Mining and Metallurgical Engineering: Jim Finch
Natural Resource Sciences: Benoit Côté, Mark Curtis, Brian Driscoll, Jim W. Fyles, William Hendershot, Roger Titman, Terry Wheeler
Parasitology, Institute of: James Smith
Pathology, Autopsy Service: Bruce Case
Philosophy: Philip Buckley
Plant Science: Pierre Dutilleul, Don Smith, Marcia Waterway
Political Science: Hudson Meadwell, Philip Oxhorn
Redpath Museum: David M. Green
Sociology: Uli Locher
Urban Planning, School of: Jeanne Wolfe

Adjunct Professor
Economics (Concordia): Frank Müller

1.4 Creation of the School

McGill's Faculties of Agricultural and Environmental Sciences, Arts, and Science have forged a unique approach to the study of environment through the inter-facu

Faculty of Science students in particular should be aware that some courses are restricted and cannot be taken for credit. See the Science Student Affairs Website at www.mcgill.ca/artscisao. Check under Course Information, Course Restrictions.

Students in the Diploma in Environment follow the program as specified.

3 Programs Offered

The McGill School of Environment has developed five programs which are offered on the Downtown and Macdonald campuses. 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.

The MSE offers five options for students interested in pursuing environmental studies.

1. **A Minor in Environment** is open to all undergraduate students.
2. **A Faculty Program in Environment leading to a B.A** is open to students meeting the entrance requirements of the Faculty of Arts.
3. **A Major in Environment leading to a B.Sc.(Ag.Env.Sc.)** is open to students meeting the entrance requirements of the Faculty of Agricultural and Environmental Sciences.
4. **A Major in Environment leading to a B.Sc**. is open to students meeting the entrance requirements of the Faculty of Science.
5. **A Diploma in Environment** is available only to students who have already completed a Bachelor or an equivalent degree, and who wish to return to university for further undergraduate study. The Diploma is offered by all three MSE Faculties: Agricultural and Environmental Sciences, Arts, and Science.

4 Minor in Environment

The Minor in Environment is intended to complement an expertise obtained through a Major, Major Concentration or a Faculty Program offered by an academic unit **other than** the MSE. Students taking the Minor in Environment are exposed to different approaches, perspectives, and world views that will help them gain an understanding of the complexity and conflicts that underlie environmental problems.

Students, after consulting with their adviser in their major program or concentration and the MSE Program Coordinator, can declare their intention to do a Minor in Environment.

To obtain a Minor in Environment, students must:

(a) register for the Minor on-line, using Minerva;

(b) submit their program of courses already taken and to be taken for the Minor in Environment to the MSE Program Coordinator for approval;

(c) pass all courses counted towards the Minor with **a grade of C or higher;**

(d) complete 18 credits from the courses listed below not otherwise counted towards the student's Major program or concentration or a second Minor program; and

(e) ensure that all the credits specified in (c) above are taken outside the discipline or field of the student's Major program or concentration.

4.1 Minor Concentration in Environment

This 18-credit Minor is intended for Arts students in the multi-track system.

Adviser: Mr. Pete Barry, MSE Program Coordinator
E-mail: info.mse@mcgill.ca
Telephone: (514) 398-4306

Complementary Courses (18 credits)
12 credits selected from the MSE core courses:

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

6 credits selected from Thematic Categories*, at least 3 credits must be from the list of courses in the thematic area of Natural Sciences and Technology.

* See section 10 "List of approved Thematic Category Courses for the Minor and the Diploma". Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

4.2 Minor Program in Environment

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

Adviser: Mr. Pete Barry, MSE Program Coordinator
E-mail: info.mse@mcgill.ca
Telephone: (514) 398-4306

Complementary Courses (18 credits)
12 credits selected from the MSE core courses:

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

6 credits selected from Thematic Categories*, at least 3 credits must be from the list of courses in the thematic area of Social Sciences and Policy.

* See section 10 "List of approved Thematic Category Courses for the Minor and the Diploma". Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

5 B.A. Faculty Program in Environment

The B.A. Faculty Program has two components: Core and Domain. Students follow three steps in their degree program.

1. **Core:** The Core consists of four introductory courses and one intermediate-level course where students are exposed to the different approaches, perspectives, and world views that will help them gain an understanding of the complexity and conflicts that underlie most environmental problems. Through the Core program students go beyond the confines of their individual views of environment.
2. **Domain:** Domains provide a trans-disciplinary study of a particular theme or component of the environment.
3. **Senior Core and Research:** In the two senior courses of the Core, students will apply the general and specialized knowledge that they have gained in the program to the analysis of some specific, contemporary environmental problems.

To obtain a B.A. Faculty Program in Environment students must:

a. register in a Domain on-line, using Minerva;

5.2 Economics and the Earth's Environment Domain

This Domain (54 credits including Core) is open only to students in the B.A. Faculty Program in Environment.

Core: Complementary Course – Senior Research Project
(3 credits*)

Domain: Required Courses (9 credits)

Domain: Complementary Courses (33 credits)

6.2 Ecological Determinants of Health Domain

This Domain (63 credits including Core) is open only to students in the B.Sc (Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

Adviser: Professor Tim Johns
E-mail: johns@macdonald.mcgill.ca
Telephone: (514) 398-7847

This Domain considers the interface between the environment and human well-being, with particular focus on the triad that ties human health to the environment through the elements of food and infectious agents. Each of these elements is influenced by planned and unplanned environmental disturbances.

For example, agricultural practices shift the balance between beneficial and harmful ingredients of food. Use of insecticides presents dilemmas with regard to the environment, economics and human health. The distribution of infectious diseases is influenced by the climatic conditions that permit vectors to coexist with man, 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 **Population Stream** will gain a depth of understanding at an ecosystem level that looks at society, land and population health. Students in the **Cellular Stream** will explore the interactions in more depth, at a physiological level.

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

Courses offered at Macdonald Ca

Ecological Determinants of Health Domain – Cellular Stream

This Domain (63 credits) is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

NOTE: Students are required to take a maximum of 31 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes Core and Required courses.

Core: Required Courses (18 credits)

Core: Complementary Course – Senior Research Project (3 credits*)

Domain: Required Courses (6 credits)

Domain - Cellular Stream: Complementary Courses (36 credits)

Ecological Determinants of Health Domain – Population Stream

Core: Complementary Course

Domain: Complementary Courses (42 credits)

9 credits basic principles of ecosystem processes and diversity

AEBI 200 (3) Biology of Organisms *(M)*
or BIOL 305 (3) Diversity of Life
or PLNT 201 (3) Comparative Plant Biology *(M)*
AEBI 205 (3) Principles of Ecology *(M)*
or BIOL 208 (3) Introduction to Ecology
GEOG 305 (3) Soils and Environment
or SOIL 210 (3) Principles of Soil Science *(M)*

6 credits statistics and GIS methods

ABEN 330 (3) GIS for Biosystems Engineering *(M)*
or GEOG 201 (3) Introductory Geo-Information Science
AEMA 310 (3) Statistical Methods 1 *(M)*
or BIOL 373 (3) Biometry

6 credits advanced ecosystem components

PLNT 358 (3) Flowering Plant Diversity *(M)*

Those electing the **biological** stream will concentrate on the mechanisms regulating the different forms of life in water bodies. They will acquire, as well, a good understanding of the physical mechanisms controlling water properties.

Students interested in studying the transport and transformation mechanisms of water on the planet, from rivers to the oceans and atmosphere, will select the **physical** stream. They will acquire, as well, a solid background in the biological processes taking place in water bodies.

Graduates of this Domain are qualified to enter the work force or to pursue advanced studies in fields such as marine biology, geography, physical oceanography and atmospheric science.

6.7 Water Environments and Ecosystems Domain

This Domain is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

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

Water Environments and Ecosystems Domain – Biological Stream

This Domain (57 credits including Core) is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

Adviser: Mr. Pete Barry, MSE Program Coordinator
E-mail: info.mse@mcgill.ca
Telephone: (514) 398-4306

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

Core: Required Courses (18 credits)

Core: Complementary Course – Senior Research Project (3 credits*)

Domain: Required Course (3 credits)

Domain: Complementary Courses (33 credits)

7 Major Program in Environment – B.Sc.

In addition to the selection of Domains available to students in the Major program in either the Faculty of Science or the Faculty of Agricultural and Environmental Sciences, see section 6 “Major Program in Environment – B.Sc.(Ag.Env.Sc.) and B.Sc.”, students in the Faculty of Science program can choose from one of the two

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.

can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

9 Field Studies

9.1 African Field Study Semester

The Department of Geography, Faculty of Science, coordinates the 15-credit interdisciplinary African Field Study Semester, see page 276. **Note: The AFSS will only be offered in 2003-04 pending approval by the Dean of Science.**

9.2 Panama Field Study Semester

Website: www.mcgill.ca/mse/field_study/panama

This program is a joint venture between McGill University and the Smithsonian Tropical Research Institute (STRI) in Panama.

Hands-on experience is gained through a research project organized around multidisciplinary environmental issues. The nature of these projects will center on practical environmental problems/ questions important for Panama. Students will form a team that will work with Panamanian institutions (NGO, governmental or research).

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Mechanical Engineering
MECH 343 (3) Energy Conversion
MECH 534 (3) Air Pollution Engineering

Microbiology and Immunology
MIMM 211 (3) Introductory Microbiology
MIMM 314 (3) Immunology
MIMM 323 (3) Microbial Physiology
MIMM 324 (3) Fundamental Virology

Mining, Metals and Materials Engineering
MIME 308 (3) Social Impact of Technology
MIME 320 (3) Extraction of Energy Resources
MIME 451 (3) Environmental Controls: Met'l Plants
MIME 555 (3) Thermal Remediation of Wastes

Physics
PHYS 248 (3) Physics of Energy

Psychology
PSYC 431 (3) Environment and Developing Brain

Agricultural and Biosystems Engineering (Macdonald Campus)
AGRI 435 (3) Soil and Water Quality Management
ABEN 217 (3) Hydrology and Drainage
ABEN 322 (3) Food Production/Processing Waste Management
ABEN 518 (3) Pollution Control for Agriculture

Biology (Macdonald Campus)
AEBI 205 (3) Principles of Ecology
AEBI 495D1 (1) Environmental Biology Seminar
AEBI 495D2 (1) Environmental Biology Seminar

Microbiology (Macdonald Campus)
MICR 331 (3) Microbial Ecology

Physics (Macdonald Campus)
AEPH 201 (3) Introductory Meteorology

Plant Science (Macdonald Campus)
PLNT 304 (3) Biology of Fungi
PLNT 305 (3) Plant Pathology
PLNT 358 (3) Flowering Plant Diversity
PLNT 460 (3) Plant Ecology

Renewable Resources (Macdonald Campus)