



# Climate Change

The University of Toledo

Dept. of Environmental Sciences, College of Natural Sciences and Mathematics

EEES 2200

Spring 2015

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<b>Instructor:</b>	Dr. Mike Weintraub	<b>Term:</b>	Spring 2015
<b>Email:</b>	michael.weintraub@utoledo.edu	<b>Class Location:</b>	Distance Learning
<b>Office Hours:</b>	Tuesdays & Thursdays 2:00-4:30PM	<b>Class Day/Time:</b>	Distance Learning
<b>Office Location:</b>	BO 3001-B	<b>Credit Hours:</b>	3
<b>Office Phone:</b>	419.530.2585		

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## COURSE/CATALOG DESCRIPTION

An overview of the understanding of climate change and role of human activities, including atmospheric processes, greenhouse effect, carbon cycling, physical evidence, impacts, and proposed global actions in response.

## STUDENT LEARNING OUTCOMES

Upon completion of the course students will be able to:

- Identify the main physical processes that impact global climate
- Record and compare facts about historical mean annual global temperatures
- Obtain, organize, display, and interpret data about changes in atmospheric CO<sub>2</sub>
- Demonstrate an understanding of the sources of greenhouse gases in terms of natural and human sources
- Identify the most significant potential impacts of climate change
- Describe their contribution to greenhouse gas emissions and their actions to reduce them

## PREREQUISITES AND COREQUISITES

None

## REQUIRED TEXTS AND ANCILLARY MATERIALS

**Required Textbook:** Mann, M.E. and Kump, L.R. (2009). *Dire Predictions: Understanding Global Warming: The illustrated guide to the findings of the IPCC*. DK Publishing & Pearson Education. New York, NY. ISBN 978-0-1360-4435-2.

**Additional Readings:** IPCC (2013-2014) Working Group 1-3 Summaries (available on the course Blackboard website)

## TECHNOLOGY REQUIREMENTS

This is an online Distance Learning course that will be run entirely through the Blackboard, so access to a computer with an up-to-date web browser (e.g. Google Chrome, Apple Safari, Mozilla Firefox) is required for this course.



## UNIVERSITY POLICIES

The University is an equal opportunity educational institution. Please read [The University's Policy Statement on Nondiscrimination on the Basis of Disability Americans with Disability Act Compliance](#).

## ACADEMIC ACCOMMODATIONS

The University of Toledo is committed to providing equal access to education for all students. If you have a documented disability or you believe you have a disability and would like information regarding academic accommodations/adjustments in this course please contact the [Student Disability Services Office](#).

## ACADEMIC POLICIES

Academic dishonesty of any kind is prohibited! Students who violate the University's policy should expect disciplinary action. Students are expected to be familiar with and follow the University's policy on academic dishonesty, available at: <http://www.utoledo.edu/dl/students/dishonesty.html>

## COURSE EXPECTATIONS

In order to achieve success in this course it is essential that you actively participate by logging onto the course website frequently and review the course materials and complete all weekly quizzes and assignments. You should anticipate needing to dedicate a minimum of ***six (6) hours per week*** working on this course. This course is designed around online DL materials and assigned readings from the textbook. You therefore must be prepared to study and review these materials weekly and take detailed notes in order to be properly prepared for the assignments and quizzes. Instructions for the assignments and quizzes, return of graded materials, and question/answer sessions are also held on a regular basis by use of the Discussion Board in the course website.

## HOW IS THIS COURSE ORGANIZED?

The course Blackboard website and textbook are the primary course materials we will use. The course is organized into five Modules, each consisting of three weekly topics. There are 15 topics in all - one for each week of the semester. The topics for each Module can be found under the Modules link on the left side of the course Blackboard site. For each topic there is an introductory page on the course website. The introductory page will consist of the following items that you need to review for each topic:

- Overview
- Required Assigned Readings (pages from the course textbook and IPCC reports, readings from a variety of other sources)
- Required Assigned Weblinks (videos, web activities, etc.)
- Additional Resources (PDFs, weblinks)

You will need to thoroughly read and review all of these materials for each topic module to be prepared to complete the weekly discussion board posts and quizzes.

## GRADING

1) **Participation:** Discussion Board activities for each module, assigned discussion question and required responses: total of 150 points, weighted to comprise ***20% of your final grade***

2) **Quizzes:** (10 multiple choice questions each): One quiz for each topic (3 per module): total of 150 points, weighted to comprise ***30% of your final grade***



3) **Five assignments:** will involve students completing an online learning assignments for each module that will cover concepts, issues, and ideas related to the module topics: total 225 points, weighted to comprise **30% of your final grade**

<b>Module #1</b>	<b>CLOSES Monday February 2<sup>nd</sup> at 5:59 AM</b>
<b>Module #2</b>	<b>CLOSES Monday Feb 23<sup>rd</sup> at 5:59 AM</b>
<b>Module #3</b>	<b>CLOSES Monday March 23<sup>rd</sup> 5:59 AM</b>
<b>Module #4</b>	<b>CLOSES Monday April 13<sup>th</sup> at 5:59 AM</b>
<b>Module #5</b>	<b>CLOSES Monday May 4<sup>th</sup> at 5:59 AM</b>

4) **Term Project:** By the Friday of exam week (by 6:59 AM), you will submit a final project for the course. All instructions will be provided on the course website under the Assignments link on the left. Briefly, for this project you will be asked to do a detailed analysis of your Carbon Footprint early in the semester and to then take concrete steps to reduce it. What you submit for your final project will be a report including your original Carbon Footprint analysis, detailed and specific documentation of the steps you took to reduce your Carbon Footprint, and an analysis of the impacts of your actions. See the Term Project link under the Assignments link on the left for more details. Total of 100 points, weighted to comprise **20% of your final grade**

**Grading Scale:**

You will be assigned a letter grade for the course. All numerical percentage marks are converted to letter grades using the following scale.

<b>A</b>	<b>90% +</b>	<b>A-</b>	<b>89.5-86.5</b>	<b>B+</b>	<b>83.5-86.5</b>
<b>B</b>	<b>80-83.5</b>	<b>B-</b>	<b>79.5-76.5</b>	<b>C+</b>	<b>73.5-76.5</b>
<b>C</b>	<b>70-73.5</b>	<b>C-</b>	<b>69.5-66.5</b>	<b>D+</b>	<b>63.5-66.5</b>
<b>D</b>	<b>60-63.5</b>	<b>D-</b>	<b>59.5-56.5</b>	<b>F</b>	<b>56.5 or less</b>

**LATE ASSIGNMENTS WILL BE SUBJECT TO A LOSS OF – 10% IN GRADE PER DAY AT THE DISCRETION OF THE INSTUCTOR. QUIZZES MUST BE COMPLETED THE WEEK THEY ARE ASSIGNED. MAKE-UP QUIZZES WILL NOT BE GIVEN.**

A GRADE OF INCOMPLETE (IN) IS ONLY GIVEN FOR MEDICAL REASONS AND WITH APPROVAL OF THE INSTRUCTOR. GRADES OF PR (PROGRESS) ARE NEVER ISSUED.

**COMMUNICATION GUIDELINES**

Students are welcome to contact the instructor via the discussion board and email tools in BlackBoard, phone calls, or office visits (during office hours or by appointment). If using email outside of BlackBoard students **MUST** use their University Rockets email account ([firstname.lastname@rockets.toledo.edu](mailto:firstname.lastname@rockets.toledo.edu)). Students can visit <http://myutaccount.utoledo.edu> to check the name of their utoledo.edu email account, to create an account if they have not already done so, or to reset their account password. Students can then log on through the my UT Portal (<http://myut.utoledo.edu/>) to access their mailboxes to read and send emails.



## STUDENT SUPPORT SERVICES

See the Help link on the left side of the course Blackboard site for more information and links to available student support services. If you need help accessing any support services please do not hesitate to contact me.

## COURSE SCHEDULE

Modules/Topics	Textbook readings	IPPC Reports
<b>1. Climate Change Basics</b> (Jan 12 - Feb 1) 1. <i>The Earth's Climate &amp; Atmospheric Processes</i> (1/12-1/18) 2. <i>The Greenhouse Effect</i> (1/19-1/25) 3. <i>The Carbon Cycle</i> (1/26-2/1)	pp. 10-35	WG1 (2013), pp. 1-17 (to part E)
<b>2. Climate Change Projections</b> (Feb 2 – Feb 22) 4. <i>Historical Global Climates &amp; Temperature Trends</i> (2/2-2/8) 5. <i>Climate Modeling</i> (2/9-2/15) 6. <i>Projections of Change</i> (2/16-2/22)	pp. 36-97	WG1 (2013), pp. 17-27
<b>3. The Impacts of Climate Change</b> (Feb 23 – Mar 22) 7. <i>Sea Level Rise</i> (2/23-3/1) 8. <i>Extreme Weather Events</i> (3/2-3/8) 9. <i>Arctic Ice</i> (3/16-3/22; 3/9-3/15 is spring break)	pp. 98-139	WG2 (2014), pp. TBA
<b>4. Vulnerability &amp; Adaptation to Climate Change</b> (Mar 23-Apr 12) 10. <i>Adaptation</i> (3/23-3/29) 11. <i>Mitigation Strategies</i> (3/30-4/5) 12. <i>Economics</i> (4/6-4/12)	pp. 141-153	WG3 (2014), pp. TBA
<b>5. Solving Global Warming</b> (Apr 13 – May 3) 13. <i>Energy Use and Conservation</i> (4/13-4/19) 14. <i>Solutions in Industry, Forestry, and Agriculture</i> (4/20-4/26) 15. <i>Individual and International Efforts</i> (4/27-5/3)	pp. 155-197	WG3 (2014), pp. TBA

More specific details on the readings and other activities assigned for each topic can be found on the introductory pages for each topic