

Department of Biology Course Outline

SC/BIOL 4700 3.00 Current Topics in Environmental Biology Winter 2018

Course Description

A review of recent advances in environmental biology with an emphasis on current research, experimental design and biological methods. This includes (but is not limited to): environmental stressors, population ecology, community ecology, behavioural ecology, paleoecology, population genetics, physiology, aquatic ecology, terrestrial ecology, quantitative ecology, and environmental management.

Three lecture hours per week. One term. Three credits.

Prerequisites

Prerequisites: SC/BIOL 2050 4.00 and SC/BIOL 2060 3.00.

Course Instructors and Contact Information

Instructor: Dr. Sapna Sharma

Office: Room 326, Lumbers Building

Email: sharma11@yorku.ca

Phone: 416-736-2100 ext. 33761

Office Hours: Please email to set up an appointment

Schedule

Wednesday from 11:30-2:30

January 8 – Bethune College 320; Remainder of semester: Bethune College 203

Exception February 12: HNES 140

Evaluation

Written Critique: 15%

Newspaper Article: 15%

Oral Presentation: 20%

Participation: 10%

Term Project Poster: 30%

Term Project Presentation: 10%

Written Assignments: Students must submit a hard-copy of the assignments to the Course Instructor at the beginning of the class session. Extensions will not be granted to students unless there are extenuating circumstances accompanied by an official note (e.g., from a medical doctor or funeral director). Students must inform the Course Instructor within 24 hours of an extenuating circumstance that prevents the submission of the written assignment. Ten percent of the mark of the assignment will be deducted for each day the assignment is late.

Oral Presentations: One or more students will present an oral presentation and facilitate discussion in each class. Unfortunately, if a student misses their presentation date, the class cannot run effectively. Therefore, every student has a responsibility to present and facilitate discussions on their chosen date and no extensions will be granted. If the student misses their presentation, they will receive a mark of 0 on the assignment. Students should meet with the Course Instructor prior to their presentation date to ask questions and solicit feedback.

Participation: Your participation is important to the success of the course. Students will be evaluated on their participation in Oral Presentations and Discussions by the Course Instructor and their peers, in addition to self-evaluation.

Important Dates

Important Date: March 13, 2018: Drop deadline without receiving a grade

NOTE: for additional important dates such as holidays, refer to the "Important Dates" section of the Registrar's Website at <http://www.yorku.ca/yorkweb/cs.htm>

Resources

Required and Recommended Reading: There is no required textbook for the course. However, there will be required and recommended reading from the primary and secondary literature which will be assigned to students each week. Required and recommended readings will be made available prior to each class.

Learning Outcomes

The 'capstone' course prepares students to be a practicing environmental biologist exposing students to cutting-edge experimental design, methodology, and recent advances in environmental biology. The course will include group discussions, research seminars, critiques of research articles in the primary literature, and traditional lectures. In this course, students will (but not limited to):

- i. develop critical thinking and problem-solving skills
- ii. develop effective written and oral communication skills
- iii. gain an understanding of the research methods in biology that enable the student to effectively evaluate the appropriateness of different established strategies/techniques to solve problems
- iv. gain an awareness of current issues in environmental biology
- v. gain the ability to effectively design and implement environmental biology research projects

Course Content

Date	Topic	What's Due?
08-Jan	Introduction & How to Read a Paper	
15-Jan	Aquatic Invasive Species	
22-Jan	Climate change and lake ice dynamics	Presentation 1
29-Jan	Effects of pesticides on birds	Presentation 2
05-Feb	Agricultural nutrient loading in the Great Lakes	Presentation 3
12-Feb	Road salts in Ontario watersheds	Critique
19-Feb	READING WEEK; No Class	
26-Feb	Paleolimnology	Presentation 4
04-Mar	Impacts of climate change on fisheries & habitat	Presentation 5
11-Mar	Fish and Hormones	
18-Mar	Ecological interactions and conservation priorities	Pres. 6; Newspaper Article
25-Mar	Phenology in a changing climate	
01-Apr	Term Project Presentations	Term Project

Experiential Education and E-Learning

The assignments covered in class all represent assignments one might do as a practitioner in an Environmental Biology career, including: conveying scientific information critically and concisely both orally and in writing, conducting public outreach, and undertaking an independent research project that may lead to a conference presentation and scientific publication. Students will learn how to access and submit scientific information online.

Other Information

Special Circumstances: Students who feel that there are circumstances that may interfere with their ability to successfully complete the course requirements are encouraged to discuss the matter with the Course Instructor as soon as possible.

Course Policies

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Error policy: The instructor reserves the right to amend or correct the course outline.

University Policies

Academic Honesty and Integrity

York students are required to maintain the highest standards of academic honesty and they are subject to the Senate Policy on Academic Honesty (<http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/>). The Policy affirms the responsibility of faculty members to foster acceptable standards of academic conduct and of the student to abide by such standards.

There is also an academic integrity website with comprehensive information about academic honesty and how to find resources at York to help improve students' research and writing skills, and cope with University life. Students are expected to review the materials on the Academic Integrity website at - <http://www.yorku.ca/academicintegrity/>

Access/Disability

York University is committed to principles of respect, inclusion and equality of all persons with disabilities across campus. The University provides services for students with disabilities (including physical, medical, learning and psychiatric disabilities) needing accommodation related to teaching and evaluation methods/materials. These services are made available to students in all Faculties and programs at York University.

Students in need of these services are asked to register with disability services as early as possible to ensure that appropriate academic accommodation can be provided with advance notice. You are encouraged to schedule a time early in the term to meet with each professor to discuss your accommodation needs. Please note that registering with disabilities services and discussing your needs with your professors is necessary to avoid any impediment to receiving the necessary academic accommodations to meet your needs.

Additional information is available at the following websites:

Counselling & Disability Services - <http://cds.info.yorku.ca/>

Counselling & Disability Services at Glendon - <http://www.glendon.yorku.ca/counselling/personal.html>

York Accessibility Hub - <http://accessibilityhub.info.yorku.ca/>

Ethics Review Process

York students are subject to the York University *Policy for the Ethics Review Process for Research Involving Human Participants*. In particular, students proposing to undertake research involving human participants (e.g., interviewing the director of a company or government agency, having students complete a questionnaire, etc.) are required to submit an *Application for Ethical Approval of Research Involving Human Participants* at least one month before you plan to begin the research. If you are in doubt as to whether this requirement applies to you, contact your Course Director immediately.

Religious Observance Accommodation

York University is committed to respecting the religious beliefs and practices of all members of the community, and making accommodations for observances of special significance to adherents. Should any of the dates specified in this syllabus for an in-class test or examination pose such a conflict for you, contact the Course Director within the first three weeks of class. Similarly, should an assignment to be completed in a lab, practicum placement, workshop, etc., scheduled later in the term pose such a conflict, contact the Course director immediately. Please note that to arrange an alternative date or time for an examination scheduled in the formal examination periods (December and April/May), students must complete an Examination Accommodation Form, which can be obtained from Student Client Services, Student Services Centre or online at <https://secure.students.yorku.ca/pdf/religious-accommodation-agreement-final-examinations.pdf>

Student Conduct in Academic Situations

Students and instructors are expected to maintain a professional relationship characterized by courtesy and mutual respect. Moreover, it is the responsibility of the instructor to maintain an appropriate academic atmosphere in the classroom and other academic settings, and the responsibility of the student to cooperate in that endeavour. Further, the instructor is the best person to decide, in the first instance, whether such an atmosphere is present in the class. The policy and procedures governing disruptive and/or harassing behaviour by students in academic situations is available at - <http://secretariat-policies.info.yorku.ca/policies/disruptive-and-or-harassing-behaviour-in-academic-situations-senate-policy/>