

# Lake Ecosystem Dynamics

(Physical-biological coupling in lake ecosystems)

**EEB410H1**  
(formerly EEB310H1)

## Instructors

Prof. H el ene Cyr, [helene.cyr@utoronto.ca](mailto:helene.cyr@utoronto.ca)

## Dates

August 20-31, 2012; Arrival late Sunday, August 19.

## Location

Harkness Fisheries Research Laboratories, Algonquin Park, ON  
[www.harkness.ca/home.htm](http://www.harkness.ca/home.htm)

## Cost

**\$700** (plus tuition\* for 0.5 FCE)

**\*Note on tuition:** If you are a student who currently pays the Fall/Winter program fee; you are not required to pay the summer tuition fee relating to the field course. You must meet the condition that the field course meets the requirements of a program you are currently registered in.

**Not included:** Travel to and from Algonquin Park not included. Course fee includes accommodation for 12 nights, board, and all in-course travel.

## Prerequisites

BIO1120H, BIO220H/BIO150Y or introductory biology or physical geography, and permission of instructor.

## Course Description

Two-week summer field course offered at the Harkness Fisheries Research Laboratory in Algonquin Park, Ontario. Students will learn how to collect, analyze and interpret a series of physical, chemical, and biological parameters. We will spend a lot of time on boats and in the water collecting samples, in the lab processing these samples, and on computers analyzing and integrating the data.

Field and laboratory exercises will demonstrate how interactions between physical, chemical, and biological parameters are crucial in understanding lake ecosystems. Emphasis will be put on how physical processes (e.g., thermal structure of the lake, surface and internal waves, and currents) affect the distribution of organisms (algae, invertebrates, fish), and biological processes in lakes. Students will also be responsible for completing an independent project based on field/laboratory work.

## **Physical Demands/Risks**

Students should come prepared for outdoor physical activity in and around water, rain or shine. Everybody is required to wear a life jacket on boats and to follow basic safety rules that will be explained at the beginning of the course. Risks are the same as those for any visitor to lakes in Algonquin Park (ranging from insect bites to drowning).

## **Credit**

0.5 FCE

## **Evaluation**

Participation in field and lab activities (individual): 10%

Participation in class discussions (individual): 10%

Data processing and organization (individual/group): 10%

Group presentation of class data: 15%

Individual presentation of independent project: 15%

Final paper based on independent project (individual; *due one month after end of course*): 40%

## **Registration, Enrolment, and Grades**

Maximum of 15 students.

Students accepted will be enrolled into this course through the EEB Undergraduate Office. You will be enrolled in EEB4010H1S as second semester summer session students. Grades for this class will be available in November 2012; for those students who are planning to graduate in November, it is advised that you consider an earlier field course.

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