

Study programmes: Master Academic Studies - Astronomy and Astrophysics			
Course name: Planetary systems			
Lecturers: Bojan Novaković			
Status: Optional			
ECTS: 8			
Attendance prerequisite: No prerequisite classes			
Course aims: Advanced and specific knowledge acquisition in planetary systems			
Course outcome: By the end of the course, student is familiar with different characteristics of planetary systems. Students are primarily taught about the basic mechanisms and phases which characterize formation of planetary systems and their evolution. The student also learns about the process of formation and evolution of our Solar system. By the end of the course, student has the necessary knowledge to be included in scientific research in the relevant fields.			
Course content			
Protoplanetary disks: star formation, disk structures, passive disks, active accretion disks, condensation process			
Planet formation: planetesimals formation, formation of planetary embryos, formation of gas giants			
Evolution of planetary systems: migration of gas disk, migration of planetesimals disk, planet interactions, planet evolution due to tidal forces, planet migration			
Formation of Solar system: formation of exoplanets, formation of Jupiter-like planets, "Grand Tack" scenario, origin of Earth's water			
Extrasolar planetary systems: methods of detection, number of discovered planets and their characteristics, dynamic stability over long periods of time, planet habitability			
Literature: (Lectures and exercises)			
Philip J. Armitage: 2013, Astrophysics of Planet Formation , Cambridge University Press			
Michael Perryman: 2011, The Exoplanet Handbook , Cambridge University Press			
John Chambers and Jacqueline Mitton: 2013, From Dust to Life: The Origin and evolution of Our Solar System , Princeton University Press			
Morbidelli, A., Lunine, J.I., O'Brien, D.P., Raymond, S.N., and Walsh, K.J.: 2012, Building Terrestrial Planets , Annual Review of Earth and planetary Sciences, vol. 40, pp. 251-275			
Number of classes of active teaching: 5	Theoretical: 3	Lab and practical work per week: 2	
Teaching and learning methods: Frontal, group, practical			
Assessment (maximal 100 points)			
Course assignments	points	Final exam	points
Lectures	20	Written exam	20
Exercises / Tutorials	-	Oral exam	30
Colloquia	-	Written-oral exam	-
Essay / Project	30		