

Module: Elective Advanced Lectures: BCGS Courses

Module No.: physics70d

Course:



Relativity and Cosmology I (T)

Course No.:

Category	Type	Language	Teaching hours	CP	Semester
Elective	Lecture with exercises	English	4+2	8	WT

Requirements for Participation:

Preparation:

Training in theoretical physics at the B.Sc. level

Form of Testing and Examination:

Written or oral examination

Length of Course:

1 semester

Aims of the Course:

Introduction into Einstein's theory of general relativity and its major applications

Contents of the Course:

Gravity as a manifestation of geometry
 Introduction to differential geometry
 Einstein field equations
 The Schwarzschild solution
 Experimental tests
 Gravitational waves

Recommended Literature:

T. Padmanabhan, Gravitation: Foundation and Frontiers
 J. B. Hartle, Gravity: An introduction to Einstein's general relativity