

Study programme	Type (cycle)		Second cycle	
	Module		Physics	
Course title	GRAVITATION AND COSMOLOGY			
Code	Semestar	Status	ECTS	L+E
PTH9671	I	ELECTIVE	6	2+1
Lecturer	Doc. dr. Admir Greljo			
Aims and intended learning outcomes	The goal of the course is to introduce the main topic and methods in gravitation and cosmology. The expected outcome is to enable students to explore advanced topics as well as follow modern trends in this area of physics.			
Course contents				
The general theory of relativity. Robertson-Walker metric. Einstein equations. Friedmann equations. The standard model of Cosmology. Thermal history of the Universe. Dark matter. Cosmic microwave background. Structure formation.				
Working hours (h)		Exams and marks		
P + V	45	Type	Points	
Exams	60	Midterm exam	35	
Written	45	Final exam	35	
Other		Homeworks	30	
Total	150			
		Total	100	
Literature				
Main:				
1. A No-Nonsense Introduction to General Relativity / Carroll				
2. Cosmology / Baumann				
3. Lectures on Dark Matter Physics / Lisanti				
Extended :				
1. Physical foundations of cosmology / Mukhanov				
2. Spacetime and Geometry / Carroll				
3. Gravitation and Cosmology / Weinberg				
Other				