 or GEOG 322, but not both; you can take BIOL 308 or ENVB 305, but not both.

| | | |
|---|---|---|
| AGRI 452 | (3) | Water Resources in Barbados |
| BIOL 308* | (3) | Ecological Dynamics |
| BREE 217* | (3) | Hydrology and Water Resources |
| ENVB 305* | (3) | Population & Community Ecology |
| EPSC 355 | (3) | Sedimentary Geology |
| EPSC 549 | (3) | Hydrogeology |
| GEOG 305 | (3) | Soils and Environment |
| GEOG 322* | (3) | Environmental Hydrology |
| SOIL 300 | (3) | Geosystems |

## Environment

This domain is open only to students in the B.A. Faculty Program in Environment.

| Adviser | Mentor |
|---|---|
| Ms. Kathy Roulet<br>Telephone: 514-398-4306<br>Email: kathyroulet@mcgill.ca | Prof. Gregory Mikkelson<br>Telephone: 514-398-4583<br>Email: gregory.mikkelson@mcgill.ca |

### Environment and Development

The quest for sustainable paths to economic development requires scholars and practitioners to transcend the boundaries of traditional disciplines. This domain offers students sufficient depth and breadth of study to acquire a strong grasp of current theories, concepts, and approaches to environment and development. It prepares them for graduate study in interdisciplinary programs (e.g., development studies or environmental studies) as well as in interpretive social sciences (e.g., anthropology, geography, etc.).

### Program

To graduate from the Faculty Program in Environment, students are required to complete these courses by the end of their U1 year. U1 year courses can be taken using the Satisfactory/Unsatisfactory option. See: http://www.mcgill.ca/study/university_regulations_and_resources/undergraduate/gi_courses_taken_under_the_satisfactory_unsatisfactory_option for details.

### Basic Science

3 credits of calculus from the following, or equivalent (e.g., CEGEP objectives: OOUN):

| | | |
|---|---|---|
| MATH 139 | (4) | Calculus 1 with Precalculus |
| MATH 140 | (3) | Calculus 1 |

### Basic Science

3 credits of basic science from the following, or equivalent (e.g., CEGEP objectives: Biology OOUK, Chemistry OOUL, Physics OOUR):

| | | |
|---|---|---|
| BIOL 111 | (3) | Principles: Organismal Biology |
| CHEM 110 | (4) | General Chemistry 1 |
| PHYS 101 | (4) | Introductory Physics - Mechanics |

### Suggested First Year

For suggestions on courses to take your first year (U1), you can consult the "MSE Student Handbook" available on the MSE website (http://www.mcgill.ca/mse), or contact Ms. Kathy Roulet, the Program Adviser (kathy.roulet@mcgill.ca).

## Program

Note: Students are required to take a maximum of 30 credits at the 200-level and a minimum of 12 credits at the 400-level or higher in this program. This includes core and required courses, but does not include the domain prerequisites or corequisites listed above.

Location Note: When planning your schedule and registering for courses, you should verify where each course is offered because courses for this program are taught at both McGill's Downtown campus and at the Macdonald campus in Sainte-Anne-de-Bellevue.

## Core Required Courses

Location Note: Core required courses are taught at both McGill's Downtown campus and at the Macdonald campus in Sainte-Anne-de-Bellevue. You should register in Section 001 of an ENVR course that you plan to take at the Downtown campus, and in Section 051 of an ENVR course that you plan to take at the Macdonald campus.

| | | |
|---|---|---|
| ENVR 200 | (3) | The Global Environment |
| ENVR 201 | (3) | Society, Environment and Sustainability |
| ENVR 202 | (3) | The Evolving Earth |
| ENVR 203 | (3) | Knowledge, Ethics and Environment |
| ENVR 301 | (3) | Environmental Research Design |
| ENVR 400 | (3) | Environmental Thought |

## Capstone Experience Requirement

Only 3 credits will be applied to the program; extra credits will count as electives.

| | | |
|---|---|---|
| AEBI 427 | (6) | Barbados Interdisciplinary Project |

## Sustainable De

| | | |
|---|---|---|
| PSYC 204 | (3) | Introduction to Psychological Statistics |

**A vB p s**

6 credits from:

| | | |
|---|---|---|
| AGEC 442 | (3) | Economics of International Agricultural Development |
| AGRI 411 | (3) | Global Issues on Development, Food and Agriculture |
| ANTH 418 | (3) | Environment and Development |
| GEOG 310 | (3) | Development and Livelihoods |
| GEOG 408 | (3) | Geography of Development |
| GEOG 409 | (3) | Geographies of Developing Asia |
| GEOG 410 | (3) | Geography of Underdevelopment: Current Problems |
| URBP 520 | (3) | Globalization: Planning and Change |

**a**

3 credits from:

* Note: Y

| | | |
|---|---|---|
| ECON 326 | (3) | Ecological Economics |
| ECON 347 | (3) | Economics of Climate Change |
| ECON 405 | (3) | Natural Resource Economics |
| ENVR 421 | (3) | Montreal: Environmental History and Sustainability |
| ENVR 422 | (3) | Montreal Urban Sustainability Analysis |
| GEOG 201 | (3) | Introductory Geo-Information Science |
| GEOG 221 | (3) | Environment and Health |
| GEOG 300 | (3) | Human Ecology in Geography |
| GEOG 311 | (3) | Economic Geography |

## Interfaculty Program Environment for the Bachelor of Arts and Science

The growth of technology, globalization of economies, and rapid increases in population and per capita consumption have had dramatic environmental impacts. The Interfaculty Program Environment for the Bachelor of Arts and Science is designed to provide students with a broad "Liberal Arts/Science" training. In combination with careful mentoring, this program offers a great degree of flexibility, allowing students to develop the skills and knowledge base required to face the myriad of environmental problems that currently need to be addressed.

### Program

1. Students are required to take a maximum of 21 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes required courses.

2. Students must complete at least 21 credits in the Faculty of Arts and at least 21 in the Faculty of Science as part of their interfaculty program and their minor or minor concentration. ENVR courses are considered courses in Arts and Science, and so the credits are split between the faculties for the purpose of this regulation.

Location Note: When planning your schedule and registering for courses, you should verify where each course is offered because courses for this program are taught on both McGill's downtown campus and at the Macdonald campus in Sainte-Anne-de-Bellevue.

### Core Required Courses

Location Note: Core required courses are taught at both McGill's downtown campus and at the Macdonald campus in Sainte-Anne-de-Bellevue. You should register in Section 001 of an ENVR course that you plan to take at the Downtown campus, and in Section 051 of an ENVR course that you plan to take at the Macdonald campus.

| | | |
|---|---|---|
| ENVR 200 | (3) | The Global Environment |
| ENVR 201 | (3) | Society, Environment and Sustainability |
| ENVR 202 | (3) | The Evolving Earth |
| ENVR 203 | (3) | Knowledge, Ethics and Environment |
| ENVR 301 | (3) | Environmental Research Design |
| ENVR 400 | (3) | Environmental Thought |

### Complementary Courses

36 credits of complementary courses are selected as follows:

3 credits - Senior Research Project

3 credits - Statistics

30 credits - chosen from amongst 4 areas of focus

### Restricted Courses

Only 3 credits will be applied to the program; extra credits will count as electives.

| | | |
|---|---|---|
| AGRI 519 | (6) | Sustainable Development Plans |
| ENVR 401 | (3) | Environmental Research |
| ENVR 451 | (6) | Research in a Panama |

### Statistics

One of:

| | | |
|---|---|---|
| AEMA 310 | (3) | Statistical Methods 1 |
| BIOL 373 | (3) | Biometry |
| GEOG 202 | (3) | Statistics and Spatial Analysis |
| MATH 203 | (3) | Principles of Statistics 1 |
| PSYC 204 | (3) | Introduction to Psychological Statistics |

### Areas

30 credits from at least three of the following Areas. At least 6 credits must be at the 400-level or higher, selected either from these lists or in consultation with the Program Adviser.

**Area 1: Plant and Animal Ecology, Evolution and Conservation**

* Note: You may take BIOL 540 or ENVR 540, but not both; you may take BIOL 308 or ENVB 305, but not both.

| | | |
|---|---|---|
| BIOL 308* | (3) | Ecological Dynamics |
| BIOL 432 | (3) | Limnology |
| BIOL 441 | (3) | Biological Oceanography |
| BIOL 540* | (3) | Ecology of Species Invasions |
| ENVB 305* | (3) | Population & Community Ecology |
| ENVB 410 | (3) | Ecosystem Ecology |
| ENVB 500 | (3) | Advanced Topics in Ecotoxicology |
| ENVR 540* | (3) | Ecology of Species Invasions |
| GEOG 350 | (3) | Ecological Biogeography |
| PLNT 460 | (3) | Plant Ecology |

**Area 2: Biodiversity**

| | | |
|---|---|---|
| BIOL 305 | (3) | Animal Diversity |
| BIOL 355 | (3) | Trees: Ecology & Evolution |
| BIOL 427 | (3) | Herpetology |
| BIOL 465 | (3) | Conservation Biology |
| ENTO 440 | (3) | Insect Diversity |
| MICR 331 | (3) | Microbial Ecology |
| PLNT 358 | (3) | Flowering Plant Diversity |
| WILD 307 | (3) | Natural History of Vertebrates |
| WILD 350 | (3) | Mammalogy |
| WILD 420 | (3) | Ornithology |

**Area 3: Field Studies**

| | | |
|---|---|---|
| BIOL 240 | (3) | Montereggian Flora |
| BIOL 331 | (3) | Ecology/Behaviour Field Course |
| BIOL 334 | (3) | Applied Tropical Ecology |
| BIOL 553 | (3) | Neotropical Environments |
| GEOG 495 | (3) | Field Studies - Physical Geography |
| GEOG 499 | (3) | Subarctic Field Studies |
| WILD 475 | (3) | Desert Ecology |

**Area 4: Hydrology and Water Resources**

* Note: You may take only one of: GEOG 322, BREE 217, or CIVE 323.

| | | |
|---|---|---|
| BREE 217* | (3) | Hydrology and Water Resources |
| CIVE 323* | (3) | Hydrology and Water Resources |
| EPSC 549 | (3) | Hydrogeology |
| GEOG 322* | (3) | Environmental Hydrology |

| | | |
|---|---|---|
| GEOG 372 | (3) | Running Water Environments |
| GEOG 537 | (3) | Advanced Fluvial Geomorphology |
| NRSC 540 | (3) | Socio-Cultural Issues in Water |

**A th**

| | | |
|---|---|---|
| NUTR 307 | (3) | Metabolism and Human Nutrition |
| PARA 410 | (3) | Environment and Infection |
| PATH 300 | (3) | Human Disease |
| PHAR 303 | (3) | Principles of Toxicology |

**A E S**

| | | |
|---|---|---|
| ATOC 215 | (3) | Oceans, Weather and Climate |
| EPSC 201 | (3) | Understanding Planet Earth |
| GEOG 272 | (3) | Earth©s Changing Surface |
| GEOG 305 | (3) | Soils and Environment |
| GEOG 321 | (3) | Climatic Environments |
| SOIL 326 | (3) | Soils in a Changing Environment |

**A En**

* Note: You may take AGEC 200 or ECON 208, but not both.

| | | |
|---|---|---|
| AGEC 200* | (3) | Principles of Microeconomics |
| AGEC 333 | (3) | Resource Economics |
| ECON 208* | (3) | Microeconomic Analysis and Applications |
| ECON 326 | (3) | Ecological Economics |
| ECON 347 | (3) | Economics of Climate Change |
| ECON 405 | (3) | Natural Resource Economics |
| GEOG 216 | (3) | Geography of the World Economy |

**A D p d p**

| | | |
|---|---|---|
| ANTH 212 | (3) | Anthropology of Development |
| ANTH 418 | (3) | Environment and Development |
| ECON 313 | (3) | Economic Development 1 |
| ECON 314 | (3) | Economic Development 2 |
| GEOG 408 | (3) | Geography of Development |
| GEOG 410 | (3) | Geography of Underdevelopment: Current Problems |
| POLI 227 | (3) | Developing Areas/Introduction |
| POLI 445 | (3) | International Political Economy: Monetary Relations |

**A B p**

| | | |
|---|---|---|
| ANTH 206 | (3) | Environment and Culture |
| ANTH 339 | (3) | Ecological Anthropology |
| ENVR 421 | (3) | Montreal: Environmental History and Sustainability |

3 credits from:

| | | |
|---|---|---|
| AEBI 211 | (3) | Organisms 2 |
| BIOL 305 | (3) | Animal Diversity |

3 credits from:

| | | |
|---|---|---|
| BIOL 465 | (3) | Conservation Biology |
| WILD 421 | (3) | Wildlife Conservation |

**[illegible]**

3 credits from:

| | | |
|---|---|---|
| BIOL 308 | (3) | Ecological Dynamics |
| ENVB 305 | (3) | Population & Community Ecology |

**[illegible]**

3 credits from the following Statistics courses or equivalent:

Note: Credit given for Statistics courses is subject to certain restrictions. Students should consult the "Categories in Core Course Requirements" section for the Faculty of Science.

| | | |
|---|---|---|
| AEMA 310 | (3) | Statistical Methods 1 |
| BIOL 373 | (3) | Biometry |

**[illegible], Policy, and Management**

9 credits are chosen from interface between science, policy, and management as follows:

* Note: You may take AGEC 200 or ECON 208, but not both.

** Note: You may take BIOL 451 or NRSC 451, but not both.

| | | |
|---|---|---|
| AEBI 423 | (3) | Sustainable Land Use |
| AGEC 200* | (3) | Principles of Microeconomics |
| AGRI 550 | (3) | Sustained Tropical Agriculture |
| ANTH 418 | (3) | Environment and Development |
| BIOL 451** | (3) | Research in Ecology and Development in Africa |
| ECON 208* | (3) | Microeconomic Analysis and Applications |
| | | Economics of 208* |

**Electives**

3-4 credits from:

| | | |
|---|---|---|
| AGRI 452 | (3) | Water Resources in Barbados |
| BIOL 240 | (3) | Montereginian Flora |
| BIOL 331 | (3) | Ecology/Behaviour Field Course |
| BIOL 334 | (3) | Applied Tropical Ecology |
| BIOL 335 | (3) | Marine Mammals |
| BIOL 553 | (3) | Neotropical Environments |
| ENTO 340 | (3) | Field Entomology |
| ENVB 410 | (3) | Ecosystem Ecology |
| GEOG 495 | (3) | Field Studies - Physical Geography |
| GEOG 499 | (3) | Subarctic Field Studies |
| PLNT 358 | (3) | Flowering Plant Diversity |
| PLNT 460 | (3) | Plant Ecology |
| WILD 401 | (4) | Fisheries and Wildlife Management |
| WILD 475 | (3) | Desert Ecology |
| WOOD 441 | (3) | Integrated Forest Management |

**Principles**

6 credits of general scientific principles selected from the following:

* Note: You may take only one of BREE 529, ENVB 529 or GEOG 306.

** Note: You may take GEOG 322 or BREE 217, but not both.

*** Note: You may take ANSC 326 or BIOL 324, but not both.

| | | |
|---|---|---|
| ANSC 326*** | (3) | Fundamentals of Population Genetics |
| BIOL 202 | (3) | Basic Genetics |
| BIOL 324*** | (3) | Ecological Genetics |
| BIOL 342 | (3) | Contemporary Topics in Aquatic Ecology |
| BIOL 432 | (3) | Limnology |
| BIOL 434 | (3) | Theoretical Ecology |
| BIOL 441 | (3) | Biological Oceanography |
| BIOL 515 | (3) | Advances in Aquatic Ecology |
| BREE 217** | (3) | Hydrology and Water Resources |
| BREE 529* | (3) | GIS for Natural Resource Management |
| ENVB 313 | (3) | Phylogeny and Biogeography |
| ENVB 529* | (3) | GIS for Natural Resource Management |
| GEOG 272 | (3) | Earth's Changing Surface |
| GEOG 306* | (3) | Raster Geo-Information Science |
| GEOG 321 | (3) | Climatic Environments |
| GEOG 322** | (3) | Environmental Hydrology |
| GEOG 350 | (3) | Ecological Biogeography |
| LSCI 204 | (3) | Genetics |
| MICR 331 | (3) | Microbial Ecology |

## Z g

This domain is open only to students in the B.Sc.(Agr.Sc.) Major Environment or B.Sc. Major Environment program.

| Adviser | Mentor |
|---|---|
| Ms. Kathy Roulet<br>Telephone: 514-398-4306<br>Email: kathy.roulet@mcgill.ca | Professor Marilyn Scott<br>Telephone: 514-398-7996<br>Email: marilyn.scott@mcgill.ca |

### Z B g E i g i g v B p

The Cellular concentration in this domain is open only to students in the B.Sc.(Agr.Sc.) Major Environment or B.Sc. Major Environment program.

This domain considers the interface between the environment and human well-being, with particular focus on the triad that ties human health to the environment through the elements of food and infectious agents. Each of these elements is influenced by planned and unplanned environmental disturbances. For example, agricultural practices shift the balance between beneficial and harmful ingredients of food. Use of insecticides presents dilemmas with the environment, economics, and human health. The distribution of infectious diseases is influenced by the climatic conditions that permit vectors to coexist with humans, by deforestation, by urbanization, and by human interventions ranging from the building of dams to provision of potable water.

In designing interventions that aim to prevent or reduce infectious contaminants in the environment, or to improve food production and nutritional quality, not only is it important to understand methods of intervention, but also to understand social forces that influence how humans respond to such interventions.

Students in the Cellular concentration will explore these interactions in more depth, at a physiological level. Students in the Population concentration will gain a depth of understanding at an ecosystem level that looks at society, land, and population health.

### G g g s Y p e

For suggestions on courses to take your first year (U1), you can consult the "MSE Student Handbook" available on the MSE website (http://www.mcgill.ca/mse), or contact Kathy Roulet, the Program Adviser (kathy.roulet@mcgill.ca).

### P g

Note: You are required to take a maximum of 33 credits at the 200 level and a minimum of 12 credits at the 400 le

| | | |
|---|---|---|
| BIOL 540* | (3) | Ecology of Species Invasions |
| BIOL 553 | (3) | Neotropical Environments |
| ENVB 410 | (3) | Ecosystem Ecology |
| ENVR 540* | (3) | Ecology of Species Invasions |
| MICR 331 | (3) | Microbial Ecology |
| | | Research in Ecology and Development in |

| | | |
|---|---|---|
| PARA 410 | (3) | Environment and Infection |

39 credits of complementary courses are selected as follo

24 credits - Fundamentals, maximum of 3 credits from each

6 credits - List A categories, maximum of 3 credits from

9 credits - List B categories, maximum of 3 credits from

24 credits of fundamentals, 3 credits from each

| | | |
|---|---|---|
| GEOG 221 | (3) | Environment and Health |
| GEOG 303 | (3) | Health Geography |
| NRSC 221 | (3) | Environment and Health |

| | | |
|---|---|---|
| GEOG 403 | (3) | Global Health and Environmental Change |
| GEOG 503 | (3) | Advanced Topics in Health Geography |
| PPHS 529 | (3) | Global Environmental Health and Burden of Disease |
| SOCI 234 | (3) | Population and Society |
| SOCI 309 | (3) | Health and Illness |
| SOCI 331 | (3) | Population and Environment |

| | | |
|---|---|---|
| ANSC 312 | (3) | Animal Health and Disease |
| ENVB 500 | (3) | Advanced Topics in Ecotoxicology |
| NUTR 512 | (3) | Herbs, Foods and Phytochemicals |
| PHAR 303 | (3) | Principles of Toxicology |

Note: You will not receive credit for either LSCI 211 or LSCI 202, if you have already received credit for both BIOL 200 and BIOL 201; you will not receive credit for either BIOL 200 or BIOL 201 if you have already received credit for LSCI 202 and LSCI 211.

| | | |
|---|---|---|
| ANSC 234 | (3) | Biochemistry 2 |
| BIOL 201 | (3) | Cell Biology and Metabolism |
| LSCI 202 | (3) | Molecular Cell Biology |

Note: You will not receive credit for either LSCI 211 or LSCI 202 if you have already received credit for both BIOL 200 and BIOL 201; you will not receive credit for either BIOL 200 or BIOL 201 if you have already received credit for both LSCI 202 and LSCI 211.

| | | |
|---|---|---|
| BIOL 200 | (3) | Molecular Biology |
| LSCI 211 | (3) | Biochemistry 1 |

**S**

One of the following Statistics courses or equivalent:

Note: Credit given for Statistics courses is subject to certain restrictions. Students in Science should consult the "Course Information" in the "Course Requirements" section for the Faculty of Science.

| | | |
|---|---|---|
| AEMA 310 | (3) | Statistical Methods 1 |
| MATH 203 | (3) | Principles of Statistics 1 |

**N**

| | | |
|---|---|---|
| ANSC 433 | (3) | Animal Nutrition and Metabolism |
| NUTR 207 | (3) | Nutrition and Health |
| NUTR 307 | (3) | Metabolism and Human Nutrition |

**A vg**

* Note: You may take ENVR 540 or BIOL 540, but not both; you may take BIOL 451 or NRSC 451, but not both.

| | | |
|---|---|---|
| AEBI 421 | (3) | Tropical Horticultural Ecology |
| BIOL 451* | (3) | Research in Ecology and Development in Africa |
| BIOL 465 | (3) | Conservation Biology |
| BIOL 540* | (3) | Ecology of Species Invasions |
| BIOL 553 | (3) | Neotropical Environments |
| ENVB 410 | (3) | Ecosystem Ecology |
| ENVR 540* | (3) | Ecology of Species Invasions |
| MICR 331 | (3) | Microbial Ecology |
| NRSC 451* | (3) | Research in Ecology and Development in Africa |
| PLNT 460 | (3) | Plant Ecology |

**L A**

6 credits from the following List A categories, maximum of 3 credits from any one category:

**y l g , n , A**

* Note: You may take BREE 217 or GEOG 322, but not both.

| | | |
|---|---|---|
| AGRI 340 | (3) | Principles of Ecological Agriculture |
| AGRI 452 | (3) | Water Resources in Barbados |
| AGRI 550 | (3) | Sustained Tropical Agriculture |
| BREE 217* | (3) | Hydrology and Water Resources |
| GEOG 321 | (3) | Climatic Environments |
| GEOG 322* | (3) | Environmental Hydrology |

**g Te l g n**

* Note: You may take AGEC 200 or End Mana

| | | |
|---|---|---|
| ECON 208* | (3) | Microeconomic Analysis and Applications |
| ENVB 437 | (3) | Assessing Environmental Impact |
| ENVB 529* | (3) | GIS for Natural Resource Management |
| ENVR 422 | (3) | Montreal Urban Sustainability Analysis |
| GEOG 201* | (3) | Introductory Geo-Information Science |
| GEOG 302 | (3) | Environmental Management 1 |
| GEOG 404 | (3) | Environmental Management 2 |
| PHIL 343 | (3) | Biomedical Ethics |
| URBP 507 | (3) | Planning and Infrastructure |

or, advanced quantitative methods course (with approval of Adviser).

**Disciplinary**

| | | |
|---|---|---|
| ANTH 212 | (3) | Anthropology of Development |
| EDER 461 | (3) | Society and Change |
| HIST 292 | (3) | History and the Environment |
| NUTR 501 | (3) | Nutrition in Developing Countries |
| SOCI 254 | (3) | Development and Underdevelopment |

**Core Required Courses**

Location Note: Core required courses for this program are taught at both McGill's Downtown campus and at the Macdonald campus in Sainte-Anne-de-Bellevue. You should register in Section 001 of an ENVR course if you want to take it on the Downtown campus, and in Section 051 of an ENVR course if you want to take it on the Macdonald campus.

| | | |
|---|---|---|
| ENVR 200 | (3) | The Global Environment |
| ENVR 201 | (3) | Society, Environment and Sustainability |
| ENVR 202 | (3) | The Evolving Earth |
| ENVR 203 | (3) | Knowledge, Ethics and Environment |
| ENVR 301 | (3) | Environmental Research Design |
| ENVR 400 | (3) | Environmental Thought |

**Complementary Courses (Choose 6 credits)**

Only 3 credits will be applied to the program; extra credits will count as electives.

| | | |
|---|---|---|
| AGRI 519 | (6) | Sustainable Development Plans |
| ENVR 401 | (3) | Environmental Research |
| ENVR 451 | (6) | Research in Panama |

**Basic Statistics**

| | | |
|---|---|---|
| AEMA 403 | (3) | Environmetrics Stage |
| AEMA 414 | (3) | Temporal and Spatial Statistics 01 |

**Complementary Courses**

36 credits of complementary courses are selected as follows:

12 credits - Fundamentals

3 credits - Basic Environmental Science

6 credits - Statistics, one of two options

15 credits - List 1 and List 2

**Fundamentals**

12 credits of Fundamentals, 3 credits from each category

**Ecology**

| | | |
|---|---|---|
| BIOL 308 | (3) | Ecological Dynamics |
| ENVB 305 | (3) | Population & Community Ecology |

**Impact**

| | | |
|---|---|---|
| ENVB 437 | (3) | Assessing Environmental Impact |
| MIME 308 | (3) | Social Impact of Technology |

**Modelling**

| | | |
|---|---|---|
| BIOL 309 | (3) | Mathematical Models in Biology |
| ENVB 506 | (3) | Quantitative Methods: Ecology |

**G Te lq**

| | | |
|---|---|---|
| ENVB 529 | (3) | GIS for Natural Resource Management |
| GEOG 201 | (3) | Introductory Geo-Information Science |

**B iv n**

One of:

| | | |
|---|---|---|
| BREE 217 | (3) | Hydrology and Water Resources |
| CIVE 323 | (3) | Hydrology and Water Resources |
| ENVB 210 | (3) | The Biophysical Environment |
| GEOG 305 | (3) | Soils and Environment |
| GEOG 322 | (3) | Environmental Hydrology |
| GEOG 350 | (3) | Ecological Biogeography |

**S**

6 credits of Statistics are selected from one of the following two options.

Note: Credit given for Statistics courses is subject to certain restrictions. Students in Science should consult the "Course Information in the "Course Requirements" section for the Faculty of Science. Several Statistics courses overlap (especially with MATH 324) and cannot be taken together. These rules do not apply to B.Sc.(Ag.Env.Sc.) students.

**p**

| | | |
|---|---|---|
| MATH 323 | (3) | Probability |
| MATH 324 | (3) | Statistics |

**p**

One of:

| | | |
|---|---|---|
| AEMA 310 | (3) | Statistical Methods 1 |
| BIOL 373 | (3) | Biometry |

And one of:

| | | |
|---|---|---|
| AEMA 411 | (3) | Experimental Designs 01 |
| CIVE 555 | (3) | Environmental Data Analysis |
| GEOG 351 | (3) | Quantitative Methods |
| SOCI 461 | (3) | Quantitative Data Analysis |

A total of 15 credits are chosen from the following two lists.

**t**

3 credits minimum of statistics and mathematics chosen from:

* Note: or equivalent courses to BREE 252 or BREE 319.

| | | |
|---|---|---|
| BIOL 434 | (3) | Theoretical Ecology |
| BREE 252* | (3) | Computing for Engineers |
| BREE 319* | (3) | Engineering Mathematics |

Modelling En

of biofuels versus food, non-point source pollution of rivers and lakes, and a loss of arable land to urbanization. Secondly, a growing population needs support from a number of different land uses (e.g., urban growth, transportation, water resource use, timber resources, etc.), many of which conflict, and all of which

36 credits of complementary courses selected as follows:

18 credits - Fundamentals

12 credits - Applied Sciences

6 credits - Social Sciences/Humanities

The

| | | |
|---|---|---|
| NUTR 207* | (3) | Nutrition and Health |
| NUTR 403 | (3) | Nutrition in Society |
| NUTR 501 | (3) | Nutrition in Developing Countries |
| PARA 410 | (3) | Environment and Infection |
| PHAR 303 | (3) | Principles of Toxicology |

**Elective Courses**

| | | |
|---|---|---|
| AEBI 421 | (3) | Tropical Horticultural Ecology |
| AEBI 425 | (3) | Tropical Energy and Food |
| AGRI 215 | (3) | Agro-Ecosystems Field Course |
| AGRI 325 | (3) | Sustainable Agriculture and Food Security |
| AGRI 550 | (3) | Sustained Tropical Agriculture |
| BIOL 385 | (3) | Plant Growth and Development |
| ENTO 352 | (3) | Biocontrol of Pest Insects |
| PLNT 302 | (3) | Forage Crops and Pastures |
| PLNT 307 | (3) | Agroecology of Vegetables and Fruits |
| PLNT 353 | (3) | Plant Structure and Function |
| PLNT 434 | (3) | Weed Biology and Control |
| SOIL 315 | (3) | Soil Nutrient Management |

**Select one of the following pairs**

* Note: Students take BIOL 465 or WILD 421, but not both.

** Note: Students take BREE 217 or GEOG 322, but not both.

| | | |
|---|---|---|
| AGRI 435 | (3) | Soil and Water Quality Management |
| AGRI 452 | (3) | Water Resources in Barbados |
| BIOL 465* | (3) | Conservation Biology |
| BIOL 553 | (3) | Neotropical Environments |
| BREE 217** | (3) | Hydrology and Water Resources |
| | | Organic W |

| | | |
|---|---|---|
| AGEC 430 | (3) | Agriculture, Food and Resource Policy<br>Economics of International Agricultural Dev |

| | | |
|---|---|---|
| MATH 203 | (3) | Principles of Statistics 1 |

**Geographic Technologies**

One of:

| | | |
|---|---|---|
| ENVB 529 | (3) | GIS for Natural Resource Management |
| GEOG 201 | (3) | Introductory Geo-Information Science |
| GEOG 308 | (3) | Principles of Remote Sensing |

**Weather and Climate**

One of:

| | | |
|---|---|---|
| ATOC 215 | (3) | Oceans, Weather and Climate |
| ENVB 301 | (3) | Meteorology |

**Earth Surface Processes**

9 credits of fundamental land surface processes chosen as follows:

| | | |
|---|---|---|
| GEOG 321 | (3) | Climatic Environments |

And/or one of:

| | | |
|---|---|---|
| GEOG 272 | (3) | Earth©s Changing Surface |
| SOIL 300 | (3) | Geosystems |

And/or one of:

| | | |
|---|---|---|
| GEOG 305 | (3) | Soils and Environment |
| SOIL 326 | (3) | Soils in a Changing Environment |

And/or one of:

| | | |
|---|---|---|
| | (3) | Hydrology and Water Resources |

| | | |
|---|---|---|
| ENVR 422 | (3) | Montreal Urban Sustainability Analysis |
| ESYS 301 | (3) | Earth System Modelling |
| GEOG 302 | (3) | Environmental Management 1 |
| GEOG 404 | (3) | Environmental Management 2 |
| WILD 421 | (3) | Wildlife Conservation |
| WOOD 420 | (3) | Environmental Issues: Forestry |
| WOOD 441 | (3) | Integrated Forest Management |

**B e**

One of:

| | | |
|---|---|---|
| BIOL 553 | (3) | Neotropical Environments |
| GEOG 495 | (3) | Field Studies - Physical Geography |
| GEOG 496 | (3) | Geographical Excursion |
| GEOG 499 | (3) | Subarctic Field Studies |
| WILD 475 | (3) | Desert Ecology |

**5**

One of:

| | | |
|---|---|---|
| AGEC 333 | (3) | Resource Economics |
| ANTH 339 | (3) | Ecological Anthropology |
| ECON 225 | (3) | Economics of the Environment |
| ECON 326 | (3) | Ecological Economics |
| ECON 405 | (3) | Natural Resource Economics |
| ENVR 421 | (3) | Montreal: Environmental History and Sustainability |
| GEOG 221 | (3) | Environment and Health |
| GEOG 408 | (3) | Geography of Development |
| GEOG 498 | (3) | Humans in Tropical Environments |
| NRSC 221 | (3) | Environment and Health |
| SOCI 565 | (3) | Social Change in a Panama |
| URBP 520 | (3) | Globalization: Planning and Change |

12 credits total of advanced studies chosen from the following two lists:

**B a 5 i v t n**

3-9 credits of advanced study of a Particular Environments:

* Note: You may take BIOL 432 or ENVB 315, but not both.

| | | |
|---|---|---|
| BIOL 432* | (3) | Limnology |
| ENVB 315* | (3) | Science of Inland Waters |
| ENVB 410 | (3) | Ecosystem Ecology |
| GEOG 350 | (3) | Ecological Biogeography |
| GEOG 372 | (3) | Running Water Environments |
| GEOG 470 | (3) | Wetlands |
| GEOG 536 | (3) | Geocryology |

| | | |
|---|---|---|
| GEOG 550 | (3) | Historical EcologyTechniques<br>Flo |

| | | |
|---|---|---|
| CHEM 212 | (4) | Introductory Organic Chemistry 1 |
| FDSC 230 | (4) | Organic Chemistry |

**Suggested Year Plan**

For suggestions on courses to take your first year (U1), you can consult the "MSE Student Handbook" available on the Program(Y)Tj 1 0 0 1298.01562.3052.58

One of:

| | | |
|---|---|---|
| BIOL 308 | (3) | Ecological Dynamics |
| ENVB 305 | (3) | Population & Community Ecology |

One of:

| | | |
|---|---|---|
| ENVB 210 | (3) | The Biophysical Environment |
| GEOG 305 | (3) | Soils and Environment |

**5**

One of:

| | | |
|---|---|---|
| AEMA 310 | (3) | Statistical Methods 1 |
| BIOL 373 | (3) | Biometry |

**3**

One of:

| | | |
|---|---|---|
| ENVB 529 | (3) | GIS for Natural Resource Management |
| GEOG 201 | (3) | Introductory Geo-Information Science |

**6 v**

6 credits of advanced ecosystem components selected from:

| | | |
|---|---|---|
| BIOL 553 | (3) | Neotropical Environments |
| GEOG 372 | (3) | RunningWater Environments |
| PLNT 358 | (3) | Flowering Plant Diversity |
| SOIL 326 | (3) | Soils in a Changing Environment |
| WILD 307 | (3) | Natural History of Vertebrates |

**6 v e**

6 credits of advanced ecological processes selected from:

* Note: You may take BIOL 432 or ENVB 315, but not both; you can take BREE 217 or GEOG 322, but not both.

| | | |
|---|---|---|
| BIOL 432* | (3) | Limnology |
| BIOL 465 | (3) | Conservation Biology |
| BREE 217* | (3) | Hydrology and Water Resources |
| ENVB 315* | (3) | Science of Inland Waters |
| ENVB 410 | (3) | Ecosystem Ecology |
| ENVB 500 | (3) | Advanced Topics in Ecotoxicology |
| GEOG 322* | (3) | Environmental Hydrology |

j 144.984 Tm (GEOG 31(3))Tj 1 Pollu 1 242.148.7rr Ndi0 1 264 Tm (Microbilo)T0 11(3))Tj 1 1 117.481 399.7

6 credits of social processes selected as follows:

* If WILD 415 is taken, 1 additional credit of complementary courses must be taken.

** Note: You may take AGEC 333 and ECON 405, but not both.

| | | |
|---|---|---|
| AGEC 242 | (3) | Management Theories and Practices |
| AGEC 333** | (3) | Resource Economics |
| ANTH 339 | (3) | Ecological Anthropology |
| CANS 407 | (3) | Regions of Canada |
| ECON 405** | (3) | Natural Resource Economics |
| ENVR 421 | (3) | Montreal: Environmental History and Sustainability |
| GEOG 382 | (3) | Principles Earth Citizenship |
| GEOG 498 | (3) | Humans in Tropical Environments |
| RELG 270 | (3) | Religious Ethics and the Environment |
| SOCI 565 | (3) | Social Change in Panama |
| URBP 520 | (3) | Globalization: Planning and Change |
| WILD 415* | (2) | Conservation Law |

**[illegible]**

9 credits of ecosystem components or management of ecosystems selected from:

| | | |
|---|---|---|
| AGRI 435 | (3) | Soil and Water Quality Management |
| AGRI 452 | (3) | Water Resources in Barbados |
| AGRI 550 | (3) | Sustained Tropical Agriculture |
| ENVB 437 | (3) | Assessing Environmental Impact |
| ENVR 422 | (3) | Montreal Urban Sustainability Analysis |
| GEOG 302 | (3) | Environmental Management 1 |
| GEOG 404 | (3) | Environmental Management 2 |
| PLNT 300 | (3) | Cropping Systems |
| WILD 401 | (4) | Fisheries and Wildlife Management |
| WOOD 441 | (3) | Integrated Forest Management |

**[illegible]**

This domain is open only to students in the B.Sc.(Agr.Sc.) Major Environment or B.Sc. Major Environment programs.

Water Environments and Ecosystems ± Biological

| Adviser | Mentor |
|---|---|
| Ms. Kathy Roulet<br>Telephone: 514-398-4306<br>Email: kathyroulet@mcgill.ca | Professor Brian Leung<br>Telephone: 514-398-6460<br>Email: brian.leung2@mcgill.ca |

Water Environments and Ecosystems ± Physical

| Adviser | Mentor |
|---|---|
| Ms. Kathy Roulet<br>Telephone: 514-398-4306<br>Email: kathyroulet@mcgill.ca | Professor Nigel Roulet<br>Telephone: 514-398-4945<br>Email: nigel.roulet@mcgill.ca |

## Environment Water Option

This concentration (60 credits including core) is open only to students in the B.Sc. (Sc. Env.) Major in Environment or B.Sc. Major in Environment program.

To educate students in both the ecological and physical facets of the water environment, this domain offers two concentrations, with students choosing one or the other

Those electing the Biological concentration will focus on the mechanisms sustaining the different forms of life in water bodies. They will acquire, as well, a good understanding of the physical mechanisms controlling water properties. Students interested in studying the transport and transformation mechanisms of water on the planet, from rivers to the oceans and atmosphere, will select the Physical concentration. They will acquire, as well, a solid background in the biological processes taking place in water bodies.

Graduates of this domain are qualified to enter the workforce or to pursue advanced studies in fields such as marine biology, limnology, physical oceanography and atmospheric science.

### Suggested Courses for First Year

For suggestions on courses to take your first year (U1), you can consult the "MSE Student Handbook" available.

3 credits - Social Sciences and Policy

18 credits chosen in total from List A and List B

**Hydrology and Water Resources Engineering**

6 credits selected as follows:

One of:

| | | |
|---|---|---|
| BREE 217 | (3) | Hydrology and Water Resources |
| GEOG 322 | (3) | Environmental Hydrology |

And one of:

| | | |
|---|---|---|
| BIOL 308 | (3) | Ecological Dynamics |
| ENVB 305 | (3) | Population & Community Ecology |

**Soil**

One of:

* Note: AEMA 310 or equivalent

## Water Environment

This concentration (60 credits including core) is open only to students in the B.Sc. (Sc.Ed.) Major in Environment or B.Sc. Major in Environment program.

To educate students in both the ecological and physical facets of the water environment, this domain offers two concentrations, with students choosing one or the other.

Students interested in studying the transport and transformation mechanisms of matter on the planet, from rivers to the oceans and atmosphere, will select the Physical concentration. They will acquire, as well, a solid background in the biological processes taking place in water bodies. Those electing the Biological concentration will focus on the mechanisms regulating the different forms of life in water bodies. They will acquire, as well, a good understanding of the physical mechanisms controlling water properties.

Graduates of this domain are qualified to enter the workforce or to pursue advanced studies in fields such as marine biology, limnology, physical oceanography and atmospheric science.

### Suggested Courses for Your First Year

For suggestions on courses to take your first year (U1), you can consult the "MSE Student Handbook" available on the MSE website (http://www.mcgill.ca/mse), or contact Kathy Roulet, the Program Adviser (kathy.roulet@mcgill.ca).

### Program

Note: Students are required to take a maximum of 30 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes core and required courses.

Location Note: When planning your schedule and registering for courses, you should verify where each course is offered because courses for this program are taught at both McGill's Downtown

3 credits - Statistics or Calculus

3 credits - Field course

12 credits chosen from List A

6 credits chosen from List B

**Hydrology and Water Resources Option**

6 credits selected as follows:

One of:

| | | |
|---|---|---|
| BREE 217 | (3) | Hydrology and Water Resources |
| GEOG 322 | (3) | Environmental Hydrology |

And one of:

| | | |
|---|---|---|
| BIOL 308 | (3) | Ecological Dynamics |
| ENVB 305 | (3) | Population & Community Ecology |

**Statistics**

One of:

* Note: AEMA 310 or equivalent.

Note: Credit given for Statistics courses is subject to certain restrictions. Students in Science should consult the "Course Information" in the "Course Requirements" section for the Faculty of Science.

| | | |
|---|---|---|
| AEMA 202 | (3) | Intermediate Calculus |
| AEMA 310* | (3) | Statistical Methods 1 |
| MATH 203 | (3) | Principles of Statistics 1 |
| MATH 222 | (3) | Calculus 3 |

**Field Course**

3 credits selected from the following courses or an equivalent Aquatic Field course:

| | | |
|---|---|---|
| AGRI 452 | (3) | Water Resources in Barbados |
| GEOG 495 | (3) | Field Studies - Physical Geography |

**List A**

12 credits chosen from:

| | | |
|---|---|---|
| AGRI 435 | (3) | Soil and Water Quality Management |
| ATOC 309 | (3) | Weather Radars and Satellites |
| ATOC 568 | (3) | Ocean Physics |
| BREE 416 | (3) | Engineering for Land Development |
| CIVE 323 | (3) | Hydrology and Water Resources |
| EPSC 549 | (3) | Hydrogeology |
| GEOG 201 | (3) | Introductory Geo-Information Science |
| GEOG 308 | (3) | Principles of Remote Sensing |
| GEOG 537 | (3) | Advanced Fluvial Geomorphology |
| NRSC 510 | (3) | Agricultural Micrometeorology |

| | | |
|---|---|---|
| URBP 520 | (3) | Globalization: Planning and Change |

And/or one of:

| | | |
|---|---|---|
| AEMA 305 | (3) | Differential Equations |
| MATH 315 | (3) | Ordinary Differential Equations |

And/or one of:

| | | |
|---|---|---|
| BREE 506 | (3) | Advances in Drainage Management |
| BREE 509 | (3) | Hydrologic Systems and Modelling |

And/or one of:

| | | |
|---|---|---|
| ENVB 210 | (3) | The Biophysical Environment |
| GEOG 305 | (3) | Soils and Environment |

And/or one of:

| | | |
|---|---|---|
| ENVB 529 | (3) | GIS for Natural Resource Management |
| GEOG 306 | (3) | Raster Geo-Information Science |

**B**

6 credits chosen from:

* Note: You can take BIOL 432 or ENVB 315, but not both.

| | | |
|---|---|---|
| an taTm (T)Tj t2gic Systems | (3) | eEdRchosen from Contemporary Topics in Aquatic Ecology |

| | | |
|---|---|---|
| ATOC 215 | (3) | Oceans, Weather and Climate |
| ATOC 219* | (3) | Introduction to Atmospheric Chemistry |
| ATOC 315 | (3) | Thermodynamics and Convection |
| CHEM 219* | (3) | Introduction to Atmospheric Chemistry |
| GEOG 308 | (3) | Principles of Remote Sensing |

**[illegible]**

24 credits of complementary courses are selected as follows:

6 credits - Analytical Chemistry/Calculus courses

3 credits - Statistics

9 credits - Math or Physical Science

6 credits - Social Science

**[illegible]**

One of (students will not receive credit for both):

| | | |
|---|---|---|
| AEMA 202 | (3) | Intermediate Calculus |
| MATH 222 | (3) | Calculus 3 |

Note: Students take either CHEM 267 or FDSC 213.

| | | |
|---|---|---|
| CHEM 267 | (3) | Introductory Chemical Analysis |
| FDSC 213 | (3) | Analytical Chemistry 1 |

**[illegible]**

3 credits of Statistics courses or equivalent from:

| | | |
|---|---|---|
| AEMA 310 | (3) | Statistical Methods 1 |
| MATH 203 | (3) | Principles of Statistics 1 |

**[illegible]**

9 credits of Math or Physical Science (at least 6 credits of which are at the 300 level or above):

* Note: You may take ATOC 519 or CHEM 519, but not both; you may take AEMA 305 or MATH 315, but not both.

| | | |
|---|---|---|
| AEMA 305* | (3) | Differential Equations |
| ATOC 309 | (3) | Weather Radars and Satellites |
| ATOC 519* | (3) | Advances in Chemistry of Atmosphere |
| ATOC 540 | (3) | Synoptic Meteorology 1 |
| CHEE 230 | (3) | Environmental Aspects of Technology |
| CHEM 243 | (2) | Introductory Physical Chemistry 2 |
| CHEM 377 | (3) | Instrumental Analysis 2 |
| CHEM 519* | (3) | Advances in Chemistry of Atmosphere |
| CIVE 225 | (4) | Environmental Engineering |
| CIVE 561 | (3) | Urban Activity, Air Pollution, and Health |
| COMP 208 | (3) | Computers in Engineering |
| GEOG 505 | (3) | Global Biogeochemistry |
| MATH 223 | (3) | Linear Algebra |

| | | |
|---|---|---|
| MATH 315* | (3) | Ordinary Differential Equations |
| NRSC 333 | (3) | Pollution and Bioremediation |
| NRSC 510 | (3) | Agricultural Micrometeorology |

**B**

6 credits from:

| | | |
|---|---|---|
| ANTH 206 | (3) | Environment and Culture |
| ANTH 418 | (3) | Environment and Development |
| ECON 225 | (3) | Economics of the Environment |
| ECON 347 | (3) | Economics of Climate Change |
| ENVR 422 | (3) | Montreal Urban Sustainability Analysis |
| GEOG 221 | (3) | Environment and Health |
| GEOG 302 | (3) | Environmental Management 1 |
| GEOG 303 | (3) | Health Geography |
| GEOG 403 | (3) | Global Health and Environmental Change |
| GEOG 404 | (3) | Environmental Management 2 |
| GEOG 498 | (3) | Humans in Tropical Environments |
| RELG 270 | (3) | Religious Ethics and the Environment |

**2 E h**

This domain is open only to students in the B.Sc. Major in Environment program in the Faculty of Science.

| Adviser | Mentor |
|---|---|
| Ms. Kathy Roulet<br>Telephone: 514-398-4306<br>Email: kathyroulet@mcgill.ca | Professor Jeanne Paquette<br>Telephone: 514-398-4402<br>Email: jeannepaquette@mcgill.ca |

**2 B p i n h**

The resources necessary for human society are extracted from the Earth, used as raw materials in our factories and refineries, and then returned to the Earth as waste. Geological processes produce resources humans depend on, and also determine the fate of wastes in the environment. Understanding Earth's geologic processes provides us with the knowledge to mitigate many of our society's environmental impacts due to resource extraction and waste disposal. Additionally, economics frequently affects what energy sources power our society and how our wastes are treated. Earth sciences and economics are essential for our understanding of the many mechanisms, both physical and social, that affect Earth's environment.

This domain includes the fundamentals of each discipline. Students learn of minerals, rocks, soils, and how these materials interact with each other and with the atmosphere. Fundamental economic theory and the economic ef

Location Note: Core required courses are taught at both McGill's Downtown campus and at the Macdonald campus in Sainte-Anne-de-Bellevue. You should register in Section 001 of an ENVR course that you plan to take at the Downtown campus, and in Section 051 of an ENVR course that you plan to take at the Macdonald campus.

| | | |
|---|---|---|
| ENVR 200 | (3) | The Global Environment |
| ENVR 201 | (3) | Society, Environment and Sustainability |
| ENVR 202 | (3) | The Evolving Earth |
| ENVR 203 | (3) | Knowledge, Ethics and Environment |
| ENVR 301 | (3) | Environmental Research Design |
| ENVR 400 | (3) | Environmental Thought |

**Complementary Courses**

Only 3 credits will be applied to the program; extra credits will count as electives.

| | | |
|---|---|---|
| AGRI 519 | (6) | Sustainable Development Plans |
| ENVR 401 | (3) | Environmental Research |
| ENVR 451 | (6) | Research in a Panama |

**Economic Resources**

| | | |
|---|---|---|
| ECON 230D1 | (3) | Microeconomic Theory |
| ECON 230D2 | (3) | Microeconomic Theory |
| ECON 405 | (3) | Natural Resource Economics |
| EPSC 210 | (3) | Introductory Mineralogy |
| EPSC 212 | (3) | Introductory Petrology |
| EPSC 220 | (3) | Principles of Geochemistry |
| EPSC 240 | (3) | Geology in the Field |

**Complementary Courses**

24 credits of complementary courses are selected as follows:

3 credits - Statistics courses

12 credits - Economic Resources

9 credits - Natural Resources

**Statistics**

One of the following Statistics courses or equivalent.

Note: Credit will

| | | |
|---|---|---|
| ECON 313 | (3) | Economic Development 1 |
| ECON 314 | (3) | Economic Development 2 |
| ECON 326 | (3) | Ecological Economics |
| ECON 347 | (3) | Economics of Climate Change |
| ECON 408 | (3) | Public Sector Economics 1 |
| ECON 409 | (3) | Public Sector Economics 2 |
| ECON 416 | (3) | Topics in Economic Development 2 |
| ECON 511 | (3) | Energy, Economy and Environment |
| ECON 525 | (3) | Project Analysis |
| ENVB 437 | (3) | Assessing Environmental Impact |
| ENVR 422 | (3) | Montreal Urban Sustainability Analysis |

**a e**

9 credits from:

* ANTH 451 or GEOG 451 can be taken, but not both; BIOL 451 or NRSC 451 can be taken, but not both; ENVB 529 or GEOG 201 can be taken, but not both.

| | | |
|---|---|---|
| AGRI 550 | (3) | Sustained Tropical Agriculture |
| ANTH 451* | (3) | Research in Society and Development in Africa |
| BIOL 451* | (3) | Research in Ecology and Development in Africa |
| BIOL 553 | (3) | Neotropical Environments |
| ENVB 500 | (3) | Advanced Topics in Ecotoxicology |
| ENVB 529* | (3) | GIS for Natural Resource Management |
| ENVR 421 | (3) | Montreal: Environmental History and Sustainability |
| EPSC 331 | (3) | Field School 2 |
| EPSC 341 | (3) | Field School 3 |
| EPSC 355 | (3) | Sedimentary Geology |
| EPSC 425 | (3) | Sediments to Sequences |
| EPSC 435 | (3) | Applied Geophysics |
| EPSC 452 | (3) | Mineral Deposits |
| EPSC 519 | (3) | Isotope Geology |
| EPSC 542 | (3) | Chemical Oceanography |
| EPSC 549 | (3) | Hydrogeology |
| EPSC 580 | (3) | Aqueous Geochemistry |
| EPSC 590 | (3) | Applied Geochemistry Seminar |
| | | Introductory Geo-Information Science 5Tj 1 0gg1 Geo-.560580 |

| | | |
|---|---|---|
| SOIL 326 | (3) | Soils in a Changing Environment |
| SOIL 535 | (3) | Ecological Soil Management |

## [illegible]

Adviser

Ms. Kathy Roulet, MSE Program Adviser
Telephone: 514-398-4306
Email: kathyroulet@mcgill.ca

This Program is open only to students in the B.Sc. Major in Environment, B.Sc.(Ag.Env.Sc.) Major in Environment, B.A. Faculty Program in Environment, and the B.A. & Sc. Interfaculty Program in Environment.

The Honours Program in Environment offers students the opportunity to undertake a year-long research project in close association with a professor. Honours research provides excellent preparation for graduate studies, but is not required for such studies. The Honours in Environment adds 6 credits of research to the regular Environment program. Since the Honours research is carried out in the final year at the same time as other courses, it does not add to the length (duration) of the degree. Students simply have 6 fewer credits of electives. If, for some reason, students cannot complete the Honours requirements, they may still graduate with the regular Environment program.

## [illegible]

This program is open only to students in the B.A. Faculty Program Environment. To be eligible for Honours, students must satisfy the requirements set by their B.A. degree.

In addition, students must satisfy the following:

1. Students apply for the Honours program in March of their U2 Year. See the Program Adviser for details.

2. Applicants must have a minimum Program CGPA (GPA of all required and complementary courses for the program in Environment taken at McGill) of 3.3 to enter the Honours program.

3. Students must earn a B grade (3.0) or higher for the Honours Research course (ENVR 495).

4. Students are required to achieve a minimum overall CGPA of 3.0 at graduation, and a minimum Program CGPA 3.3 to obtain Honours.

5. Arts (B.A.) students in the Honours Environment program must also complete a minor concentration in an academic unit other than the McGill School of Environment. Please refer to the Faculty of Arts regulations on Honours programs found under "Faculty Degree Requirements", "About Program Requirements" and "Departmental Programs".

Students in the B.A. Honours programs complete the core and domain courses (54 credits) according to their chosen domain as well as the 6 credits of Honours required courses.

At the completion of your Honours research, you are expected to present your results at an Honours Symposium, and are required to submit your completed final report to the MSE Program Adviser.

### [illegible]

Note: you take either ENVR 495D1 and ENVR 495D2 (6 credits over consecutive terms) or ENVR 495N1 and ENVR 495N2 (6 credits over non-consecutive terms).

| | | |
|---|---|---|
| ENVR 495D1 | (3) | Honours Research |
| ENVR 495D2 | (3) | Honours Research |
| ENVR 495N1 | (3) | Honours Research |
| ENVR 495N2 | (3) | Honours Research |

## [illegible]

This program is open only to students in the B.Sc. Major in Environment. To be eligible for Honours, students must satisfy the requirements set by their B.Sc. degree.

In addition, students must satisfy the following:

1. Students apply for the Honours program in March of their U2 Year. See the Program Adviser for details.

2. Applicants must have a minimum Program GPA (GPA of all required and complementary courses for the program with Environment taken at McGill) of 3.3 to enter the Honours program.

3. Students must earn a B grade (3.0) or higher for the Honours Research course (ENVR 495).

4. Students are required to achieve a minimum overall CGPA of 3.0 at graduation, and a minimum Program GPA of 3.3 to obtain Honours.

Students in the B.Sc. Honours programs complete the core and domain courses (60 to 66 credits) according to their chosen domain as well as the 6 cred of Honours required courses.

At the completion of your Honours research, you are expected to present your results at an Honours Symposium, and are required to submit your co ®nal report to the MSE Program Adviser.

**Honours Research Project**

Note: you take either ENVR 495D1 and ENVR 495D2 (6 credits over consecutive terms) or ENVR 495N1 and ENVR 495N2 (6 credits over non-consecutive terms).

| | | |
|---|---|---|
| ENVR 495D1 | (3) | Honours Research |
| ENVR 495D2 | (3) | Honours Research |
| ENVR 495N1 | (3) | Honours Research |
| ENVR 495N2 | (3) | Honours Research |

**Honours Program in Environment**

This program is open only to students in the B.A. & Sc. Interfaculty Program Environment.

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3. Students must earn a B grade (3.0) or higher for the Honours Research courses (ENVR 496 and ENVR 497).

4. Students are required to achieve a minimum overall CGPA of 3.0 at graduation, and a minimum Program GPA of 3.3 to obtain Honours.

Students in the B.Sc.(Ag.Env.Sc.) Honours program complete the core and domain courses (60 to 63 credits) according to their chosen domain as well as the 6 credits of required Honours courses.

At the completion of your Honours research, you are expected to present your results at an Honours Symposium, and are required to submit a copy of your final report to the MSE Program Adviser.

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|---|---|---|
| ENVR 496 | (3) | Honours Research Part 1 |
| ENVR 497 | (3) | Honours Research Part 2 |

## Joint Honours with Environment

### Adviser


Ms. Kathy Roulet, MSE Program Adviser
Telephone: 514-398-4306
Email: kathyroulet@mcgill.ca


This program is open only to students in the B.Arch Faculty Program in Environment.

The Joint Honours Component in Environment offers students the opportunity to undertake a year-long, interdisciplinary research project in their final year in close association with a professor. Honours research provides excellent preparation for graduate studies, but is not required for such studies. If, for some reason, students cannot complete the Joint Honours requirements, they still graduate with a Minor Concentration in Environment.

## Joint Honours with Arts

Students wishing to study at the honours level in two disciplines can combine joint honours program components with Arts disciplines. For a list of available joint honours programs, see "Overview of Programs Offered" and "Joint Honours Programs".

Joint Honours students should consult an adviser in each department for help in their course selection and their interdisciplinary honours research project.

Students will enter the Joint Honours at the end of their U1 year and will be required to maintain a PGPA of 3.30 and an overall CGPA of 3.0. Whereas the Faculty Program Environment Honours requires the student to undertak

| | | |
|---|---|---|
| ENVR 200 | (3) | The Global Environment |
| ENVR 201 | (3) | Society Environment and Sustainability |
| ENVR 202 | (3) | The Evolving Earth |
| ENVR 203 | (3) | Knowledge, Ethics and Environment |
| ENVR 301 | (3) | Environmental Research Design |
| ENVR 400 | (3) | Environmental Thought |
| ENVR 401 | (3) | Environmental Research |

And 6 credits of honours research from the following:

Note: you take either ENVR 495D1 and ENVR 495D2 (6 credits over consecutive terms) or ENVR 495N1 and ENVR 495N2 (6 credits over non-consecutive terms).

| | | |
|---|---|---|
| ENVR 495D1 | (3) | Honours Research |
| ENVR 495D2 | (3) | Honours Research |
| ENVR 495N1 | (3) | Honours Research |
| ENVR 495N2 | (3) | Honours Research |

**[illegible]**

One of the following Statistics courses or equivalent:

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|---|---|
| | Biometry |

When planning your schedule and registering for courses, you should verify where each course is offered because courses for this program are taught at both McGill's Downtown campus and at the Macdonald campus in Sainte-Anne-de-Bellevue.

Location Note: The ENVR courses are offered on both campuses. You should register in Section 001 of an ENVR course that you plan to take on the Downtown campus, and in Section 051 of an ENVR course that you plan to take on the Macdonald campus.

| | | |
|---|---|---|
| ENVR 200 | (3) | The Global Environment |
| ENVR 201 | (3) | Society, Environment and Sustainability |
| ENVR 202 | (3) | The Evolving Earth |
| ENVR 203 | (3) | Knowledge, Ethics and Environment |
| ENVR 301 | (3) | Environmental Research Design |
| ENVR 400 | (3) | Environmental Thought |

12 credits of complementary courses are selected as follows:

3 credits - must be taken with the approval of the Program Adviser in an area outside of the student's core degree (e.g., those with a B.A. or equivalent degree must take at least 3 credits in the natural sciences; those with a B.Sc. or equivalent degree must take at least 3 credits in the social sciences). A list of Suggested Courses is given below.

9 credits - must be taken in an area of focus chosen by the student with the approval of the Program Adviser. At least 6 credits must be taken at the 400 level or higher. A list of Suggested Courses is given below.

The Suggested Course List is divided into two thematic categories: Social Sciences and Policy, and Natural Sciences and Technology.

Most courses listed at the 300 level and higher have prerequisites. You are urged to prepare your program of study with this in mind.

This list is not meant to be exhaustive. You are also encouraged to examine the course lists of the various domains in the Environment program for other courses that might interest you. Courses not on the Suggested Course List may be included in the diploma with the permission of the Program Adviser.

* Note: If WILD 415 is taken, 1 additional credit of complementary courses must be taken.

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|---|---|---|
| AGEC 231 | (3) | Economic Systems of Agriculture |
| AGEC 333 | (3) | Resource Economics |
| AGEC 430 | (3) | Agriculture, Food and Resource Policy |
| AGEC 442 | (3) | Economics of International Agricultural Development |
| AGRI 210 | (3) | Agro-Ecological History |
| AGRI 411 | (3) | Global Issues on Development, Food and Agriculture |
| ANTH 206 | (3) | Environment and Culture |
| ANTH 212 | (3) | Anthropology of Development |
| ANTH 339 | (3) | Ecological Anthropology |
| ANTH 418 | (3) | Environment and Development |
| ANTH 512 | (3) | Political Ecology |
| BREE 503 | (3) | Water: Society, Law and Policy |
| CIVE 433 | (3) | Urban Planning |
| ECON 205 | (3) | An Introduction to Political Economy |
| ECON 225 | (3) | Economics of the Environment |
| ECON 326 | (3) | Ecological Economics |

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| ECON 347 | (3) | Economics of Climate Change |
| ECON 405 | (3) | Natural Resource Economics |
| ENVB 437 | (3) | Assessing Environmental Impact |
| ENVR 201 | (3) | Society, Environment and Sustainability |
| ENVR 203 | (3) | Knowledge, Ethics and Environment |
| ENVR 400 | (3) | Environmental Thought |
| ENVR 421 | (3) | Montreal: Environmental History and Sustainability |
| GEOG 200 | (3) | Geographical Perspectives: World Environmental Problems |
| GEOG 210 | (3) | Global Places and Peoples |
| GEOG 216 | (3) | Geography of the World Economy |
| GEOG 221 | (3) | Environment and Health |
| GEOG 300 | (3) | Human Ecology in Geography |
| GEOG 301 | (3) | Geography of Nunavut |
| GEOG 302 | (3) | Environmental Management 1 |
| GEOG 303 | (3) | Health Geography |
| GEOG 370 | (3) | Protected Areas |
| GEOG 382 | (3) | Principles Earth Citizenship |
| GEOG 403 | (3) | Global Health and Environmental Change |
| GEOG 408 | (3) | Geography of Development |
| GEOG 410 | (3) | Geography of Underdevelopment: Current Problems |
| GEOG 530 | (3) | Global Land and Water Resources |
| GEOG 551 | (3) | Environmental Decisions |
| MGPO 440 | (3) | Strategies for Sustainability |
| NRSC 221 | (3) | Environment and Health |
| NRSC 540 | (3) | Socio-Cultural Issues in Water |
| PHIL 230 | (3) | Introduction to Moral Philosophy 1 |
| PHIL 237 | (3) | Contemporary Moral Issues |
| PHIL 334 | (3) | Ethical Theory |
| PHIL 343 | (3) | Biomedical Ethics |
| PHIL 348 | (3) | Philosophy of Law 1 |
| POLI 212 | (3) | Government and Politics - Developed World |
| POLI 227 | (3) | Developing Areas/Introduction |
| POLI 345 | (3) | International Organizations |
| POLI 445 | (3) | International Political Economy: Monetary Relations |
| PSYC 215 | (3) | Social Psychology |
| RELG 270 | (3) | Religious Ethics and the Environment |
| RELG 340 | (3) | Religion and the Sciences |
| RELG 370 | (3) | Religion and Human Rights |
| RELG 376 | (3) | Religious Ethics |
| SOCI 222 | (3) | Urban Sociology |
| SOCI 234 | (3) | Population and Society |
| SOCI 235 | (3) | Technology and Society |
| SOCI 254 | (3) | Development and Underdevelopment |

Field study semesters are available in Africa, Barbados, and Panama. For details, see Study Abroad & Field Studies > Undergraduate > : Field Study Semesters and Off-Campus Courses.