ES 202 August 3:0

Geodynamics

Instructor

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Teaching Assistant

Email:

Department: Centre for Earthsciences (CEaS)

Course Time: Mon., Wed., Thu 9-10 AM

Lecture venue: CEaS Lecture Hall

Detailed Course Page:

Announcements

Brief description of the course

About the dynamic processes that has shaped the earth, its interior structure and processes such as earthquakes, volcanoes, gravity and magnetic fields of the earth. It is a basic course intended for students working towards modelling geophysical processes, climate change, natural hazards and earth resources in general.

Prerequisites

Basic physics, mathematics, Chemistry and an understanding of basic geology

Syllabus

Early earth and its evolution to the present state

Deformation of rocks, stress, strain and products of deformation.

Shape of the earth, gravity field of the Earth, Isostasy

Magnetic field of the earth, paleomagnetism, plate reconstructions

Plate tectonics, quantification of earthquakes; volcanoes; seismic waves through the earth, Earthquakes in India.

Course outcomes

Get insights about the working of the planet, and an appreciation of its origin, uniqueness. It explains the way the earth's unique environment has evolved as the only known planet in the Universe that sustains life. It provides reasoning as to why the natural calamities occur, as part of the earth's natural evolution and leads to an appreciation of the fact that the long term survival of the human race is contingent on its ability to understand the earth processes and its long-term consequences such as climate change.

Grading policy

10% assignments

10% short quizzes

30% midterms (2)

50% final exam

Assignments

Resources

Books prescribed in the course book; research papers