



McGill



Program Proposal Form

(09/2003)

AC-04-115

<p>1.0 Degree Title Bachelor of Arts and Science</p> <p>1.1 Major (Subject) (30 char. Max) Environment</p> <p>1.2 Concentration (Concentration/Option) (30 char. Max)</p> <p>1.3 Minor (with Concentration, if applic.) (30 char. Max)</p>	<p>2.0 Administering Faculty/Unit Arts</p> <p style="text-align: center;">Offering Faculty/Department Arts and Science</p> <p>3.0 Effective Term of Implementation: (eg. 200409) 200509</p>
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4.0 Program Information	
4.1 Program Type:	Bachelor's Program
4.2 Category:	Faculty Program
4.3 Level:	Undergraduate

5.0 Total Credits 54
6.0 Consultation with Related Units (Y/N) y Morton Mendelson, AD Academic, Science MSE students
Financial Consultation? (Y/N) n

<p>7.0 Description (max 150 words)</p> <p>The growth of technology, globalization of economies, and rapid increases in population and per capita consumption have all had dramatic environmental impacts. The Faculty Program in 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. (81 words)</p>

8.0 Program Course Listing

Courses offered at the Macdonald Campus are marked with an (M). The MSE (ENVR) courses are offered at both campuses.

Courses offered outside the Faculties of Arts and Science are marked with ¹.

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 30 credits in the Faculty of Arts and at least 30 in the Faculty of Science as part of their faculty program and their minor or minor concentration. ENVR courses are considered courses in both Arts and Science, and so the credits are split between the two faculties for the purpose of this regulation.

Required Courses (18 credits)

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 301 (3) Environmental Research Design
 ENVR 400 (3) Environmental Thought

Complementary Courses (36 credits)

3 credits* - Senior Research Project
 ENVR 401 (3) Environmental Research
 ENVR 451 (6) Research in Panama (in Panama)
¹AGRI 519 (6) Sustainable Development Plans (in Barbados)
 * Only 3 credits will be applied to the program; extra credits will count as electives.

3 credits of statistics

¹AEMA 310 (3) Statistical Methods 1 (M)
 BIOL 373 (3) Biometry
 GEOG 202 (3) Statistics and Spatial Analysis
 PSYC 204 (3) Introduction to Psychological Statistics
 or equivalent

30 credits – students must take courses from at least three areas. Areas and courses should be chosen to build a coherent, upper-level body of knowledge relevant to some aspects of environment. At least 6 credits must be at the 400-level or higher, selected either from these lists **or in consultation with the program advisor**.

Area 1: Population, Community and Ecosystem Ecology

BIOL 308 (3) Ecological Dynamics
 BIOL 432 (3) Limnology
 BIOL 441 (3) Biological Oceanography
 ENVR 540 (3) Ecology of Species Invasions
 or BIOL 540

GEOG 350 (3) Ecological Biogeography
¹PLNT 460 (3) Plant Ecology (M)
¹WILD 205 (3) Principles of Ecology (M)
¹WILD 410 (3) Wildlife Ecology (M)
¹WOOD 410 (3) The Forest Ecosystem (M)

Area 2: Biodiversity and Conservation

BIOL 305 (3) Diversity of Life
 BIOL 327 (3) Herpetology
 BIOL 341 (3) History of Life
 BIOL 355 (3) Trees
 BIOL 465 (3) Conservation Biology
¹ENTO 440 (3) Systematic Entomology (M)
¹MICR 331 (3) Microbial Ecology (M)
¹PLNT 358 (3) Flowering Plant Diversity (M)
¹WILD 350 (3) Mammology (M)
¹WILD 420 (3) Ornithology (M)
¹ZOOL 307 (3) Natural History of the Vertebrates (M)

Area 3: Field studies in ecology and conservation

BIOL 240 (3) Montegian Flora (at Mont St. Hilaire)
 BIOL 331 (3) Ecology/Behaviour Field Course (at Mont St. Hilaire)
 BIOL 334 (3) Applied Tropical Ecology (in Barbados)
 BIOL 553 (3) Neotropical Environments (in Panama)
 GEOG 495 (3) Field studies – Physical Geography (in southern Quebec)
 GEOG 499 (3) Subarctic Field Studies (in Schefferville)
¹WILD 475 (3) Desert Ecology (in Arizona)

Area 4: Hydrology and water resources

GEOG 322 (3) Environmental Hydrology
 or ¹ABEN 217 (3) Hydrology and Water Resources (M)
 or ¹CIVE 323 (3) Hydrology and Water Resources
 EPSC 549 (3) Hydrogeology
 GEOG 372 (3) Running Water Environments
 GEOG 522 (3) Advanced Environmental Hydrology
 GEOG 537 (3) Advanced Fluvial Geomorphology
¹NRSC 540 (3) Socio-Cultural Issues in Water (M)

Area 5: Human Health

¹ANSC 330 (3) Fundamentals of Nutrition (M)
 or ¹NUTR 307 (3) Human Nutrition (M)
 PATH 300 (3) Human Disease
¹PARA 410 (3) Environment and Infection (M)
 PHAR 303 (3) Principles of Toxicology
 or ¹NUTR 420 (3) Toxicology and Health Risks (M)

Area 6: Earth and soil sciences

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
¹SOIL 326 (3) Soil Genesis and Classification (M)

Area 7: Economics

¹AGEC 333 (3) Resource Economics (M)
 ECON 208 (3) Microeconomic Analysis and Applications
 or ¹AGEC 200 (3) Principles of Microeconomics (M)
 ECON 326 (3) Ecological Economics
 ECON 347 (3) Economics of Climate Change
 GEOG 216 (3) Geography of the World Economy

Area 8: Development and Underdevelopment

ANTH 212 (3) Anthropology of Development
 ANTH 418 (3) Environment and Development
 GEOG 408 (3) Geography of Development
 GEOG 410 (3) Geography of Underdevelopment: Current Problems
 POLI 227 (3) Developing Areas/Introduction
 POLI 445 (3) IPE: North-South Relations
 SWRK 374 (3) Community Development/Social Action

Area 9: Cultures and peoples

ANTH 206 (3) Environment and Culture
 ANTH 339 (3) Ecological Anthropology
 GEOG 210 (3) Global Places and Peoples

Area 10: Human Ecology and Health

ANTH 227 (3) Medical Anthropology
 GEOG 300 (3) Human Ecology in Geography
 GEOG 303 (3) Health Geography
 PHIL 343 (3) Biomedical Ethics
 SOCI 225 (3) Medicine and Health in Modern Society
 SOCI 309 (3) Health and Illness

Area 11: Spirituality, Philosophy and Ethics

¹EDER 461 (3) Society and Change
 PHIL 221 (3) Introduction to History and Philosophy of Science 1
 PHIL 237 (3) Contemporary Moral Issues
 PHIL 341 (3) Philosophy of Science 1
 PHIL 348 (3) Philosophy of Law 1
 RELG 270 (3) Religious Ethics and the Environment
 RELG 340 (3) Religion and the Sciences
 RELG 370 (3) Human Condition

Area 12: Environmental management

¹AGRI 210 (3) Agro-Ecological History (M)
¹AGRI 450 (3) Soil and Water Quality Management (M)
¹AGRI 452 (3) Water Resources in Barbados (in Barbados)
¹ENTO 336 (3) Economic Entomology (M)

GEOG 302 (3) Environmental Management 1
 GEOG 380 (3) Adaptive Environmental Management
 GEOG 404 (3) Environmental Management 2 (in Panama)
¹NRSC 333 (3) Physical and Biological Aspects of Pollution (M)
¹NRSC 382 (3) Ecological Monitoring and Analysis (M)
¹NRSC 383 (3) Land Use: Redesign and Planning (M)
¹NRSC 437 (3) Assessing Environmental Impact (M)
¹SOIL 335 (3) Soil Ecology and Management (M)
¹WILD 401 (3) Fisheries and Wildlife Management (M)
¹WILD 415 (2) Conservation Law (M) (if this course is taken, 1 additional credit of complementary courses must be taken)
¹WILD 421 (3) Wildlife Conservation (M)

9.0 Rationale

From an academic perspective there is clearly the need to develop this program, to provide the flexibility in training needed to prepare individuals capable of engineering solutions to complex environmental problems facing society. As an illustration of this need, requests to develop this Faculty Program have not only come from the Faculties of Arts and Science, but also from students in the School of Environment.

It is recognized that a student without the correct vision and one who is unguided could obtain this degree, while not meeting its philosophical underpinnings - a flexible liberal arts program designed to meet the needs of students who have unique career goals in the environment. As a result, we have engineered in a system of rigorous review and guidance. One MSE faculty member will be assigned to provide mentoring for this program. With the MSE Program Coordinator, each student's program also will be reviewed annually to see that they are on a desirable trajectory.

The interdisciplinary nature of the Environment program lends itself to the structure of the B.A.&Sc. Faculty Program. The large number of required credits incorporates the MSE Core courses, which are also required in all other MSE Major and Faculty programs.

The inclusion of non-Arts and Science courses (particularly those from Agricultural and Environmental Sciences) is in keeping with the MSE's mandate to cross traditional disciplinary boundaries. The B.A. Faculty program in Environment has a similar structure.

The large number of possible upper level (400, 500) courses makes it difficult to list them all. Therefore students can select unlisted upper level courses "in consultation with the program advisor".

Given the novel nature of this program, the MSE plans to review it after two years, and make any changes that are needed.

10.0 Approvals

Routing Sequence	Name	Signature	Date
Department	Colin Chapman		
Curric/Acad Cmty			
Faculty 1			
Faculty 2			
Faculty 3			
SCTP			
GS			
APPC			
Senate			

Submitted by:

Pete Barry, MSE Program Coordinator

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Submission Date:

To be completed by ARR:

CIP Code: