

# ATMS 140: Climate and Global Change

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## Course Meeting Times and Location

T-Th: 12:30-1:50, Gregory Hall 100

## Instructional Team

### Instructor: Prof. Cristian Proistosescu

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TBD

### Undergraduate Teaching Assistant: Gillian Patterson

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## Textbook

### Introduction to modern climate change, 3rd edition

Dessler, Andrew Emory

Cambridge ; New York : Cambridge University Press; 2022

ISBN 9781108840187; ISBN 1108840183; ISBN 9781108793872; ISBN 1108793878; OCLC (OCoLC)1263794192; OCLC (OCoLC)on1263794192; ISBN 9781108879125

## Topical Course outline

### Module 1. History of Climate and Climate Science

- Climate Change: What did we know and when did we know it? (Dessler Ch. 13)
- Earth's Climate: from the Hadean to the Anthropocene (Dessler Ch. 1)
- Recent Climate Changes: (Dessler Ch. 2)

### Module 2. Global Climate & Climate Change: From greenhouse gas emissions to temperature change

- What determines Earth's Temperature: Energy budgets and the greenhouse effect. (Dessler Ch. 3,4)
- Greenhouse gasses in the atmosphere (Dessler Ch. 5)
- How sensitive is Earth's global temperature to greenhouse gasses (Dessler Ch. 6)

### Module 3: Regional Climate & Climate Change

- We don't live in the long term global mean: regional climate and climate change.
- A survey of Earth's Atmosphere, Cryosphere, and Ocean
- Climate change and the future of weather

### Module 4: Drivers & Consequences of Climate Change

- Why is the climate changing: the role of natural & anthropogenic drivers (Dessler Ch. 7)
- Possible future pathways (Dessler Ch. 8)
- Physical impacts of climate change: heatwaves, storms, sea-level rise, ocean acidification, etc. (Dessler Ch. 9.1,9.2)

### Module 5: Climate Economics and Climate Justice

- The cost of climate change (Dessler Ch. 9.3)
- How does climate change interact with economic growth: the social cost of carbon (Dessler Ch 10)
- The unequal impacts of climate change: climate justice

### Module 6: Policy & Politics

- Why is it so hard to fix climate change: externalities and the free rider problem
- Adaptation (Dessler Ch. 11)
- Mitigation (Dessler Ch. 12)

### Module 7: The Future

- What would a better future look like? Technologies and policies in a green future
- Recent, near-term, and long-term solutions. (Dessler Ch. 13)

## **Course Components**

This course will consist of the following components, grouped by modules:

### **Modules**

Each module will begin with an overview, which will explain what the module is about, what learning goals you are expected to achieve, how long the module will take, and in what activities you will participate. Each module is designed with the same structure and activities unless otherwise specified. Instructional activities are explained in greater detail below. Due dates of specific assignments appear on each module's overview page.

### **Readings and Lectures**

Each module will contain 4 in class lectures, and readings. In some cases, optional or supplemental readings may be listed for further study. Slides for the lectures will be provided.

### **Labs & Reflections**

At the end of each module, you will have an assignment consisting of a lab and/or a written assignment. Some modules will lend themselves better to a lab, while others to a written reflection. Most will be a combination of the two.

### **Retrieval Practices**

Weekly retrieval practices have been designed to optimize your mastery of essential course concepts and to give you exposure to the types of questions that will appear on the cumulative final exam. Practices will consist of 15 questions to be answered in a timed, at-home setting, and will cover the module material with past topics interleaved for review. You will have 3 attempts, with an allowed time of 15 minutes each, to answer the questions within the assigned week. You will be graded on the **highest** of these attempts.

### **Exams**

This course includes a midterm and a final exam. The midterm and final exam will be of a similar nature to the retrieval practices, but longer and covering more material. They will be timed, multiple choice questions quiz, to be taken at any point within a pre-specified interval.

### **Extra Credit**

Extra credit opportunities will be available throughout the course. The Orientation Quiz in addition to posting and replying on the Climate and Global Change Meet and Greet forum are the first two opportunities worth 30 points. We will notify you of additional opportunities later in the course.

## Grading

### Grading Distribution

Instructional Activities	Occurrences	Percentage of final grade
Labs & Reflections	≤7	35%
Retrieval Practices	≤12	30%
Midterm Exam	1	10%
Final Exam	1	15%
Engagement	Flexible	10%
<b>Total</b>		100%

### Grading Scale

At the end of the semester, the grading scale might be curved. The curve will never result in students getting a grade **lower** than listed below. For example, if you get between a 90% and a 93.33% you will get **at least** an A-. Curving might result in you getting an A or A+.

Percentage	Letter Grade
Top 5% of class	A+
93.34-100%	A
90.00-93.33%	A-
86.67-89.9%	B+

83.34-86.66%	B
80.00-83.33%	B-
76.67-79.9%	C+
73.34-76.66%	C
70.00-73.33%	C-
66.67-69.9%	D+
63.34-66.66%	D
60.00-63.33%	D-
Below 60.0	F

### Grading policies, late assignments, extensions

- Any questions or concerns regarding the grading of an assignment or exam must be received by the instructor within one week of grades being posted for that assignment or exam.
- If you have concerns regarding your performance in the course, please email the instructor to arrange a discussion time.
- There will be numerous opportunities to receive extra credit throughout the course, so additional extra credit requests will not be accepted.
- Assignment deadlines will be listed on each module's page.
- A 10% per day deduction is applied to late work.
- Work more than 3-days late will not be accepted unless prior permission has been given by one of the instructors
- Each student gets 2 no-questions-asked extensions for the quizzes, and 2 no-questions asked extensions for the retrieval practices. To get these no-questions-asked extensions, the student needs only to email one of the instructors **before** the deadline.
- Additional extensions may be requested and will generally be granted.
- Retroactive extensions (i.e. extensions asked for and applied after the deadline) may be granted upon reasonable request.

## Exam information

### Midterm Exam Overview

- Format:
  - Multiple Choice Questions
  - Time limit: 45 minutes
- Attempts: 3
- Take at any point within a specified 3-day interval

- Date Available: TBD
- Coverage: Cumulative, based on Modules 1 - 4
- Time Limit: 45 minutes

### **Final Exam Overview**

- Format:
  - Multiple Choice Questions
  - Time limit: 60 minutes
- Attempts: 3
- Take at any point within a specified 3-day interval
- Date Available: TBD
- Coverage: Entire course content

### **Accommodations**

- Please make sure to contact your instructor to discuss exam accommodations.

## **Other Policies**

### **Student Participation Expectations**

Active participation in class and online is vital to your success in this course. You will on occasion be asked to engage in online discussions and other interactive learning environments that invite your active participation and involvement with other students and your instructor.

#### Student Commitment

By registering for this course, **you commit to self-motivated study, participation in course activities, and timely submission of all assignments.** Furthermore, you commit to accessing the course website and checking e-mail at least once per week as well as to devoting at least 6-8 hrs/week to preparing for each module and completing the required assignments and readings.

#### Deadlines

If you are unable to meet a particular deadline, **it is your responsibility to make arrangements with the Instructor prior to the assignment's due date.**

### **Accommodations**

To obtain disability-related academic adjustments and/or auxiliary aids, students should contact both the instructor and the Disability Resources and Educational Services (DRES) **within the first week of class** (or first week of registering for the course). You can contact DRES at 1207 S. Oak Street, Champaign, (217) 333-1970, or via email at [disability@illinois.edu](mailto:disability@illinois.edu).

## Student Behavior

The background and talents of the students taking this course will be wide and varied, and everyone has skills and experience that they offer. You will learn best if we have open and honest discussion, constructively exchange ideas, and come at problems from many different perspectives.

## Student Conduct

Your instructors are committed to creating an inclusive environment in which all students are respected and valued. We will not tolerate disrespectful or discriminatory language or behavior based on visible or non-visible perceived or actual differences. Students are expected to comport themselves in a professional manner that is respectful to all students, instructors, and support staff **in any communications** related to this course. Failure to do so will result in removal from live discussion and/or online discussion spaces, and possible disciplinary action including removal from the course.

Students are expected to behave in accordance with the penal and civil statutes of all applicable local, state, and federal governments, with the rules and regulations of the Board of Regents, and with University regulations and administrative rules.

For more information about the student code and handbook, see the [CITL Course Policies page](#).

## Netiquette

In any social interaction, certain rules of etiquette are expected and contribute to more enjoyable and productive communication. The following are tips for interacting online via e-mail or discussion board messages, adapted from guidelines originally compiled by Chuq Von Rospach and Gene Spafford (1995):

- Remember that the person receiving your message is someone like you, deserving and appreciating courtesy and respect.
- Be brief; succinct, thoughtful messages have the greatest effect.
- Your messages reflect on you personally; take time to make sure that you are proud of their form and content.
- Use descriptive subject headings in your e-mails.
- Think about your audience and the relevance of your messages.
- Be careful when you use humor and sarcasm; absent the voice inflections and body language that aid face-to-face communication, Internet messages are easy to misinterpret.
- When making follow-up comments, summarize the parts of the message to which you are responding.



- Avoid repeating what has already been said; needless repetition is ineffective communication.
- Cite appropriate references whenever using someone else's ideas, thoughts, or words.

## **Academic Integrity**

Academic dishonesty will not be tolerated. Examples of academic dishonesty include the following:

- Cheating
- Fabrication
- Facilitating infractions of academic integrity
- Plagiarism
- Bribes, favors, and threats
- Academic interference
- Examination by proxy
- Grade tampering
- Non-original works

Should an incident arise in which a student is thought to have violated academic integrity, the student will be processed under the disciplinary policy set forth in the [Illinois Academic Integrity Policy](#). **If you do not understand relevant definitions of academic infractions, contact your instructor for an explanation within the first week of class.**

## **Sexual Misconduct Policy and Reporting**

The University of Illinois is committed to combating sexual misconduct. Faculty and staff members are required to report any instances of sexual misconduct to the University's Title IX and Disability Office. In turn, an individual with the Title IX and Disability Office will provide information about rights and options, including accommodations, support services, the campus disciplinary process, and law enforcement options.

A list of the designated University employees who, as counselors, confidential advisors, and medical professionals, do not have this reporting responsibility and can maintain confidentiality, can be found in the [Confidential Resources](#) section. Other information about resources and reporting is available at [wecare.illinois.edu](http://wecare.illinois.edu).

## **Communications**

### **Announcements**

The **Announcements** forum serves as a way for your instructor and University of Illinois administrators to make announcements within our online learning environment.

**Announcements posted here will also be sent to your Illinois e-mail address**, so be sure to

check your e-mail or the Announcements forum at least once a day to see whether any new announcements have been made.

### **Daily Contact**

Your daily contact should be via the discussion forums in our Learning Management System and via e-mail. **Please only send emails from your university email address.** Emails re: grades sent from personal email accounts (e.g. gmail, hotmail, etc.) will not be replied to for the sake of maintaining FERPA compliance.

### **Course Questions**

Questions pertaining to the course should be posted in our **General Q & A** discussion forum. You can get to this forum from the course home page. Posting questions here allows everyone to benefit from the answers. If you have a question, someone else is probably wondering the same thing. **Anyone submitting a question via e-mail will be directed to resubmit the question to the Q & A discussion forum.** Also, participants should not hesitate to answer questions posed by peers if they know the answers and the instructor has not yet responded. This not only expedites the process but also encourages peer interaction and support.

### **Personal and Grade-related Questions**

Questions regarding grades should first be sent to the TA's e-mail address (listed on the **Instructor Information** page). Any questions or concerns regarding the grading of an assignment or exam **must be received within one week of grades being posted** for that assignment or exam.

**When sending e-mail, include a subject that identifies the course number and nature of your question.** Questions of a highly personal nature should be emailed directly to the instructor.

**If you are concerned about your overall course performance, PLEASE contact us as soon as possible** so that we have the time to work with you. Problems that are brought up at the end of the semester do not leave us time to come up with solutions, so please do not wait weeks/months to bring things to our attention.

Also, please send emails only from your university email address. Emails re: grades sent from personal email accounts (e.g. gmail, hotmail, etc.) will not be replied to for the sake of maintaining FERPA compliance.

### **Emergencies**

If you have an emergency that will keep you from participating in the course, please notify your instructor **as soon as possible** by using the instructor's e-mail address (listed on the Instructor Information page). Provide callback information in your e-mail (if necessary). You should also notify your program director of any emergencies.

## Instructor Responses

### Instructor Feedback Turnaround Time

Questions posted to the **General Q & A** forum generally will be answered within 2 business days (Monday - Friday 0900-1700 Central Time). If possible, **students are encouraged to answer questions posted by other students to the General Q & A forum**, rather than waiting for an instructor's response.

### Responding to E-mails

The instructor will respond to e-mail messages and phone calls within 1 business day (Monday - Friday 0900-1700 Central Time) of receiving them unless the instructor notifies you ahead of time of an inability to do so. **When sending e-mail, include a subject line that identifies the course number and nature of your question. If you have not received a response, please send a second follow-up email.** Likely the instructor and/or TA is responding to a high volume of email and yours may have been lost in queue.

### Responding to the Discussion Forums

The role of the instructor within the discussion forums is to help facilitate discussion by providing probing questions, asking for clarification, and helping to solve conflicts as necessary. **The instructors will not respond to every post.** You are encouraged to share your thoughts, experiences, and ideas with each other as well.

## Copyright

### Student Content

Participants in University of Illinois courses retain copyright of all assignments and posts they complete; however, all materials may be used for educational purposes within the given course. In group projects, only the portion of the work completed by a particular individual is copyrighted by that individual. The University of Illinois may request that students' materials be shared with future courses, but such sharing will only be done with the students' consent. The information that students submit during a course may, however, be used for the purposes of administrative data collection and research. No personal information is retained without the students' consent.

### Non-Student Content

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