



<p>1.0 Degree Title Specify the two degrees for concurrent degree programs</p> <p>B.Sc.</p>	<p>2.0 Administering Faculty/Unit</p> <p>Science / Geography</p>
<p>1.1 Major (Legacy= Subject) (30-char. max.)</p> <p>Geography</p>	<p>Offering Faculty/Department</p> <p>Science / Geography</p>
<p>1.2 Concentration (Legacy = Concentration/Option) If applicable (30 char. max.)</p>	<p>3.0 Effective Term of revision or retirement Please give reasons in 5.0 "Rationale" in the case of retirement (Ex. Sept. 2004 = 200409) <input type="checkbox"/> Retirement</p> <p>Term: 201809</p>
<p>1.3 Minor (with Concentration, if applicable) (30 char. max.)</p>	<p>4.0 Existing Credit Weight Proposed Credit Weight</p> <p>49 49</p>
<p>1.4 Category</p> <p><input type="checkbox"/> Faculty Program (FP) <input type="checkbox"/> Honours (HON)</p> <p><input checked="" type="checkbox"/> Major <input type="checkbox"/> Joint Honours Component (HC)</p> <p><input type="checkbox"/> Joint Major</p> <p><input type="checkbox"/> Major Concentration (CON) <input type="checkbox"/> Internship/Co-op</p> <p><input type="checkbox"/> Minor <input type="checkbox"/> Thesis (T)</p> <p><input type="checkbox"/> Minor Concentration (CON) <input type="checkbox"/> Non-Thesis (N)</p> <p><input type="checkbox"/> Other</p> <p>Please specify</p>	<p>5.0 Rationale for revised program</p> <p>In 2017 the Geography major program was revised to include relevant new courses that had been created in Geography and other units that cover highly relevant and program-related topics in Sustainability Science, Earth System Science and human-environment interactions at various scales. The revised Liberal program reflects those changes in the Major program while maintaining the lower credit weight that gives students flexibility in their overall academic program. The changes to this program are intended to broaden the program foci by adding 9 credits in 2 new complementary blocs, including a selection of courses in Earth System Science and Sustainability Sciences and an additional 9 credits focusing on human-environment interactions. Total credits in the program are unchanged.</p>
<p>1.5 Complete Program Title</p> <p>B.Sc.; Liberal Program - Core Science Component Geography</p>	

6.0 Revised Program Description (Maximum 150 words)

Current Program Description:
N/A

Proposed Program Description:
This is the Core Science Component in Geography for the B.Sc. Liberal. Required courses provide a foundation in Geography (which takes a holistic approach to environmental sciences, distinguished in particular, by its incorporation of human and climatic elements). By completing these courses students will be armed with the prerequisites necessary for 300-level courses in Geography. Our set of complementary courses provides students with necessary analytical skills and a broad background in physical geography. The 300-level courses in the complementary set prepare students for advanced study at the 400- and 500-level.

7.0 List of existing program and proposed program, continued

Existing program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required Courses, Complementary Courses, Elective Courses)

Required Courses (22 credits)

GEOG 201 Introductory Geo-Information Science (3 credits)
GEOG 203 Environmental Systems (3 credits)
GEOG 216 Geography of the World Economy (3 credits)
GEOG 217 Cities in the Modern World (3 credits)
GEOG 272 Earth's Changing Surface (3 credits)
GEOG 290 Local Geographical Excursion (1credit)
GEOG 302 Environmental Management (3 credits)
GEOG 351 Quantitative Methods (3 credits)

Complementary Courses (27 credits)

One course (3 credits) from the following statistics* courses.

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

BIOL 373 Biometry (3 credits)
GEOG 202 Statistics and Spatial Analysis (3 credits)
MATH 203 Principles of Statistics I (3 credits)
PSYC 204 Introduction to Psychological Statistics (3 credits)
SOC 350 Statistics in Social Research (3 credits)

One course (3 credits) from the following field courses:
(Field course availability is determined each year in February.)

GEOG 495 Field Studies - Physical Geography (3 credits)
GEOG 496 Geographical Excursion (3 credits)
GEOG 499 Subarctic Field Studies

One course (3 credits) from the following GIS/Remote Sensing courses:

GEOG 306 Raster Geo-Information Science (3 credits)
GEOG 308 Principles of Remote Sensing (3 credits)
GEOG 307 Socio-economic applications of GIS (3 credits)

Four courses (12 credits) from the following:

GEOG 305 Soils and Environment (3 credits)
GEOG 321 Climatic Environments (3 credits)
GEOG 322 Environmental Hydrology (3 credits)
GEOG 372 Running Water Environments (3 credits)
GEOG 470 Wetlands (3 credits)

Two additional courses (6 credits) from the list of approved Geography courses below, including at least one at the 400 level or above.

GEOG 404 Environmental Management 2 (3 credits)
GEOG 501 Modelling Environmental Systems (3 credits)
GEOG 505 Global Biogeochemistry (3 credits)
GEOG 506 Advanced Geographic Information Science (3 credits)
GEOG 523 Global Ecosystems and Climate (3 credits)
GEOG 535 Remote Sensing and Interpretation (3 credits)
GEOG 536 Geocryology (3 credits)
GEOG 537 Advanced Fluvial Geomorphology (3 credits)
GEOG 550 Historical Ecology Techniques (3 credits)
GEOG 555 Ecological Restoration (3 credits)

Proposed program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required Courses, Complementary Courses, Elective Courses)

Required Courses (13 credits)

GEOG 201 Introductory Geo-Information Science (3 credits)
GEOG 203 Environmental Systems (3 credits)
GEOG 272 Earth's Changing Surface (3 credits)
GEOG 290 Local Geographical Excursion (1credit)
GEOG 351 Quantitative Methods (3 credits)

Complementary Courses (36 credits)

3 credits of statistics*

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

BIOL 373 Biometry (3 credits)
GEOG 202 Statistics and Spatial Analysis (3 credits)
MATH 203 Principles of Statistics I (3 credits)
PSYC 204 Introduction to Psychological Statistics (3 credits)
SOC 350 Statistics in Social Research (3 credits)

3 credits of field courses

GEOG 495 Field Studies - Physical Geography (3 credits)
GEOG 496 Geographical Excursion (3 credits)
GEOG 499 Subarctic Field Studies

9 credits of systematic physical geography

GEOG 305 Soils and Environment (3 credits)
GEOG 321 Climatic Environments (3 credits)
GEOG 322 Environmental Hydrology (3 credits)
GEOG 470 Wetlands (3 credits)
GEOG 373 Arctic Geomorphology (3 credits)
GEOG 372 Running Water Environments (3 credits)

Students must take a total of 9 credits from the next 2 blocks; they will choose 6 credits from one block and 3 credits from the other, depending on their training focus.

3 or 6 credits of 300 level environmental analysis/techniques

GEOG 306 Raster Geo-Information Science (3 credits)
GEOG 308 Principles of Remote Sensing (3 credits)
GEOG 307 Socio-economic applications of GIS (3 credits)
GEOG 384 Principles of the Geoweb (3 credits)

3 or 6 credits (In Environment, Earth System and Sustainability Sciences)

ENVR 200 The Global Environment (3 credits)
ENVR 201 Society, Environ&Sustainability (3 credits)
ENVR 202 The Evolving Earth (3 credits)
ESYS 200 Earth System Processes (3 credits)
ESYS 300 Investigating the Earth System (3 credits)
GEOG 302 Environmental management (3 credits)
GEOG 360 Analyzing Sustainability (3 credits)
GEOG 460 Research in Sustainability (3 credits)

9 credits on human-environment linkages

GEOG 210 Global Places and Peoples (3 credits)
GEOG 216 Geography of the World Economy (3 credits)
GEOG 217 Cities in the Modern World (3 credits)
GEOG 221 Environment and Health (3 credits)

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7.0 List of existing program and proposed program

Existing program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required Courses, Complementary Courses, Elective Courses)

Proposed program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required Courses, Complementary Courses, Elective Courses)

GEOG 303 Health Geography (3 credits)
GEOG 310 Development and Livelihoods (3 credits)
GEOG 311 Economic Geography (3 credits)
GEOG 315 Urban Transportation Geography (3 credits)

3 credits of approved advanced courses in Geography, or elsewhere in the Faculty of Science that have been approved by the Program Advisor, including any geography courses from the above complementary lists.

Geography Approved Course List - Major, Honours and Liberal Programs

GEOG 404 Environmental Management 2 (3 credits)
GEOG 501 Modelling Environmental Systems (3 credits)
GEOG 505 Global Biogeochemistry (3 credits)
GEOG 506 Advanced Geographic Information Science (3 credits)
GEOG 523 Global Ecosystems and Climate (3 credits)
GEOG 530 Global Land & Water Resources
GEOG 535 Remote Sensing and Interpretation (3 credits)
GEOG 536 Geocryology (3 credits)
GEOG 537 Advanced Fluvial Geomorphology (3 credits)
GEOG 550 Historical Ecology Techniques (3 credits)
GEOG 555 Ecological Restoration (3 credits)

8.0 Consultation with Related Units <input type="checkbox"/> Yes <input type="checkbox"/> No	Financial Consult <input type="checkbox"/> Yes <input type="checkbox"/> No
Attach list of consultations	

9. Approvals			
Routing Sequence	Name	Signature	Date
Department	Prof. Nigel Roulet		Sept. 18, 2017
Curric/Acad Committee			
Faculty 1			
Faculty 2			
Faculty 3			
CGPS			
SCTP			
APC			
Senate			
Submitted by			
Name	Prof Gail Chmura	To be completed by ARR:	
Phone	514 9266854	CIP Code	
Email	Gail.chmura@mcgill.ca		
Submission Date			

10. FQRSC (Research) Indicator (for GPS): Yes No