

Semester	JAN 2023
Open to semester	2
Course code	EC1223
Course title	The Solid Earth
Credits	3 /
Course Coordinator & participating faculty (if any)	Arjun Datta
Nature of Course	Lectures and Tutorials
Pre-requisites	None
Objectives (goals, type of students for whom useful, outcome etc)	This is a foundation course for the discipline of (global) geophysics. It covers the structure and dynamics of the Solid Earth, emphasizing how classical physics is used to understand gross features of our planet.
Course contents (details of topics /sections with no. of lectures for each)	<p>1. The Earth system and Earth's Interior (4 L) – Earth as a planet; one-dimensional structure</p> <p>2. PlateTectonics (12 L) – qualitative and quantitative aspects: (relative plate motions, triple junctions)</p> <p>3. Geomagnetism (6 L) - dipole and non-dipole field, field elements, field variations, rock magnetism and paleomagnetism</p> <p>4. Gravity (6 L) - gravitational potential, figure of the Earth, rotation and ellipticity</p>
Evaluation /assessment	<p>End-Sem Examination-40%</p> <p>Mid-Sem Examination-30%</p> <p>Others-30%</p>
Suggested readings (with full list of authors, publisher, year, edn etc.)	<p>1. Fowler, C.M.R. (1990). The Solid Earth: An Introduction to Global Geophysics. Cambridge University Press.</p> <p>2. Lowrie, W. and Fichtner, A. (2020). Fundamentals of Geophysics (3rd ed.). Cambridge University Press</p>