

M.Sc. (Non-Thesis) Bioresource Engineering - Integrated Water Resources Management Program Information Sheet

Program Sequence (45 credits)

Fall Term Admission

FALL	WINTER	SUMMER	
13 credits	13 credits	19 credits	
BREE 651 Seminar (1)	BREE 652 Seminar (1)	BREE 630 IWRM Internship (13)	
BREE 503 (3), BREE 510 (3)	BREE 655 (3), PARA 515 (3)	BREE 631 Research Project (6)	
6 credits electives	6 credits electives		

Winter Term Admission

WINTER	SUMMER	FALL	WINTER
13 credits	0 credits	13 credits	19 credits
BREE 651 Seminar (1)	Scheduled break in program	BREE 652 Seminar (1)	BREE 630 IWRM Internship (13)
BREE 655 (3), PARA 515 (3)		BREE 503 (3), BREE 510 (3)	BREE 631 Research Project (6)
6 credits electives		6 credits electives	

Required Courses (33 credits):

BREE 503 Water: Society, Law and Policy	BREE 651 Departmental Seminar M.Sc. 1
BREE 510 Watershed Systems Management	BREE 652 Departmental Seminar M.Sc. 2
BREE 630 IWRM Internship	BREE 655 IWRM Research Visits
BREE 631 IWRM Project	PARA 515 Water, Health and Sanitation

International students are obliged to register for a minimum of 12 credits per term (full-time status) to fulfill their study permit obligations.

Note on BREE 503: Course instructor Dr. Murray Clamen normally holds a pre-meeting prior to the start of classes. An invitation will be sent by e-mail.

Note on BREE 510 Registration: The BREE 510 Tutorial section is not a session that needs to be attended. Please ignore any timetable "conflicts" that may arise because of the tutorial. You may register for other courses that take place during the same time as the tutorial.

Note on BREE 651 & 652 Registration: Attendance to SEMINAR section is mandatory. The CONFERENCE sections are not sessions that need to be attended more than three times per year; they are there for students to use to be able to practice their seminar. Please ignore any timetable "conflicts" that may arise because of the Conference. You may register for other courses that take place during the same time as the Conferences.

Note on BREE 630 and 631 Registration: You must register for these two courses "simultaneously" on Minerva as they are co-requisites. If you try to add them separately you will get a pre-requisite error. Meetings will be held regarding the internship, in the fall term of your program. **Summer term registration opens in MARCH.**

Elective Courses (12 credits):

Certain courses have a pre-requisite or require permission of the instructor in order to register. You can e-mail the instructor directly to request a permit to register for the course on Minerva, stating 1) the reason you would like to take the course, and 2) proof of any required pre-requisites. You also need to provide your name, McGill ID, and the name of the program you are in (M.Sc. (non-thesis), Integrated Water Resource Management) and the name of our Faculty (Agricultural and Environmental Sciences) in some cases, if the course is in another faculty. You may also e-mail the instructor **if a course is FULL** to inquire if there are any extra spaces that could be made available. Contact information for faculty and staff can generally be found here:

<https://www.mcgill.ca/directory/staff/>

Important note about choosing an appropriate elective: It is strongly recommended you e-mail the course instructor to confirm that you have the appropriate background for a course. You should confirm the course requirements before registering for a course. Be sure you have an adequate background to succeed in that particular course. **McGill Graduate Grading Policy:** The minimum passing grade for a graduate student is B- (65%). **McGill Graduate Failure Policy:** After a second course failure a student will be withdrawn from the university.

APPROVED ELECTIVE COURSES:

In the list below are courses which have been approved as potential elective courses for your IWRM program. This list of courses is not exhaustive. Program Advisor approval required for any course NOT on this list. This list is subject to change as course offerings at McGill are updated each year. Note that many courses are given by departments on the downtown campus and some courses may have a lab component. Please note that the availability of courses varies every year: Some are only offered bi-yearly and others may not be offered for other reasons. You are encouraged to explore the McGill course catalogue. It may happen in a given year that the timetable of a course you are interested in conflicts with the core IWRM course timetable. This is unfortunately unavoidable. Note you may not take an elective course whose timetable overlaps with that of a core IWRM course. Timetables change each year so you may be able to take different courses, depending on the year.

To explore other course possibilities, please browse through the course listings (link below) or search within Minerva's registration menu (advanced filters) in related departments and verify permissions and pre-requisites. **ALL COURSES MUST BE graduate-level, i.e, 500-level or higher.**

<https://www.mcgill.ca/study/courses/search>

AGEC 630 (3) Food and Agricultural Policy

AGEC 633 (3) Environmental and Natural Resource Economics

AGEC 642 (3) Economics of Agricultural Development

ARCH 564 (3) Design for Development

ATOC 512 (3) Atmospheric and Oceanic Dynamics

BREE 501 (3) Simulation and Modelling

BREE 502 (3) Drainage/Irrigation Engineering

BREE 506 (3) Advances in Drainage Management

BREE 509 (3) Hydrologic Systems and Modelling

BREE 515 (3) Soil Hydrologic Modelling

BREE 518 (3) Ecological Engineering

BREE 520 (3) Food, Fibre and Fuel Elements

BREE 529 (3) GIS for Natural Resource Management

BREE 533 (3) Water Quality Management

BREE 608 (3) Special Problems in Bioresource Engineering* Independent project or approved 400-level course - FORM REQUIRED*

BUSA 664 (3) Creating the Small Business

BUSA 665 (3) Managing the Small Enterprise

CHEE 521 (3) Nanomaterials and the Aquatic Environment

CHEE 591 (3) Environmental Bioremediation

CHEE 593 (3) Industrial Water Pollution Control

CIVE 520 (3) Groundwater Hydrology

CIVE 550 (3) Water Resources Management

CIVE 551 (3) Environmental Transport Processes

CIVE 555 (3) Environmental Data Analysis

CIVE 561 (3) Greenhouse Gas Emissions

CIVE 572 (3) Computational Hydraulics

CIVE 574 (3) Fluids Mechanics of Water Pollution

CIVE 577 (3) River Engineering

CIVE 584 (3) Mechanics of Groundwater Flow

CIVE 651 (4) Theory: Water/Wastewater Treatment

CIVE 652 (4) Bioprocesses for Wastewater Recovery

CIVE 660 (4) Chemical and Physical Treatment of Waters

CIVE 677 (4) Water - Energy Sustainability

ECON 511 (3) Energy, Economy, and Environment

ECON 625 (3) Economics of Natural Resources

ENVB 500 (3) Advanced Topics in Ecotoxicology

ENVB 506 (3) Quantitative Methods: Ecology

ENVB 529 (3) GIS for Natural Resource Management

ENVB 530 (3) Advanced GIS for Natural Resource Management

ENVR 610 (3) Foundations of Environmental Policy
ENVR 614 (3) Mobilizing Research for Sustainability
ENVR 615 (3) Interdisciplinary Approach Environment & Sustainability
ENVR 630 (3) Civilization and Environment
ESYS 500 (3) Earth System Applications
GEOG 502 (3) Geography of Northern Development
GEOG 503 (3) Advanced Topics in Health Geography
GEOG 505 (3) Global Biogeochemistry
GEOG 506 (3) Advanced Geographic Information Science
GEOG 509 (3) Qualitative Methods
GEOG 512 (3) Advanced quantitative methods in social field research
GEOG 514 (3) Climate Change Vulnerability and Adaptation
GEOG 515 (3) Contemporary Dilemmas of Development
GEOG 525 (3) Asian Cities in the 21st Century
GEOG 530 (3) Global Land and Water Resources
GEOG 535 (3) Remote Sensing and Interpretation
GEOG 537 (3) Advanced Fluvial Geomorphology
GEOG 540 (3) Topics in Geography
GEOG 601 (3) Advanced Environmental Systems Modelling
GEOG 670 (3) Wetlands - Advanced
LAWG 570 (3) Innovation for Non-Law Students
MGPO 640 (3) Strategies for Sustainable Development
MGPO 651 (3) Strategic Management: Developing Countries
MGPO 692 (3) Systems Thinking and Sustainability
NRSC 612 (3) Environmental Assessment and Sustainable Development
NRSC 670 (3) Principles of Environmental Health Sciences 1
NRSC 671 (3) Principles of Environmental Health Sciences 2
NUTR 501 (3) Nutrition in Developing Countries
NUTR 641 (3) Advanced Global Food Security
PPHS 511 (3) Fundamentals of Global Health
PPHS 529 (3) Global Environmental Health and the Burden of Disease
PPHS 602 (3) Foundations of Population Health
PPHS 624 (3) Public Health Ethics and Policy
SEAD 515 (3) Climate Change Adaptation and Engineering Contact tised@mcgill.ca - Engineering background required.
SEAD 520 (3) Life Cycle-Based Environmental Footprinting Contact tised@mcgill.ca - Engineering background required.
SEAD 530 (3) Economics for Sustainability in Engineering and Design Contact tised@mcgill.ca - Engineering background required.
SEAD 540 (3) Industrial Ecology and Systems Contact tised@mcgill.ca - Engineering background required.
SEAD 550 (3) Decision-Making for Sustainability in Engineering and Design Contact tised@mcgill.ca - Engineering background required.
SOCI 504 (3) Quantitative Methods 1
SOCI 545 (3) Sociology of Population
URBP 505 (3) Geographic Information Systems
URBP 506 (3) Environmental Policy and Planning
URBP 553 (3) Urban Governance
<i>* Contact laura.wittebol@mcgill.ca and your Program Advisor for information on how to register for this course.</i>
If you cannot find an elective there is the possibility to take a 400-level undergraduate course as a graduate-level course , but special permissions are required; please contact Laura Wittebol if you would like more information on this.
Examples of 400-level courses previously taken as graduate-level (BREE 608):
BREE 420 Engineering for Sustainability ENVB 415 Ecosystem Management
AGRI 435 Soil & Water Quality Management AGRI 411 Global Issues on Development, Food, and Agriculture

ELECTIVE COURSES FROM OUTSIDE MCGILL UNIVERSITY

Courses at other Quebec or Canadian universities are permitted for your program with approval from your Program Advisor. They must be graduate-level courses and must go toward your program requirements. To request registration for a course **at another Quebec university**, you must use the on-line Inter-University Transfer system. For the procedure to take **courses in Canadian universities outside Quebec**, please consult Dr. Laura Wittebol. An inter-university course is NOT RECOMMENDED in the final term of your program, as there can be delays in receiving grades from the other university that can delay your graduation. The maximum number of credits you may register for outside McGill during the IWRM program is 7.

Link to Inter-university transfer <https://www.mcgill.ca/transferecredit/iut>

Past examples from Concordia University:

CIVI 6611 (4) Environmental Engineering	GEOG 607 (3) Indigenous Peoples and the Environment
CIVI 6651 (4) Water Pollution and Control	GEOG 610 (3) Impact Assessment
CIVI 6621 (4) Engineering Aspects Biological Treatment Water and A	GEOG 620 (3) Advanced Topics in Geography (if topic = GIS)
ENVS 603 (3) Water Resource Management	GEOG 670 (3) Environmental Management
ENVS 604 (3) Environmental Law and Policy	HENV 650 (3) Political Economy and the City
ENVS 620 (3) Special Topics in Env. Sci. (must verify topic)	HENV 670 (3) Environmental Governance
ENVS 652 (3) Data Collection and Analysis for EA	
ENVS 653 (3) GIS for Environmental Assessment	
ENVS 605 (3) Environmental Standards	
ENVS 653 (3) Geographical Information Systems for Env. Assessment	

Link to Concordia's course calendar: <https://www.concordia.ca/academics/graduate/calendar/current.html>

Link to Concordia Catalogue https://campus.concordia.ca/pscspdrd/EMPLOYEE/HRMS/c/SEARCH_TOOL?&CU_EXT.CU_CLASS_SEARCH.GBL

Other participating Quebec universities include Université de Montréal, École polytechnique, and Université du Québec à Montréal, etc.