



# ENVS\*3010 Climate Change Biology

Fall 2018

Section(s): C01

School of Environmental Sciences

Credit Weight: 0.50

Version 1.00 - September 18, 2018

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## 1 Course Details

### 1.1 Calendar Description

This course examines the impacts of climate change on living organisms, biological communities and ecosystems. The course focuses on what is known, and what is not known, about the ways in which the suite of changing climate variables influence biological systems.

**Pre-Requisite(s):** BIOL\*2060  
**Equate(s):** ENVB\*3010

### 1.2 Course Description

This course examines the impacts of climate change on living organisms, biological communities and ecosystems. The course focuses on what is known, and what is not known, about the ways in which the suite of changing climate variables influence biological systems

### 1.3 Timetable

Tuesdays and Thursdays 1:00pm - 2:20pm RICH Room 2529

### 1.4 Final Exam

Tuesday December 4, 2018

8:30 - 10:30 am.

Room TBA

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## 2 Instructional Support

### 2.1 Instructor(s)

**Simone Haerri**

**Email:** shaerri@uoguelph.ca  
**Telephone:** +1-519-824-4120 x56681  
**Office:** ECBL 2216

**Office Hours:** Mondays 13:30– 15:30 and Thursdays 11:00 - 12 noon; or by appointment.

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## 2.2 Teaching Assistant(s)

**Teaching Assistant:** Aaron Fairweather  
**Email:** fairweaa@uoguelph.ca

**Teaching Assistant:** Jamie Bauman  
**Email:** jbauma01@uoguelph.ca

**Teaching Assistant:** Kathryn Jackson  
**Email:** kjacks10@uoguelph.ca

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## 3 Learning Resources

### 3.1 Recommended Resource(s)

**Climate Change Biology (2011) Jonathan A. Newman, Madhur Anand, Hugh A.L. Henry, Shelley Hunt and Ze'ev Gedalof. (Textbook)**

Held at the library reserve desk.

### 3.2 Additional Resource(s)

#### D2L (Software)

D2L:

The instructor uses CourseLink for posting class announcements, slides from lectures, class readings (if applicable), grades and other required and recommended materials that is relevant to this course. Please check this site at least once a day.

Tophat:

We will be using the Top Hat ([www.tophat.com](http://www.tophat.com)) classroom response system in class. You will be able to submit answers to in-class questions using Apple or Android smartphones and tablets, laptops, or through text message. As cell coverage can be spotty on campus, I recommend connecting through the University of Guelph's wifi.

Top Hat allows us to provide a more engaging and interactive environment, that ultimately helps your learning and boosts your understanding of core concepts. It also allows us to get immediate feedback from you and allows us to adjust the course content accordingly.

You can visit the Top Hat Overview (<https://success.tophat.com/s/article/Student-Top-Hat-Overview-and-Getting-Started-Guide>) within the Top Hat Success Center which outlines how you will register for a Top Hat account, as well as providing a brief overview to get you up and running on the system.

An email invitation will be sent to you by email, but if don't receive this email, you can register by simply visiting our course website: <https://app.tophat.com/e/543882>  
Note: our Course Join Code is 543882

Unfortunately, Top Hat requires a paid subscription, and a full breakdown of all subscription options available can be found here: [www.tophat.com/pricing](http://www.tophat.com/pricing). Therefore, Top Hat is not mandatory to pass this course and participation is rewarded by bonus marks. However, I strongly recommend the use of Top Hat to facilitate our communication, to increase your learning experience and ultimately to result in a higher grade.

Should you require assistance with Top Hat at any time, due to the fact that they require specific user information to troubleshoot these issues, please contact their Support Team directly by way of email ([support@tophat.com](mailto:support@tophat.com)), the in app support button, or by calling 1-888-663-5491.

### **Additional Costs (Other)**

You will have to cover the cost for printing your posters. The posters will cost a maximum of 30\$. The costs of the posters will be shared among group members. Group size will be 5 – 6 students.

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## **4 Learning Outcomes**

### **4.1 Course Learning Outcomes**

By the end of this course, you should be able to:

1. Interpret the current climate change in a historical context and define natural and human causes of climate variability
  2. Examine the general trends in future climate and interpret the variability in future climate predictions through running different computer models
  3. Explain expected changes in the net primary production of ecosystems through the analysis of different effects of climate change on plant physiology and decomposition
  4. Hypothesize how different species and entire communities react to the changing climate by formulating a scientific question that will be applied to the design and presentation of a poster
  5. Design experimental methods necessary to study how individuals, populations, communities, and entire ecosystems will respond to the changing climate and discuss their limitations
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## **5 Teaching and Learning Activities**

### **5.1 Lecture**

#### **Week 1**

**Topic(s):** Natural and anthropogenic effects on climate variability

#### **Week 2**

**Topic(s):** Future and past climate predictions

#### **Week 3**

**Topic(s):** Climate of the future

#### **Week 4**

**Topic(s):** Plant physiology and climate change

#### **Week 5**

**Topic(s):** Midterm

#### **Week 6**

**Topic(s):** Population responses

#### **Week 7**

<b>Topic(s):</b>	Community responses
<b>Week 8</b>	
<b>Topic(s):</b>	Ecosystem responses
<b>Week 9</b>	
<b>Topic(s):</b>	Poster presentations
<b>Week 10</b>	
<b>Topic(s):</b>	Evolutionary responses & biodiversity effects
<b>Week 11</b>	
<b>Topic(s):</b>	Forest and agricultural responses
<b>Week 12</b>	
<b>Topic(s):</b>	Mitigation & Adaptation

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## 6 Assessments

### 6.1 Marking Schemes & Distributions

Name	Scheme A (%)
Future Projection	20
Midterm	20
Poster Presentations	15
Method piece	20
Final exam	25
BONUS Tophat	2.5
BONUS Lecture summaries	2.5
Total	105

### 6.2 Assessment Details

#### **Future Projection (20%)**

Due date: September 28

#### **Midterm (20%)**

**Date:** Thu, Oct 11 - Tue, Oct 16, In Class

You will write the individual exam October 11 and the group exam October 16.

#### **Poster - Submission (15%)**

**Date:** Mon, Nov 5

Dropbox submission:

November 5th

Presentations: November 6th or November 8th

**Method piece (20%)**

**Date:** Fri, Nov 30

**Final exam (25%)**

**Date:** December 4, 2018, TBD

### 6.3 Submission Deadlines

Dropbox submission time is before 23:59 the day of the due date.

### 6.4 Midterm

The midterm follows a two-stage procedure with an individual and a group part. The individual part of the midterm is worth 75% of your grade and takes place October 11 during class. The group part takes place October 16 during class, where you get to solve the same exam (except possibly one question) as a group of maximally four students. The group part counts 25% towards your midterm grade. The group part is not mandatory. If you opt out of the group part, your entire midterm grade is based on your individual submission. You have to opt out before October 9 (Note: the group portion cannot decrease your grade, only increase your overall grade).

### 6.5 Tophat

Throughout the semester, you will have a chance to obtain a maximum of 2.5 bonus marks by answering Top Hat questions and discussion topics that are randomly dispersed throughout lectures and sometimes assigned to you after class. For the Top Hat questions, the grade will be a combination of participating and answering questions correctly. You can follow your Top Hat grade in your Top Hat grade book. The final grade will be transferred to CourseLink at the end of the semester. You will receive the full 2.5 bonus marks when obtaining a Top Hat grade of 85% or higher (i.e. I “gift” you 25%). For a grade below 85%, the bonus marks will be adjusted accordingly (i.e. a 70% will be a 95%, resulting in  $0.95 \times 2.5 = 2.375$  bonus marks).

### 6.6 Lecture summaries

Besides, you can obtain 0.25 bonus marks for handing in a well-written and complete summary after a lecture (the day of) that can be shared with the rest of the class. The summary has to be sent as a word document to [shaerri@uoguelph.ca](mailto:shaerri@uoguelph.ca). The instructor will either accept or reject your summary. The summary has to be well written, contain fully formulated sentences and paragraphs, connect ideas and concepts, show a clear understanding of the material and include all relevant content covered during a specific class. This bonus cannot exceed 2.5 marks (10 summaries) and is only applied if your course grade without this bonus exceeds 50%.

## 6.7 Final exam

The final exam will be cumulative and include all the content covered during the course of the semester. Individual topics may be removed from the final exam content at the instructor's discretion but will be communicated in class towards the end of the semester. The material covered for all the examinations includes information available on the slides posted online, but also content delivered only during class time.

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# 7 Course Statements

## 7.1 Grading Policies

Assignments are to be submitted online via D2L before midnight on the due date. Assignments handed-in late, for which an extension has not been granted ahead of time, will lose 10 marks (out of 100) per day late (or part thereof). For example, if you receive an 85% on your assignment but you submitted one day late, you will receive a 75% instead. Assignments submitted one week (or later) after the due date will not be accepted. If you require an extension on an assignment, you must have a valid reason and contact Dr. Härrri in advance of the due date.

## 7.2 Course Policy on Group Work

This course encourages group work and collaborative problem solving. The group stage of the midterm and the poster presentation require group work to complete the assessment. The future projections and the method piece should be written entirely by the student alone, should reflect the opinion of the student alone and should be the original work of the student. For group assignments, the completed assignment should contain only work which has been produced by members of the group in question. There will be a peer evaluation system for the poster presentations using the PEAR tool

## 7.3 Turnitin

In this course, your instructor will be using Turnitin, integrated with the CourseLink Dropbox tool, to detect possible plagiarism, unauthorized collaboration or copying as part of the ongoing efforts to maintain academic integrity at the University of Guelph.

All submitted assignments will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Usage Policy posted on the Turnitin.com site.

You will not be allowed to access your own Turnitin results. However, if you are concerned about your ability to properly paraphrase and avoid plagiarism, send an email to the instructor at least two days before the due date of an assignment, and you will get access to your Turnitin results after submitting your assignment early (and being allowed to resubmit after the necessary changes).

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# 8 University Statements

## 8.1 Email Communication

As per university regulations, all students are required to check their e-mail account regularly: e-

mail is the official route of communication between the University and its students.

## 8.2 When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The regulations and procedures for [Academic Consideration](#) are detailed in the Undergraduate Calendar.

## 8.3 Drop Date

Courses that are one semester long must be dropped by the end of the fortieth class day; two-semester courses must be dropped by the last day of the add period in the second semester. The regulations and procedures for [Dropping Courses](#) are available in the Undergraduate Calendar.

## 8.4 Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

## 8.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required, however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance, and not later than the 40th Class Day.

More information: [www.uoguelph.ca/sas](http://www.uoguelph.ca/sas)

## 8.6 Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.



The [Academic Misconduct Policy](#) is detailed in the Undergraduate Calendar.

## **8.7 Recording of Materials**

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

## **8.8 Resources**

The [Academic Calendars](#) are the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs.

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