ENVIRONMENT MAJOR - EARTH SCIENCES AND ECONOMICS (B.SC.) (66 CREDITS)

Offered by: Bieler School of Environment
Degree: Bachelor of Science
Program credit weight: 66

Program Description

The resources necessary for human society are extracted from the Earth, used as raw materials in our factories and refineries, and then returned to the Earth as waste. Geological processes produce resources humans depend on, and they also determine the fate of wastes in the environment. Understanding Earth's geologic 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.

This domain includes the fundamentals of each discipline. Students learn of minerals, rocks, soils, and waters and how these materials interact with each other and with the atmosphere. Fundamental economic theory and the economic effects of public policy toward resource industries, methods of waste disposal, and the potential effects of global warming on the global economy are also explored.

Degree Requirements — B.Sc.

This program is offered as part of a Bachelor of Science (B.Sc.) degree.

To graduate, students must satisfy both their program requirements and their degree requirements.

- The program requirements (i.e., the specific courses that make up this program) are listed under the Course Tab (above).
- The degree requirements—including the mandatory Foundation program, appropriate degree structure, and any additional components—are outlined on the Degree Requirements page.

Students are responsible for ensuring that this program fits within the overall structure of their degree and that all degree requirements are met. Consult the Degree Planning Guide on the SOUSA website for additional guidance.

Note: For information about Fall 2025 and Winter 2026 course offerings, please check back on May 8, 2025. Until then, the "Terms offered" field will appear blank for most courses while the class schedule is being finalized.

Suggested First Year (U1) Courses

For suggestions on courses to take in your first year (U1), you can consult the "Bieler School of Environment Student Handbook" available on the website (http://www.mcgill.ca/environment), or contact Kathy Roulet, the Program Adviser (kathy.roulet@mcgill.ca).

Program Requirements

Note: Students are required to take a maximum of 34 credits at the 200 level and a minimum of 15 credits at the 400 level or higher in this program. This includes core and required courses.

Location Note: When planning your schedule and registering for courses, you should verify where each course is offered because courses for this program are taught at both McGill's Downtown campus and at the Macdonald campus in Sainte-Anne-de-Bellevue.

Core: Required Courses (18 credits)

Location Note: Core required courses are taught at both McGill's Downtown campus and at the Macdonald campus in Sainte-Anne-de-Bellevue. You should register in Section 001 of an ENVR course that you plan to take on the Downtown campus, and in Section 051 of an ENVR course that you plan to take on the Macdonald campus.

Expand allContract all

Course	Title	Credits
ENVR 200	The Global Environment.	3
ENVR 201	Society, Environment and Sustainability.	3
ENVR 202	The Evolving Earth.	3
ENVR 203	Knowledge, Ethics and Environment.	3
ENVR 301	Environmental Research Design.	3
ENVR 400	Environmental Thought.	3

Core: Complementary Course - Senior Research Project (3 credits)

Only 3 credits will be applied to the program; extra credits will count as electives.

Expand allContract all

Course	Title	Credits
ENVR 401	Environmental Research.	3
ENVR 451	Research in Panama.	6
FSCI 444	Barbados Research Project.	6

Domain: Required Courses (21 credits)

Expand allContract all

Course	Title	Credits
ECON 230D1	Microeconomic Theory.	3
ECON 230D2	Microeconomic Theory.	3
ECON 405	Natural Resource Economics.	3
EPSC 210	Introductory Mineralogy.	3
EPSC 212	Introductory Petrology.	3

EPSC 220	Principles of Geochemistry.	3
EPSC 240	Geology in the Field.	3

Domain: Complementary Courses (24 credits)

24 credits of complementary courses are selected as follows:

3 credits - Statistics courses

12 credits - Economic Resources

9 credits - Natural Resources

Statistics

One of the following Statistics courses or equivalent:

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.

Expand allContract all

Course	Title	Credits
AEMA 310	Statistical Methods 1.	3
GEOG 202	Statistics and Spatial Analysis.	3
MATH 203	Principles of Statistics 1.	3

Economic Resources

12 credits from:

Expand allContract all

Course	Title	Credits
AGEC 333	Resource Economics.	3
ECON 209	Macroeconomic Analysis and Applications.	3
ECON 305	Industrial Organization.	3
ECON 313	Economic Development 1.	3
ECON 314	Economic Development 2.	3
ECON 326	Ecological Economics.	3
ECON 347	Economics of Climate Change.	3
ECON 408	Public Sector Economics 1.	3
ECON 409	Public Sector Economics 2.	3
ECON 416	Topics in Economic Development 2.	3
ECON 511	Energy, Economy and Environment.	3
ECON 525	Project Analysis.	3
ENVB 437	Assessing Environmental Impact.	3
ENVR 422	Montreal Urban Sustainability Analysis.	3

Natural Resources

9 credits from:

Expand allContract all

Course	Title	Credits
AGRI 550	Sustained Tropical Agriculture.	3
ANTH 451	Research in Society and Development in Africa.[1]	3
BIOL 343	Biodiversity in the Caribean.	3
BIOL 451	Research in Ecology and Development in Africa.[1]	3
BIOL 553	Neotropical Environments.	3
ENVB 500	Advanced Topics in Ecotoxicology.	3
ENVB 529	GIS for Natural Resource Management.[1]	3
ENVR 421	Montreal: Environmental History and Sustainability.	3
EPSC 325	Environmental Geochemistry.	3
EPSC 331	Field School 2.	3
EPSC 341	Field School 3.	3
EPSC 355	Sedimentary Geology.	3
EPSC 425	Sediments to Sequences.	3
EPSC 435	Applied Geophysics.	3
EPSC 452	Mineral Deposits.	3
EPSC 519	Isotopes in Earth and Environmental Science.	3
EPSC 549	Hydrogeology.	3
EPSC 590	Applied Geochemistry Seminar.	3
GEOG 201	Introductory Geo-Information Science.[1]	3
GEOG 302	Environmental Management 1.	3
GEOG 305	Soils and Environment.	3
GEOG 322	Environmental Hydrology.	3
GEOG 451	Research in Society and Development in Africa.[1]	3
MIME 320	Extraction of Energy Resources.	3
NRSC 451	Research in Ecology and Development in Africa.[1]	3
SOIL 300	Geosystems.	3
SOIL 315	Soil Nutrient Management.	3
SOIL 326	Soils in a Changing Environment.	3
SOIL 535	Soil Ecology.	3

1 ANTH 451 Research in Society and Development in Africa. or GEOG 451 Research in Society and Development in Africa. can be taken, but not both; BIOL 451 Research in Ecology and Development in Africa. or NRSC 451 Research in Ecology and Development in Africa. can be taken, but not both; ENVB 529 GIS for Natural Resource Management. or GEOG 201 Introductory Geo-Information Science. can be taken, but not both.