

## B.Sc. Honours in Geography (Total: 66 credits)

The B.Sc. Honours program is more concentrated and focused than the Major Concentration. Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.30, and complete a 6-credit Honours thesis. Honours students are encouraged to participate in 500-level seminars with graduate students.

### *Required Courses*

The following 8 courses (24 credits) are required. Substitutions to this list may only be made on a case-by-case basis by prior approval of the Geography Undergraduate Advisor.

Course Number and Description	Cr	Semester taken or proposed	Completed
GEOG 201 Introductory Geo-Information Science	3	_____	_____
GEOG 203 Environmental Systems	3	_____	_____
GEOG 272 Earth's Changing Surface	3	_____	_____
GEOG 302 Environmental Management 1	3	_____	_____
GEOG 351 Quantitative Methods	3	_____	_____
GEOG 381 Geographic Thought and Practice	3	_____	_____
GEOG 491 D1 Honours Research	3	_____	_____
GEOG 491 D2 Honours Research	3	_____	_____

### *Complementary Courses (42 credits)*

Choose 2 courses (6 credits) from the following introductory Geography courses.

Course Number and Description	Cr	Semester taken or proposed	Completed
GEOG 210 Global Places and Peoples	3	_____	_____
GEOG 216 Geography of the World Economy	3	_____	_____
GEOG 217 Cities in the Modern World	3	_____	_____

Choose 1 course (3 credits) from the following statistics courses.\*

<b>Course Number and Description</b>	<b>Cr</b>	<b>Semester taken or proposed</b>	<b>Completed</b>
BIOL 373 Biometry	3	_____	_____
GEOG 202 Statistics and Spatial Analysis	3	_____	_____
MATH 203 Principles of Statistics 1	3	_____	_____
PSYC 204 Introduction to Psychological Statistics	3	_____	_____
SOCI 350 Statistics in Social Research	3	_____	_____

\* Credit given for statistics courses is subject to certain restrictions. Consult the “Course Overlap” information in the “Course Requirements” section for the Faculty of Science.

Choose 1 course (3 credits) from the following GIS/Remote Sensing courses.

<b>Course Number and Description</b>	<b>Cr</b>	<b>Semester taken or proposed</b>	<b>Completed</b>
GEOG 306 Raster Geo-Information Science	3	_____	_____
GEOG 308 Principles of Remote Sensing	3	_____	_____

Choose 4 courses (12 credits) from the following physical geography courses.

<b>Course Number and Description</b>	<b>Cr</b>	<b>Semester taken or proposed</b>	<b>Completed</b>
GEOG 305 Soils and Environment	3	_____	_____
GEOG 321 Climatic Environments	3	_____	_____
GEOG 322 Environmental Hydrology	3	_____	_____
GEOG 372 Running Water Environments	3	_____	_____
GEOG 470 Wetlands	3	_____	_____

Choose 1 course (3 credits) from the following field courses (availability to be announced in February).

Course Number and Description	Cr	Semester taken or proposed	Completed
GEOG 495 Field Studies - Physical Geography	3	_____	_____
GEOG 496 Geographical Excursion	3	_____	_____
GEOG 497 Ecology of Coastal Waters	3	_____	_____
GEOG 499 Subarctic Field Studies	3	_____	_____

An additional **five** courses (15 credits) must be taken from the list of approved Geography courses, or elsewhere in the Faculty of Science or Faculty of Engineering. Note that at least **three** of these five courses are to be taken outside geography. Students may also include any courses that are not already counted towards the GIS techniques or the systematic physical geography requirements.

I. Select **no more** than **two** geography courses from the list provided below.

Course Number and Description	Cr	Semester taken or proposed	Completed
GEOG 404 Environmental Management 2	3	_____	_____
GEOG 501 Modelling Environmental Systems	3	_____	_____
GEOG 505 Global Biogeochemistry	3	_____	_____
GEOG 506 Advanced Geographic Information Science	3	_____	_____
GEOG 522 Advanced Environmental Hydrology	3	_____	_____
GEOG 523 Global Ecosystems and Climate	3	_____	_____
GEOG 535 Remote Sensing and Interpretation	3	_____	_____
GEOG 536 Geocryology	3	_____	_____
GEOG 537 Advanced Fluvial Geomorphology	3	_____	_____
GEOG 550 Historical Ecology Techniques	3	_____	_____
GEOG 555 Ecological Restoration	3	_____	_____

II. Depending on the number of Geography courses taken in section I above, identify between **three to five non-geography** courses from the list of approved courses in the Faculty of Science or Engineering.

Course Number and Description	Cr	Semester taken or proposed	Completed
1.		_____	_____
2.		_____	_____
3.		_____	_____
4.		_____	_____
5.		_____	_____

**This is the course list that will meet the B.Sc. Major in Geography requirement for 9 credits outside Geography. Some courses have prerequisites in the host department. Certain courses have overlap. Some courses require the permission of the department advisor. (2011)**

**Faculty of Science, including School of Computer Science**

- ATOC 214 Introduction: Physics of the Atmosphere
- ATOC 215 Oceans, Weather and Climate
- ATOC 219 Introduction to Atmospheric Chemistry (not open to students with CHEM 219)
- ATOC 309 Weather Radars and Satellites
- BIOL 215 Introduction to Ecology and Evolution
- BIOL 240 Monteregian Flora (not open to students with PLNT 358)
- BIOL 304 Evolution
- BIOL 305 Animal Diversity
- BIOL 307 Behavioural Ecology/Sociobiology (not open to students with WILD 311)
- BIOL 308 Ecological Dynamics
- BIOL 309 Mathematical Models in Biology
- BIOL 310 Biodiversity and Ecosystems
- BIOL 324 Ecological Genetics
- BIOL 331 Ecology/Behaviour Field Course
- BIOL 334 Applied Tropical Ecology
- BIOL 335 Marine Mammals
- BIOL 342 Marine Biology
- BIOL 350 Insect Biology and Control
- BIOL 352 Vertebrate Evolution
- BIOL 355 Trees: Ecology and Evolution
- BIOL 385 Plant Growth and Development
- BIOL 432 Limnology
- BIOL 441 Biological Oceanography
- BIOL 442 Marine Biology
- BIOL 465 Conservation Biology
- BIOL 485 Plant Growth and Development
- CHEM 203 Survey of Physical Chemistry
- CHEM 204 Physical Chemistry/Biological Sciences 1
- CHEM 212 Introductory Organic Chemistry 1
- CHEM 214 Physical Chemistry/Biological Sciences 2
- CHEM 219 Introduction to Atmospheric Chemistry (not open to students with ATOC 219)
- CHEM 287 Introductory Analytical Chemistry

CHEM 307	Analytical Chemistry of Pollutants
COMP 202	Introduction to Computing 1
COMP 203	Introduction to Computing 2
EPSC 334	Invertebrate Paleontology
EPSC 425	Sediments to Sequences
EPSC 435	Applied Geophysics
MATH 222	Calculus 3
MATH 314	Advanced Calculus
MATH 323	Probability
MATH 324	Statistics
PHYS 230	Dynamics of Simple Systems
PHYS 232	Heat and Waves

### **Faculty of Engineering**

CIVE 327	Fluid Mechanics and Hydraulics
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### **MACDONALD CAMPUS**

#### **Departments of Agriculture and Environmental Sciences, Natural Resource Sciences, Parasitology and Plant Science**

AGRI 341	Ecological Agriculture Systems
AGRI 411	International Agriculture
AGRI 435	Soil and Water Quality Management
ENTO 330	Insect Biology
ENTO 336	Economic Entomology
ENTO 352	Control of Insect Pests
ENTO 440	Insect Diversity
ENTO 535	Aquatic Entomology
ENVB 305	Population and Community Ecology
ENVB 313	Phylogeny and Biogeography (not open to students with WILD 313)
ENVB 437	Assessing Environmental Impact (not open to students with WILD/NRSC 437)
MICR 331	Microbial Ecology
MICR 450	Environmental Microbiology
NRSC 333	Pollution and Bioremediation
NRSC 382	Ecological Monitoring and Analysis
NRSC 383	Land Use: Redesign and Planning
PARA 410	Environment and Infection
PLNT 353	Plant Structure and Function
PLNT 358	Flowering Plant Diversity (not open to students with BIOL 240)
PLNT 361	Pest Management and the Environment
PLNT 460	Plant Ecology
SOIL 315	Soil Fertility and Fertilizer Use
SOIL 335	Soil Ecology and management
WILD 307	Natural History of Vertebrates
WILD 311	Ethology (not open to students with BIOL 307)
WILD 410	Wildlife Ecology
WILD 420	Ornithology
WILD 475	Desert Ecology
WOOD 300	Urban Forests and Trees
WOOD 441	Integrated Forest Management