

Environmental Science Course Offerings and Descriptions for fall 2021 and winter 2022

Fall 2021

ENVS 6000, Environmental Science and Technology

Instructor: Dr. Amir Ali Khan

Schedule: Thurs 2:00 – 5:00 pm

St. John's Classroom: IIC 2001

Grenfell Classroom: AS 379

This is the common, first course for the interdisciplinary Graduate Program in Environmental Science and as such it needs to lay some of the groundwork for subsequent coursework in this program. More importantly however, this course is primarily designed to introduce students to the scope and interdisciplinary nature of environmental science. Further, it will also serve to introduce students to the breadth of research being done by the faculty members participating in this program across campus as well as other researchers in the region.

This course will be offered on Thursdays both in-class and online using Brightspace online rooms. Students in the St. John's area will meet in IIC 2002, and students in the Grenfell area will meet in AS 379 and join in remotely. There will be occasional live lectures by researchers, and students will need to make presentations. These can be pre-recorded or made live. Either way a recording will be made available to the remaining students.

ENVS 6001, Earth and Ocean Systems

Instructor: Dr. Norm Catto

St. John's Classroom: SN 4073

Grenfell Classroom: AS 383

Optional Synchronous sessions: **Wednesday 1-4, SN-4073**. These sessions will be recorded; attendance is entirely optional. We will discuss topics in Earth & Ocean Systems with reference to those of interest for Environmental Science and in accordance with student interests. Videos and notes for all sessions and assignments will be posted on-line at <http://www.online.mun.ca/>. A course blurb can be found [here](#).

ENVS 6002, Environmental Chemistry and Toxicology

Instructor: Dr. Heather Reader

Schedule: Tuesdays and Thursday from 10:30 am – 11:45 am

St. John's Classroom: C 3053

Grenfell Classroom: AS 383

Environmental chemistry is the study of the sources, reactions, transport, fates and effects of natural and man-made substances in air, water, and soil, and how they are affected by human activity. Environmental toxicology focusses on the effect of harmful substances on organisms and ecosystems. Out of these two closely related fields has arisen the study of green chemistry which seeks to reduce or

eliminate the generation and use of hazardous chemicals and processes. We will meet weekly to chemistry, marine chemistry, and toxicology: routes of exposure of organisms to environmental toxicants, fate of environmental toxicants, mechanisms of action of toxicants, role of environmental pollution in human disease.

ENVS 6009, Project Report in Environmental Science

Instructor: Each student's individual supervisor

*Note that this course is offered every semester.

The project report provides an opportunity for the student to create an original perspective on a selected environmental issue through the reading of appropriate literature and reinterpretation of other sources of information (e.g. existing data). Normally the project will be multidisciplinary or interdisciplinary in nature. The project report will be equivalent to a review article in a journal, or a consultant's report on a particular environmental issue. Collection of new data from the field or laboratory and analysis of this new data is permitted, but not required for the MEnvSci degree.

MEnvSci students register for ENVS 6009 in the semester in which they plan to submit their report for examination, typically when all other course work has been completed. Students must follow the format requirements (margins, pagination, etc.) as outlined in the Guidelines for Theses and Reports on the School of Graduate Studies website. You must submit your paper to the program assistant by email (PDF format preferred), so that it can be sent out for examination. In order to meet the deadlines for convocation, please keep the following in mind:

- examiners need enough time to review the report, comment on it, and return it to the student for corrections;
- the student makes the corrections in consultation with the supervisor;
- the student submits the final copy by email, along with the Report Deposit form, to the program assistant at the Dean of Science Office;
- the program assistant submits the grade to the Registrar's Office and ensures the Recommendation for Award of a Graduate Degree form is sent to the School of Graduate Studies by their deadline.

The recommended deadlines for submitting your report so that we can best avoid delays in completing your requirements for the semester are:

- Fall semester - November 15
 - Winter semester - March 15
 - Spring semester - July 15
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Winter 2021

ENVS 6003, Applied Ecology

Instructor: Dr. Paul Marino

Schedule: TBD

Applied Ecology ENVS6003 is an advanced graduate course on the applied ecology –on applications of science of ecology to real-world problems: policies and management. We will cover recent topics of particular importance to environmental sciences, and discuss examples of their applications considering the application of the science of ecology to real world questions. The practical and local-relevance component of the course includes reading and commenting on examples of actual environmental assessments and policy discussion papers in Newfoundland and Labrador.

ENVS 6007/ ENGI 9609, Environmental Risk Assessment (*this course will only be offered if ENGI 9609 is being offered).

Instructor: TBD

Schedule: TBD

Elements of risk assessment; measuring and analyzing hazards and risks; risk assessment goals, concept in risk assessment; risk assessment process; hazard identification, release assessment modeling,, exposure response evaluation, risk characterization and consequence determination; risk assessment techniques and methods of approach; dose-response models; risk based criteria for remedial action planning, probabilistic risk assessment; management decisions from risk assessment; multi-media fate and transport modeling; bio-concentration and accumulation of risk agents; case studies and applications.

ENVS 6010, Environmental Seminar

Instructor: Dr. Evan Edinger

Schedule: Thursdays from 9:00 am to 12:00 pm

The practice of environmental science inevitably involves verbal communication of results to peers and colleagues, clients, students and/or the public. This seminar course is primarily intended to provide a forum for student discourse of the environmental science problems they have chosen for their respective research projects. It is also a vehicle to develop skills in critically examining project proposals and/or research results of colleagues. There will be a seminar on presentation skills early in the semester given by an expert in this area.