

Study programmes: PhD Studies - Astronomy and Astrophysics			
Course name: Active Galactic Nuclei			
Lecturers: Dragana Ilić, Luka Č. Popović			
Status: Optional			
ECTS: 15			
Attendance prerequisites: compulsory courses passed			
Course aims: Obtaining advanced and specific knowledge in the field of active galactic nuclei			
Course outcome: After completing the course, student has advanced knowledge in the field of active galactic nuclei (i.e. observational properties of active galactic nuclei and their classification, structure and radiation mechanisms, unification model, cosmological importance) and is capable to do independent scientific research in these subjects.			
Course content: Observational properties of active galactic nuclei (AGN) with the historical overview. Classification of AGN. Black holes. Accretion mechanism and their role in formation of AGN. Continuum emission of AGN. High-energy spectrum of AGN. Broad line region. Narrow line region. Spectral lines and line profile analysis. Radio spectrum of AGN. Unification model of AGN. Host galaxy properties. Quasar absorption lines. Quasar search. Cosmological importance of AGN.			
Literature:			
1. Peterson, B.: 2004, <i>An Introduction to Active Galactic Nuclei</i> , Cambridge University Press			
2. Krolik, J. H.: 1999, <i>Active Galactic Nuclei: From the Central Black Hole to the Galactic Environment</i>			
3. Osterbrock D. E.: 1989 <i>Astrophysics of Gaseous Nebulae and Active Galactic Nuclei</i>			
4. Ilic, D. 2006, <i>Aktivna galakticka jezgra: primer galaksije Mrk 817</i> , Zaduzbina Andrejevic, Beograd			
Number of hours: 3	Lectures: 3	Tutorials: -	
Teaching and learning methods:			
Frontal, group, practical work			
Assessment (maximal 100 points)			
Course assignments	points	Final exam	points
Lectures	-	Written exam	-
Exercises / Tutorials	20	Oral exam	50
Colloquia	-	Written-oral exam	-
Essay / Project	30		