

# CLIM101-002 Fall 2024

## Global Warming: Weather, Climate and Society

### (Mason Core Course)

### (Introduction to Climate Change and Sustainability)

#### Course Information:

Title: CLIM101: Global Warming: Weather, Climate and Society

CRN: 73510

Time: 1:30 -2:45PM, Tuesdays and Thursdays, Aug 26, 2024 - Dec 18, 2024

Classroom location: Lecture Hall 1

Instructors: [Prof. John J. Qu](#) & [Prof Xianjun Hao](#)

Telephone: (703) 993-3958 & (703)-993-9322

E-mail: [jqu@gmu.edu](mailto:jqu@gmu.edu) & [xhao1@gmu.edu](mailto:xhao1@gmu.edu)

Office: Room 2310 & 3212 Exploratory Hall

Office Hour: 3:00—4:00PM Tuesdays or make appointment.

#### Course Description:

This is a unique session of CLIM101, which falls under the Mason Core Course category, titled "Global Warming: Weather, Climate, and Society." The instructor is grateful for the consent provided by Prof. Shukla and Prof. Kinter, allowing us to present this distinctive session titled "Introduction to Climate Change and Sustainability," utilizing our recently published textbook. A multidisciplinary, Earth systems approach to sustainability of natural resources. Examines the basic scientific principles of climate change to develop long-term strategies on the sustainability of water, energy, and food/agricultural resources, and the impacts upon human health. Examines the application of sustainability to social, economic, and political science, to understand Earth as an interconnected, integrated biological and physical system.

#### Learn Objectives:

The impact of the changing climate on natural resources is among the greatest challenges that currently threaten Earth. This course focuses on the basic scientific principles of climate change that may be used to help develop long-term strategies to cope with the resulting broader environmental, societal, and economic impacts. Using a multidisciplinary approach, the course combines the principles of changing climate with specialized fields of the Water-Energy-Food-Health (WEFH) Nexus to examine how the Earth operates as an integrated system. It is an introduction-level courses in undergraduate programs. It will prepare students for future challenges regarding the climate and expose them to opportunities to meet these challenges. Furthermore, students will have the opportunity to participate in a well-organized discourse concerning the

degree to which human actions contribute to the natural resources and sustainability of the Earth's climate change. This will also encompass an exploration of the potential consequences of climate actions, spanning from environmental conservation to the effects on job opportunities.

**Prerequisites:**

There are no formal prerequisites.

**Final group term paper**

The description of the Final Group Term Project can be discussed in the classroom based on group term meetings.

**Grading:**

Grades will be based upon your performance on the homework exercises, tests/g midterm, class attendance and final term paper and presentation. The weighted contribution of each of these items to your final grade is given below:

Homework 20%

Tests/quizzes 30 %

Final group term presentations and papers: 40 %

Class attendance and discussions 10%

(A=90-100, B=80-89, C=70-79, D=60-69, F=<60)

**Textbook:**

Required Textbook: Qu, J. J. and R. P. Motha, (2022), Climate Change and a Sustainable Earth (textbook), Cambridge Scholars Publishing, ISBN13: 978-1-5275-8044-2

[\(https://www.cambridgescholars.com/product/978-1-5275-8044-2/\)](https://www.cambridgescholars.com/product/978-1-5275-8044-2/)

[https://www.amazon.com/Climate-Change-Sustainable-Earth-John/dp/152758044X/ref=sr\\_1\\_10?dib=eyJ2IjoiMSJ9.nEwt6OaQfafu9e\\_rHhgRMeb2eYe\\_1sBT0zFeDM1r-YvHakoNbepd7pp\\_i7GPCdOgx\\_K49Sw2I8R35ZmTjjw7GK3AAqBsBKT-nAa5dl2Mw7Cbtv0kym6UpHtfl39aUbuMDmnXn2UjqXGgg5O4zTPoRA.OHa-yib9mOXD0gmQ\\_4MsuV\\_bElgeCWIGk93fN0-7WLs&dib\\_tag=se&qid=1724601128&refinements=p\\_27%3AJohn+J.+Qu&s=books&sr=1-10](https://www.amazon.com/Climate-Change-Sustainable-Earth-John/dp/152758044X/ref=sr_1_10?dib=eyJ2IjoiMSJ9.nEwt6OaQfafu9e_rHhgRMeb2eYe_1sBT0zFeDM1r-YvHakoNbepd7pp_i7GPCdOgx_K49Sw2I8R35ZmTjjw7GK3AAqBsBKT-nAa5dl2Mw7Cbtv0kym6UpHtfl39aUbuMDmnXn2UjqXGgg5O4zTPoRA.OHa-yib9mOXD0gmQ_4MsuV_bElgeCWIGk93fN0-7WLs&dib_tag=se&qid=1724601128&refinements=p_27%3AJohn+J.+Qu&s=books&sr=1-10)

## **Academic Integrity and Honor Code**

Mason upholds an Honor Code, and you can find a comprehensive explanation of this code and the honor committee process at the Office for Academic Integrity's website (<https://oai.gmu.edu/>). The principle of academic integrity is of paramount importance, and any violations are treated with utmost seriousness. In the context of this course, what does academic integrity entail? In essence, it signifies that when you are assigned a task, it is your responsibility to carry it out. If you draw upon someone else's work to enhance your task, proper and accepted credit must be given. Furthermore, another facet of academic integrity is fostering an environment of open idea exchange. Robust discussions and debates are strongly encouraged throughout the course, under the clear expectation that all interactions within the class will uphold civility and show respect for diverse ideas, viewpoints, cultures, and traditions. If uncertainties arise in any capacity, please don't hesitate to seek guidance and clarification. Please take note: the assignments in this course should reflect your individual efforts and should not involve collaboration with other students. If you have any inquiries regarding the assignments, feel free to reach out to the instructor at [jqu@gmu.edu](mailto:jqu@gmu.edu).

Students must strictly follow the honor code, both for individual and teamwork. No exception will be made. University policy requires that faculty members report incidents of Honor Code Violation. Scholastic dishonesty includes but is not limited to plagiarism (reference your sources and quotations), copying others' work, limiting others' access to course materials, sabotaging others' work, turning in the same paper or project for two classes without permission from all instructors, and many other things. You are responsible for the GMU Scholastic Honor Code, found in the GMU University Catalogue.

## **Students with Disabilities**

If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Resources at 703/993-2474. All academic accommodations must be arranged through that office.

## **Student use of electronic devices**

The use of computers, either lab desktops or personal laptops, is required for the course. You will only be permitted to work on material related to the class, however. Engaging in activities not related to the course will result in a significant reduction in your participation grade. Please be respectful of your peers and instructor and avoid email, social media, and other distracting uses of computers.

## **Class Cancellation**

If a class is cancelled due to inclement weather or other reasons, the syllabus will be updated as early as possible. Best efforts will be made to send each student an email with information on the cancellation of class. Make up classes will be scheduled during the next lecture. When an exam is cancelled, it will be given during the next lecture.

## Detailed Course Schedule

Week one 08/27, 08/29	Introduction and Group Project meeting (1) and Chapter 1 (Online)
Week two 09/03, 09/05	Chapter 2 (Dr. Hao) and Chapter 3 (Online)
Week three 09/10, 09/12	Chapter 4 (Dr. Hao) and Chapter 5 (Synchronous Online)
Week four 09/17, 09/19	Quiz 1 (in-person) and Guest lecture one (Dr. Zou, NOAA/STAR) (Synchronous Online)
Week five 09/24, 09/26	Chapter 6 and Chapter 7 (Synchronous Online)
Week six 10/01, 10/03	Group project meeting (2) (in person) and Chapter 8
Week seven 10/08, 10/10	Chapter 9 and Guest lecture two (Dr. Zhu USGS/HQ) (Synchronous Online)
Week eight 10/15, 10/17	Quiz 2 (in -person) and Chapter 10 (Synchronous Online)
Week nine 10/22, 10/24	Chapter 11 and Chapter 12 (Synchronous Online)
Week ten 10/29, 10/31	Group project meeting (3) (in person) and Chapter 13 Synchronous Online
Week eleven 11/05, 11/07	Chapter 14 and Chapter 15
Week twelve 11/12, 11/14	Chapter 16 and Quiz 3 (online)
Week thirteen 11/19, 11/21	Group project meeting (4) and COP29 (online)
Week fourteen 11/26,11/28	Final lecture reviewing & Thanksgiving Break (no class 11/28)
Week fifteen 12/03, 12/05	Final group project presentations (Part 1) (in -person) & Final group term paper preparation.
Week fifteen 12/10, 12/12	Final group term paper presentations (Part 2) (in -person) and Final group term papers (due date, 12/12)

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(Image courtesy of WMO)

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