EAPS 360 Syllabus

Instructor

Gouri Prabhakar

Contact Info

gourip@purdue.edu

HAMP 4259 B

765-496-2237

Course Overview

Science and Society

This course develops basic skills and knowledge critical to analyze issues of climate change and sustainability, which incorporate both societal and scientific perspectives. The goal of this course is not to arrive at particular consensus solutions to the problems associated with these issues but instead to foster an informed (through information literacy) debate that will ultimately be waged as solutions are sought. Working in teams the students work throughout the semester to complete a capstone teamwork project. Counts for Great Issues course in College of Science

Required Text

Introduction to Modern Climate Change by *Andrew Dessler*, Third Edition

Electronic copy of Second Edition of the textbook can be found through Purdue Libraries (https://www.lib.purdue.edu/).

Course Resources, Technology

- All lectures will be in-person. All course material will be posted on the course website in D2L **Brightspace**.
- For participation for during lectures and attendance, we will be using iClicker (mobile only)
- All assignments and exams will be online for all students.
- A Purdue Libraries Guide has been created for this course as a guide for the term project. You are encouraged to refer to this guide before beginning your term project.

Course Outcomes

By the end of this course, you will be able to

- ✓ Quantitatively evaluate emerging issues of climate change on a scientific basis
- ✓ Demonstrate scientific writing skills
- ✓ Demonstrate ability to work collaboratively in a team by
  - doing research on a topic selected collectively by the team members
  - sharing their findings and thoughts with each other through regular meetings (could be virtual)
  - regularly reporting their progress to the instructor
  - presenting their findings with the class through an oral presentation

Learning Objectives

I hope that by the end of this course, you will be able to

- ✓ Define the basic physical processes in the climate system
- ✓ Interpret graphical representation of climate data
- ✓ Summarize the changes in Earth's climate: past to present
- ✓ Describe the methods of study used by climate scientists
- ✓ Recognize the challenges of interpreting climate data
- ✓ Compare the change caused by anthropogenic activities to natural variability
- ✓ Recognize the relative roles of the land-biosphere, oceans, and the atmosphere in the climate system over different time scales
- ✓ Describe the various impacts of a rapidly changing climate on societies
- ✓ Summarize the latest climate projections made by the IPCC
- ✓ Identify reliable sources of information
- ✓ Demonstrate the ability to correctly cite sources in written reports
- ✓ Construct grammatically correct sentences to clearly articulate scientific concepts
- ✓ Critically analyze the information found during research
- ✓ Evaluate the latest relevant Climate Change news based on the scientific knowledge gained
- ✓ Complete tasks in a timely fashion
- ✓ Communicate effectively with students with different majors in the College of Science
- ✓ Share resources and knowledge with team members
- ✓ Write a detailed, well-analyzed, critical term paper on a topic

Assignments and Exams

Your learning will be assessed through a combination of participation, mid-term exam, a term project (a group oral presentation and a term paper), and four assignments spread throughout the academic period. Details on these assignments and exams, including a schedule of due dates is given below. Rubrics to guide evaluation, and guidelines on the term project will be posted separately on the course website.

1. **Assignments**: There will be five assignments, each worth 10 points, throughout the semester (see course schedule for due dates). The lowest one of the five scores will be dropped. Hence, the maximum points one can score through assignments is 40 points.

2. **Exams**: There will be two exams, one mid-term (10 points; Sep 24, Tuesday), and the second will be during the finals week (10 points). Both exams will be open-book, cumulative, online exams available on Brightspace.

3. **Term Paper**: This will be a ~10-page report on Climate Change Mitigation/Adaptation. Every student will work with a team created by the instructor to choose a topic, do research on the topic, and analyze the team's findings. This report has to be written individually by every student and is worth 20 points.

4. **Oral Presentation**: Every team must create an oral presentation on their project for the class. Members of the team will share the presentation equally. Every team will be graded based on the presentation as a whole, not on individual presentations. So, take the time to review every team member's contribution. The presentation will be worth 10 points.

5. **Peer Evaluation**: This will involve evaluation from your team members, and will be based on the following factors:
   - ☐ Participation (includes attendance)
   - ☐ Co-operation
   - ☐ Contribution
   - ☐ Problem-solving
   - ☐ Communication

   This will be worth 5 points.

6. **Participation**: There will be one or more Hotseat questions in every class. The lowest four scores in the semester will be dropped. Every incorrect answer will be half-score and every correct answer full score. Your total score will be the average of your scores through the semester (lowest four dropped), and will total 5 points.

	POINTS
Assignments	40
Examinations	20
Term Project	35
Participation	5
Short	15
Extra Credit	3
Total	100 (+3)

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Grading Scale (percent)

A+	97 - 100
A	94 - 96
A-	90 - 93
B+	87 - 89
B	84 - 86
B-	80 - 83
C+	77 - 79
C	74 - 76
C-	70 - 73
D+	67 - 69
D	64 - 66
D-	60 - 63
F	Below 60

Attendance Policy

This course follows Purdue's academic regulations regarding attendance, which states that students are expected to be present for every meeting of the classes in which they are enrolled. When conflicts or absences can be anticipated, such as for many University-sponsored activities and religious observations, the student should inform the instructor of the situation as far in advance as possible. For unanticipated or emergency absences when advance notification to the instructor is not possible, the student should contact the instructor as soon as possible by email or phone. When the student is unable to make direct contact with the instructor and is unable to leave word with the instructor's department because of circumstances beyond the student's control, and in cases falling under excused absence regulations, the student or the student's representative should contact or go to the Office of the Dean of Students website to complete appropriate forms for instructor notification. Under academic regulations, excused absences may be granted for cases of grief/bereavement, military service, jury duty, and parenting leave. For details, see the Academic Regulations & Student Conduct section of the University Catalog website.

Academic Integrity

Academic integrity is one of the highest values that Purdue University holds. Individuals are encouraged to alert university officials to potential breaches of this value by either emailing integrity@purdue.edu or by calling 765-494-8778. While information may be submitted anonymously, the more information is submitted the greater the opportunity for the university to investigate the concern. More details are available on our course Brightspace table of contents, under University Policies.

Purdue's Honor Pledge: "As a boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do. Accountable together - we are Purdue.

Use of Artificial Intelligence in this Class

Submit your own work. If you use a source for support, include quotes and a citation. Academic dishonesty includes taking content from an Internet search, another person/entity, or AI technology such as ChatGPT (either directly or with modification) and representing it as your answer.

When using AI tools on assignments, add an appendix showing (a) the entire exchange, highlighting the most

relevant sections; (b) a description of precisely which AI tools were used (e.g. ChatGPT private subscription version or DALL-E free version), (c) an explanation of how the AI tools were used (e.g. to generate ideas, turns of phrase, elements of text, long stretches of text, lines of argument, pieces of evidence, maps of conceptual territory, illustrations of key concepts, etc.); (d) an account of why AI tools were used (e.g. to save time, to surmount writer's block, to stimulate thinking, to handle mounting stress, to clarify prose, to translate text, to experiment for fun, etc.).

Do not use AI tools during in-class examinations, or assignments, unless explicitly permitted and instructed.

Employ AI detection tools and originality checks prior to submission, ensuring that their submitted work is not mistakenly flagged.

Use AI tools wisely and intelligently, aiming to deepen understanding of subject matter and to support learning.

Diversity Statement for Syllabi

The Department of Earth, Atmospheric, and Planetary Sciences supports an inclusive learning environment where students from diverse backgrounds and perspectives can be successful. Dimensions of this diversity can include sex, race, age, national origin, ethnicity, gender identity and expression, intellectual and physical ability, sexual orientation, income, faith and non-faith perspectives, socio-economic class, political ideology, education, primary language, family status, military experience, cognitive style, and communication style. In line with our departmental goals, we disavow all racism, xenophobia, homophobia, sexism, Islamophobia, anti-Semitism, classism, ableism, and hate speech or actions that attempt to silence, threaten, and degrade others. It is my intent to be respectful of this diversity, and to oppose actions that diminish it, as here in EAPS we embrace the notion that such diversity enriches and enhances our intellectual community.

My preferred pronouns are **she/her/hers.** I wish to respect each of your identities and want to refer to them correctly. I encourage you to share this information when introducing yourself in class, if you feel comfortable doing so. Also, when introducing yourself in class or when communicating via email, please indicate if you have a preferred name which may differ from the information listed on Brightspace, if you feel comfortable doing so.

Nondiscrimination Statement

Purdue University is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the University seeks to develop and nurture diversity. The University believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life. More details are available on our course Brightspace table of contents, under University Policies.

Accessibility

Purdue University strives to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let me know so that we can discuss options. You are also encouraged to contact the Disability Resource Center at: drc@purdue.edu or by phone: 765-494-1247. More details are available on our course Brightspace under Accessibility Information.

Disclaimer

This syllabus is subject to change.