Relativity and Cosmology I (T) - GR I

Degree - M.Sc. in Physics (PO von 2014)

Module	**Elective Advanced Lectures: BCGS Courses**
Module No.	physics70d

Course	**Relativity and Cosmology I (T)**
Course No.	GR I

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