

Biological Consequences of Global Change
BioC58F
2014 Fall (September - December)

Instructor: Dr. Rudy Boonstra
Office: S543
Phone: 287-7419
Lectures: MW170 – Tuesday 8-10 am
Tutorials: HW214 - Thursday 13-16 pm
Office Hours: Tuesday 10-12 am
T.A. Sara Campbell

Course description: A lecture and tutorial course that addresses one of the most important problems facing life on the planet. It will examine how organisms, populations, communities and ecosystems responded to past climate changes and how they are or may respond to the human-induced global temperature increases caused by greenhouse warming. Ecological changes induced by human activities will be examined in the light of shifts in global and regional climates, and of perturbations to the carbon, hydrological and nitrogen cycles.

Prerequisites: BIO B50 and BIO B51; **Exclusions** ENV200Y1, GGR314

TEXT: *Climate Change Biology* by Lee Hannah published in 2011

Readings: Journal articles will be posted on the Blackboard to supplement the Lectures. You must read them and material from them will be on the exams.

LECTURES: Attend them. If you miss a lecture, it is your responsibility to get them. Lectures will NOT be posted. PowerPoints will be highly abridged and posted on blackboard as a pdfs.

Email Policy: Do not send me emails. I will not respond unless I deem them exceptional. Office hours are provided and you can see me after class.

Tutorials: Attendance is a requirement. See the attached document on the format. We wish to stress critical thinking of the key issues. The first tutorial is on 11 September.

Exams: These will be short answer and multiple choice, based on the lecture and text only (not tutorial material). For all students writing both the midterm and the final, the material on each will be independent – you will be tested only on the new material (i.e. the final will only cover material not covered in the midterm). If you MISS the midterm, there will be NO make-up midterm and on the Final, you will be tested on ALL the lecture and text material for the entire course.

Marking Scheme: *Tutorial Marks - 35%; Midterm Exam - 30%; Final Exam- 35%*

Biological Consequences of Global Change: Syllabus

(Required reading from course text, short form CCB Chapter)

1. Impact of Global Climate Change

2. Background *(CCB Ch 1&2)*

3. Understanding Present and Past Climates *(CCB Ch 2,6,7)*

4. Climate Change on the Earth-beginnings to the present

(Read CCB Ch 8&9)

5. Biological Responses to Global Climate Change

(CCB Ch 3,4,5,10,11,12.13,14,15)

6. Human Ecology and Responses to Climate Change

(CCB Ch 16)

7. Dealing with the Threat: Sustainability and Policy

(CCB Ch 17)

Tutorial Objectives

Fall 2014

In this tutorial, we will read, analyze, and discuss a number of scientific papers on subjects related to climate change. Through our discussions of the papers, you will learn how to read scientific literature critically and how to identify both the limits of a study and the general principles that we can draw from it. Reading scientific literature requires understanding the basics of the methodology, putting effort into thinking about the research and the results, and critical thinking skills. You cannot simply accept what is written even in published scientific literature. The main goals of this tutorial are to increase your ability to read primary scientific literature, to promote your critical thinking skills, and for you to gain a better understanding, and hopefully interest, in the research examining climate change. You will be expected to read and have a basic understanding of the assigned papers before class and will be tested on your knowledge. You will then be taken through some of the articles in a more lecture style format. Finally, we will have class participation, discussion, and debate surrounding the climate change topic.

“Normally, students will be required to submit their course essays to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site”.

The Policy is as follows on Plagiarism:

"Plagiarism is treated very seriously, with the minimum penalty being a 0 on the assignment. The university's policy on academic behaviour is here: <http://www.governingcouncil.utoronto.ca/policies/behaveac.htm> and additional information on plagiarism can be found at this helpful website: <http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize>"