

Semester	AUG 2022
Open to semester	7,11,13,21
Course code	PH5113/PH6353
Course title	Advanced Classical Mechanics
Credits	3 /3
Course Coordinator & participating faculty (if any)	Deepak Dhar
Nature of Course	Lectures and Tutorials
Pre-requisites	Introductory Mechanics (PH1113)
Objectives (goals, type of students for whom useful, outcome etc)	(goals, type of students for whom useful, outcome etc) The course will aim to cover selected topics in Classical Mechanics, at the next level after the introductory course. The emphasis will be on concepts and useful techniques, that find wide applicability in varied areas of research
Course contents (details of topics /sections with no. of lectures for each)	Lagrangian mechanics, Hamiltonian mechanics, Bound states, Classical scattering, Canonical transformations, Action-Angle variables, Hamilton-Jacobi theory, Rigid body motion, Oscillations, Perturbation theory, Special theory of relativity.
Evaluation /assessment	End-Sem Examination-60% Mid-Sem Examination-40% Others-%
Suggested readings (with full list of authors, publisher, year, edn etc.)	(with full list of authors, publisher, year, (2002) 3rd edition, Pearson edn etc.) Classical Mechanics: H. Goldstein, C. Poole and J. Safko