EEB 375 Organisms in the Environment

Overview

This is a lecture course (no laboratory) which builds on the ecology portion of Bio120H1F. The intention is to present a wide-range of ecological topics but from an applied approach. An important theme in the course will be how scientists study ecological problems, how they report the results and how you, the consumer of science might interpret these results. Finally, we conclude with two lectures on new ideas in ecology which are intended to be thought-provoking and controversial. Both terrestrial and aquatic species will be considered.

There are two group assignments with an emphasis on data collection, summary and interpretation. Assignment 2 will be presented in a poster format in class. Students will be pre-assigned to groups on the first day of lectures. Students will also be marked individually on quizzes associated with completion of two online assignments. Seven other online activities (and their associated readings) will accompany lectures and this material will be tested in the mid-term and final exam. Student assignments are quantitative but do not require math or statistical skills beyond normal requirements for an incoming undergraduate science student.

The course is similar in content to ENV234H1/ENV234Y1 but does not include a laboratory component. Due to the similarity in content, **students who have already taken ENV234H1/ENV234Y1 are not allowed to take this course** and will be removed from EEB375H1 by the EEB UG Office.

Lectures and Tutorials: Wednesdays, 6 - 9 PM, ES B142

Instructor:

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Office hours: Wednesday before class (5-6 PM) or by appointment

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For all e-mail communication, make sure you put EEB375 in the title of your message. Please use email only if your question or comment is of a personal nature. Questions related to the course content, should be posted to the discussion page of the blackboard website.

Marking Scheme:

Assignment 1		12.5%
Assignment 2		12.5%
Online Quiz (2)	2 @ 3%	6%
Tutorial participation		3%
Mid-term test (2 hours October 15)		26%
Final exam (3 hours Faculty Examination Period)		40%

***NOTE**: Assignments are due before the start of lecture (6:10pm) on Wednesdays. Late submissions will be penalized by -1% of the course total per day to a maximum of 5 days (5%). We will NOT accept electronic submissions of course work.*

What will be on the midterm test and final examination?
All material covered in lecture (discussions during lecture and in the slides) and any required reading, online modules and material related to the assignments will be eligible as the basis of exam questions. The mid-term will cover material up to the end of the previous lecture. The final examination will focus primarily on the material covered after the midterm, but approximately 15%-20% of the questions will pertain to material from the first half of the course (consider the test to be cumulative). Specific information on the examination content will be provided in lecture closer to the end of the course. The tests will be a mixture of multiple choice, fill in the blanks, and short answers, diagrams and essay answers.

Missed Exam – there will be no make-up mid-term exam. If you miss it for legitimate reasons, your final grade will be based on the following mark allocation: final exam 66% assignments 34%.

Re-grading of tests or assignments – If a student believes an assigned mark is incorrect, the student must submit a written request including evidence that the mark was incorrect within **one week** of receipt of the assignment mark.

Lecture Readings -There is no required textbook for this course but I am using resources associated with a new textbook I will be using for this course in the future called ECOLOGY by Cain et al. (3rd edition). Student resources for this textbook can be accessed for free at the following website which includes the **REQUIRED** Hands-on Problem Solving exercises. The midterm test and final exam will each include questions based on these exercises: http://sites.sinauer.com/ecology3e/.

SimUText – *Required online simulations.* If anyone needs access to a computer let me know and this can be arranged. Otherwise, links *and the following information are posted on the Portal:*

> *To access these simulations, each student must register with the provider and download the modules. Please follow the instructions below to subscribe to SimUText for your* ***Organisms in the Environment F14*** *course at* ***University of Toronto****.*
>
> 1. *Go here: https://simutext.com/register.jsp?accesskey=dRqv-jM2T-p8CR-dr6j-nKpe*
> 2. ***Click the Continue button****.*
> 3. *Once you complete your registration, you must download and install the SimUText application to view your course materials. You will need the account information you created when you registered to log in to the SimUText System.*
>
> *Should you encounter a problem registering, the access key for this course is* ***dRqv-jM2T-p8CR-dr6j-nKpe****.*
>
> *Problems or questions? Visit SimUText Support to search our Knowledge Base and view Video Tutorials.*
>
> *If you are not able to find the answer to your question, you can submit a support request from the support page.*

Date	Lecture #	Theme	Topic	Due Dates 6:10 pm	Tutorial (6:10pm)	Required Hands-on Problem Solving (including relevant articles will be tested on exams)
10-Sep	1 2	Introduction	Introduction Sampling			Ch. 1 When a mosquito flaps its wings
17-Sep	3 4	I The Variable Environment	Physical Variation: Climate I Physical variation: Climate II		Assignment 1 Meet at center of Queen's Park at 6:10 pm	
24-Sep	5 6		Responding to variation: adaptation Responding to variation: evolutionary change			Ch. 5: Some Like It Hot: Comparison of C_3 and C_4 Pathways
01-Oct	7 8	I Populations	Growth and reproduction Dynamics	Assignment 1 Report due		Ch. 11: Bamboo, Rats, and Famine in the Far East: Population Overshoots and Carrying Capacity
08-Oct	9 10	II Interactions among populations	Competition Predation	Isle Royale Online Quiz		
15-Oct			**Mid Term Test**			
22-Oct	11 12		Parasitism disease ecology	Epidemiology Online Quiz	Assignment 2: meet at 6:10 in lecture hall	Ch. 14: The Animal That Changed the World: Fleas, Rats, and the Black Death
29-Oct	13 14	IV Communities	Community Ecology I Community Ecology II			

05-Nov	15 16	V Ecosystems	Trophic cascades Nitrogen cycling	Assignment 2 Poster due	Poster Presentations I	Ch. 25: Too Much of a Good Thing: Anthropogenic Effects on the Global Nitrogen Cycle
12-Nov	17 18	VI Applied ecology	Demographic transition Ecosystem management		Poster Presentations II	Ch. 23: Not Dead Yet: Recovery of Endangered Species
19-Nov	19 20		Guest Lecture: biology and management of salmon			Ch. 24: You Can't Get There from Here: Movement in Heterogeneous Landscapes
26-Nov	21 22	VII New ideas: Ecology and economics	New ideas: Self-sufficiency equals poverty and green energy is not		Q&A for Final Exam	