



AS216 August Term - 3 Credits

Introduction to the Climate System

Instructor

Govindasamy Bala
Email: gbala@iisc.ac.in

Teaching Assistant

Email:

Department: CAOS

Course Time: Tus., Thu., 10:00-11:30 AM

Lecture venue: CAOS Seminar Hall

Detailed Course Page:

Announcements

This 3-credit course on the Introduction to our climate system is offered in each Aug-Dec Term at CAOS. The course is mainly intended to introduce students from various disciplines into the science of climate change. At the end of the course, the student should come out with a solid understanding of the way our climate system works.

Brief description of the course

The Earth System, Carbon Cycle, Equations of motion for the atmosphere and oceans, observed mean state of the atmosphere and oceans, general circulation, exchange of momentum, energy and water between the atmosphere and surface, angular momentum cycle, global water cycle, radiation, energetics, entropy in climate system, climate variability.

Prerequisites

Algebra, Calculus and Differential Equations

Syllabus

The Earth System, Carbon Cycle, Equations of motion for the atmosphere and oceans, observed mean state of the atmosphere and oceans, exchange of momentum, energy and water between the atmosphere and surface, angular momentum cycle, global water cycle, radiation, energetics, entropy in climate system, climate

variability.

Course outcomes

Solid understanding of the Angular momentum, water, energy, entropy and carbon budget in the climate system.

Grading policy

25% - assignments

25% - Midterm

50% - Final

Assignments

6-7 assignments

Resources