Overview

Teaching

- Office hours: Tu/W 2-4pm, Th 2-4pm
- Email: cstan@gmu.edu

Meeting Days/Times

Monday, Wednesday, Friday 11:30am-12:20pm

Course Description

This course will introduce you to Earth system modeling, with an emphasis on the fundamentals of climate science and the interactions between the atmosphere, ocean, land, and cryosphere. We will use the CO2 flux model (DOAM) as a basis for this class. The main objective of this class will be to understand the basic principles of Earth system modeling and to develop the skills needed to design, implement, and interpret Earth system models. This class will focus on the application of Earth system modeling to climate change and climate impacts.

Course Objectives

- Understand the fundamental principles of Earth system modeling
- Develop the skills needed to design, implement, and interpret Earth system models
- Understand the applications of Earth system modeling to climate change and climate impacts

Assignments

There will be a variety of assignments throughout the course that will help you develop your skills in Earth system modeling. These assignments will include:

- Weekly problem sets
- Mini projects
- A final project

Assignments will be due on the dates specified in the course schedule. Late submissions will be penalized according to the course policies.

Exams

There will be no exams in this course.

Assignments and Final Project

Assignments will be due on the dates specified in the course schedule. Late submissions will be penalized according to the course policies.

Final Project

The final project will be a comprehensive application of the Earth system modeling skills you have developed throughout the course. The project will be due on the end of the semester.

Grading

The final grade will be based on the following:

- Weekly problem sets (40%)
- Mini projects (30%)
- Final project (30%)

Late submissions will be penalized according to the course policies.

Class Attendance

This course has no in-person attendance requirements. However, it is strongly recommended that you attend class to receive the full benefit of the course.

Technology

This course will make extensive use of computer tools and programming languages. It is strongly recommended that you have some basic programming experience in at least one of the following languages: Python, R, or MATLAB. If you do not have any programming experience, it is recommended that you take a course in computer science or a related field before enrolling in this course.

Facilities

The course will make extensive use of the computer facilities in the O'Keeffe Building. The facilities are available 24/7 and are equipped with a variety of computer hardware and software.

Student Support Services

The course will also make extensive use of the student support services available on campus. These services include:

- Writing Center
- Disability Services
- Office of International Student Services

Course Schedule

The course schedule is available on the course website. It includes the dates and times for all class sessions, as well as any special events or activities.

Syllabus

CLIM 670 Earth System Modeling

Instructor

First: C. Stan

Email: cstan@gmu.edu

Meeting Days/Times

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