



McGill



Program Revision Form

(09/2003)

AC-04-104

<p>1.0 Degree Title <i>Bachelor of Science</i></p> <p>1.1 Major (Subject) <i>Environment</i></p> <p>1.2 Concentration (Option) <i>Land Surf Proc & Envir Chnge</i> (Note: This is a <u>Domain</u> in the Major Program in Environment, and is offered by both Agricultural and Environmental Sciences and by Science.)</p> <p>1.3 Minor</p> <p>1.4 Category <i>Major Program</i></p> <p>1.5 Complete Program Title <i>B.Sc.; Environment; Land Surface Processes and Environmental Change Domain</i></p>	<p>2.0 Administering Faculty <i>Arts</i></p> <p style="text-align: center;">Offering Faculty <i>Science</i></p> <p>3.0 Effective Term of Revision: <i>200509</i> (eg. 200409)</p> <p>4.0 Existing Credit Weight: <i>63</i> Proposed Credit Weight: <i>63</i></p> <p>5.0 Description (150 words max) <i>no change to program description</i></p>
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6.0 Existing and Proposed program course lists

Additions are in ***Bold Italics***, and deletions are in ~~Strikeout~~. Numbered changes refer to items in the Rationale and the consultation list. Courses offered at Macdonald Campus are marked with (M).

Current Program	Proposed Program
<p>Core: 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</p> <p>Core: Complementary Course – Senior Research Project (3 credits*) AGRI 519 (6) Sustainable Development Plans (in Barbados) ENVR 401 (3) Environmental Research ENVR 451 (6) Research in Panama (in Panama) ENVR 466 (6) Research in Atlantic Canada (at Bay of Fundy) * Only 3 credits will be applied to the program; extra credits will count as electives.</p> <p>Domain: Required Course (3 credits)</p>	<p>Core: 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</p> <p>Core: Complementary Course – Senior Research Project (3 credits*) AGRI 519 (6) Sustainable Development Plans (in Barbados) ENVR 401 (3) Environmental Research ENVR 451 (6) Research in Panama (in Panama) ENVR 466 (6) Research in Atlantic Canada (at Bay of Fundy) * Only 3 credits will be applied to the program; extra credits will count as electives.</p> <p>Domain: Required Course (3 credits)</p>

<p>GEOG 203 (3) Environmental Systems</p> <p>Domain: Complementary Courses (39 credits) 3 credits of statistics chosen from: AEMA 310 (3) Statistical Methods 1 (M) GEOG 202 (3) Statistics and Spatial Analysis MATH 203 (3) Principles of Statistics 1</p> <p>3 credits of ecology chosen from: BIOL 308 (3) Ecological Dynamics WILD 205 (3) Principles of Ecology (M)</p> <p>3 credits of weather and climate chosen from: ATOC 215 (3) Oceans, Weather and Climate NRSC 201 (3) Introductory Meteorology (M)</p> <p>9 credits of fundamental land surface processes chosen from: GEOG 272 (3) Earth's Changing Surface or SOIL 200 (3) Introduction to Earth Science (M) GEOG 305 (3) Soils and Environment or SOIL 326 (3) Soil Genesis and Classification (M) GEOG 321 (3) Climatic Environments GEOG 322 (3) Environmental Hydrology or ABEN 217 (3) Hydrology and Water Resources (M)</p> <p>3 credits of environment and resource management chosen from: AGRI 435 (3) Soil and Water Quality Management (M)</p> <p>AGRI 550 (3) Sustained Tropical Agriculture (in Panama) BIOL 465 (3) Conservation Biology CHEE 230 (3) Environmental Aspects of Technology CIVE 225 (4) Environmental Engineering GEOG 302 (3) Environmental Management 1</p> <p>GEOG 404 (3) Environmental Management 2 (in Panama) NRSC 437 (3) Assessing Environmental Impact (M) WOOD 420 (3) Environmental Issues: Forestry (M) WOOD 441 (3) Integrated Forest Management (M)</p> <p>3 credits of a field course chosen from: BIOL 553 (3) Neotropical Environments (in Panama) GEOG 495 (3) Field Studies - Physical Geography (at Mont St. Hilaire) GEOG 496 (3) Geographical Excursion (in Barbados) GEOG 497 (3) Ecology of Coastal Waters (at Bay of Fundy) GEOG 499 (3) Subarctic Field Studies (in Schefferville) NRSC 382 (3) Ecological Monitoring and Analysis (M) WILD 475 (3) Desert Ecology (in Arizona)</p> <p>3 credits of social science issues chosen from:</p> <p>ANTH 339 (3) Ecological Anthropology ECON 225 (3) Economics of the Environment ECON 326 (3) Ecological Economics ECON 405 (3) Natural Resource Economics</p>	<p>GEOG 203 (3) Environmental Systems</p> <p>Domain: Complementary Courses (39 credits) 3 credits of statistics chosen from: AEMA 310 (3) Statistical Methods 1 (M) GEOG 202 (3) Statistics and Spatial Analysis MATH 203 (3) Principles of Statistics 1 ²or equivalent</p> <p>3 credits of ecology chosen from: BIOL 308 (3) Ecological Dynamics WILD 205 (3) Principles of Ecology (M)</p> <p>3 credits of weather and climate chosen from: ATOC 215 (3) Oceans, Weather and Climate NRSC 201 (3) Introductory Meteorology (M)</p> <p>9 credits of fundamental land surface processes chosen from: GEOG 272 (3) Earth's Changing Surface or SOIL 200 (3) Introduction to Earth Science (M) GEOG 305 (3) Soils and Environment or SOIL 326 (3) Soil Genesis and Classification (M) GEOG 321 (3) Climatic Environments GEOG 322 (3) Environmental Hydrology or ABEN 217 (3) Hydrology and Water Resources (M)</p> <p>3 credits of environment and resource management chosen from: AGRI 435 (3) Soil and Water Quality Management (M) ³AGRI 452 (3) Water Resources in Barbados (in Barbados)</p> <p>AGRI 550 (3) Sustained Tropical Agriculture (in Panama) BIOL 465 (3) Conservation Biology CHEE 230 (3) Environmental Aspects of Technology CIVE 225 (4) Environmental Engineering GEOG 302 (3) Environmental Management 1 ⁴GEOG 380 (3) Adaptive Environmental Management</p> <p>GEOG 404 (3) Environmental Management 2 (in Panama) NRSC 437 (3) Assessing Environmental Impact (M) WOOD 420 (3) Environmental Issues: Forestry (M) WOOD 441 (3) Integrated Forest Management (M)</p> <p>3 credits of a field course chosen from: BIOL 553 (3) Neotropical Environments (in Panama) GEOG 495 (3) Field Studies - Physical Geography (at Mont St. Hilaire) GEOG 496 (3) Geographical Excursion (in Barbados) GEOG 497 (3) Ecology of Coastal Waters (at Bay of Fundy) GEOG 499 (3) Subarctic Field Studies (in Schefferville) NRSC 382 (3) Ecological Monitoring and Analysis (M) WILD 475 (3) Desert Ecology (in Arizona)</p> <p>3 credits of social science issues chosen from: ⁵AGRI 413 (3) Globalization: Issues of Change (in Barbados)</p> <p>ANTH 339 (3) Ecological Anthropology ECON 225 (3) Economics of the Environment ECON 326 (3) Ecological Economics ECON 405 (3) Natural Resource Economics</p>
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<p>or AGECE 333 (3) Resource Economics (M) ENVR 465 (3) Environment and Social Change (at Bay of Fundy) GEOG 408 (3) Geography of Development GEOG 498 (3) Humans in Tropical Environments (in Panama) GEOG 508 (3) Resources, People and Power SOCI 565 (3) Social Change in Panama (in Panama)</p> <p>12 credits total of advanced studies chosen from the following two lists: 3 credits minimum of advanced study of particular environments: BIOL 358 (3) Canadian Flora or PLNT 358 (3) Flowering Plant Diversity (M) BIOL 432 (3) Limnology or NRSC 315 (3) Science of Inland Waters (M) GEOG 350 (3) Ecological Biogeography GEOG 372 (3) Running Water Environments GEOG 536 (3) Geocryology GEOG 550 (3) Quaternary Paleocology PLNT 460 (3) Plant Ecology (M) WOOD 410 (3) The Forest Ecosystem (M)</p> <p>6 credits minimum of advanced study of surface processes: ABEN 509 (2) Hydrologic Systems and Modelling (M) ATOC 315 (3) Water in the Atmosphere EPSC 549 (3) Hydrogeology EPSC 580 (3) Aqueous Geochemistry GEOG 501 (3) Modelling Environmental Systems GEOG 505 (3) Global Biogeochemistry GEOG 522 (3) Advanced Environmental Hydrology GEOG 537 (3) Advanced Fluvial Geomorphology NRSC 333 (3) Physical and Biological Aspects of Pollution (M) SOIL 331 (3) Soil Physics (M) SOIL 410 (3) Soil Chemistry (M)</p>	<p>or AGECE 333 (3) Resource Economics (M) ENVR 465 (3) Environment and Social Change (at Bay of Fundy) GEOG 408 (3) Geography of Development GEOG 498 (3) Humans in Tropical Environments (in Panama) GEOG 508 (3) Resources, People and Power SOCI 565 (3) Social Change in Panama (in Panama)</p> <p>12 credits total of advanced studies chosen from the following two lists: 3 credits minimum of advanced study of particular environments: BIOL 358 (3) Canadian Flora or PLNT 358 (3) Flowering Plant Diversity (M) BIOL 432 (3) Limnology or NRSC 315 (3) Science of Inland Waters (M) GEOG 350 (3) Ecological Biogeography GEOG 372 (3) Running Water Environments GEOG 536 (3) Geocryology GEOG 550 (3) Quaternary Paleocology PLNT 460 (3) Plant Ecology (M) WOOD 410 (3) The Forest Ecosystem (M)</p> <p>⁷ 3 credits 6 credits minimum of advanced study of surface processes: ABEN 509 (2) Hydrologic Systems and Modelling (M) ATOC 315 (3) Water in the Atmosphere EPSC 549 (3) Hydrogeology EPSC 580 (3) Aqueous Geochemistry GEOG 501 (3) Modelling Environmental Systems GEOG 505 (3) Global Biogeochemistry GEOG 522 (3) Advanced Environmental Hydrology GEOG 537 (3) Advanced Fluvial Geomorphology NRSC 333 (3) Physical and Biological Aspects of Pollution (M) SOIL 331 (3) Soil Physics (M) SOIL 410 (3) Soil Chemistry (M)</p>
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7.0 Consultation with Related Units

- 2 - 7 Michel Lapointe, Domain advisor
- 3, 5. Robert Bonnell, Barbados Field Study Semester Coordinator
- 4. Garry Peterson, course instructor
- 6. Anne Comeau, Biology dept.

8.0 Rationale

- 1. ENVR 466 is being retired.
- 2. This term is included in all the domains where MATH 203 is included in the complementary course list, to allow greater flexibility in course selection.
- 3. AGRI 452 is part of the Barbados Field Study Semester, and is relevant to this section.
- 4. GEOG 380 is a new course that is relevant to this section. It does not duplicate the content of GEOG 302 Environmental Management.
- 5. AGRI 413 is part of the Barbados Field Study Semester, and is relevant to this section.
- 6. BIOL 358 is being retired.
- 7. The total credits required for the last two sections remains 12 credits, but this change allows greater flexibility in course selection. Many of the 500-level courses in “advanced

study of surface processes” are offered infrequently, and there are few offerings on the Macdonald campus.

9.0 Approvals

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

Submitted by:

Pete Barry, MSE Program Coordinator, Tel. 4306 Fax 1643, Pete.barry@mcgill.ca

Submission Date:

To be completed by ARR:

CIP Code: