

Study programmes: Bachelor studies – Astronomy and Astrophysics				
Course name: Solar System dynamics				
Lecturers: Bojan Novaković				
Status: Elective				
ECTS: 6				
Attendance prerequisites: None				
Course aims: Acquisition of general and specific knowledge about Solar System objects and its characteristics.				
Course outcome: Upon completion of the course, the student has the basic knowledge about general characteristics of Solar System objects. Primarily, student obtain knowledge about orbital and dynamical characteristics of small Solar System bodies (asteroids and comets). Also, students are informed about physical properties of these bodies, their formation and evolution. Upon completion of the curse, student is able to solve different problems connected to Solar System objects.				
Course content: 1. Overview of the Solar System bodies: planets, dwarf planets, satellites, asteroids, comets, trans-neptunian objects, dust... 2. Orbital and dynamical characteristics: orbital elements, two body problem, 3-body problem, special solutions of 3-body problem, N-body problem, perturbations, resonances, chaotic motion, non-gravitational effects, tidal forces, spin-orbit resonances. 3. Physical properties of small Solar System bodies: origin, taxonomy, composition, internal structure, masses, shape, rotational periods... 4. Evolution of the Solar System: planetary migration, late heavy bombarding, dynamical and collisional evolution				
Literature: 1. George H. A. Cole, Michael M. Woolfson: Planetary Science: The Science of Planets around Stars , Second Edition, CRC Press, 2013 2. Carl D. Murray, Stanley F. Dermott: Solar System Dynamics , Cambridge University Press, 2000 3. Linda T. Elkins-Tanton: Asteroids, meteorits comets , Facts On File, Inc., New York, 2010 4. Bojan Novakovic: Dinamika malih tela Suncevog sistema , skripta, 2014 5. Barrie W. Jones: Discovering the Solar System , Second Edition, John Wiley & Sons Ltd, 2007				
Number of hours: 6	Lectures: 3	Tutorials: 3	Laboratory: -	Research: -
Teaching and learning methods: Frontal, Group, Lectures, Exercises				
Assessment (maximal 100 points)				
Course assignments	points	Final exam	points	
Lectures	10	Written exam	20	
Exercises / Tutorials	-	Oral exam	40	
Colloquia	30	Written-oral exam		
Essay / Project	-			