

<b>Study programmes:</b> Astronomy and Astrophysics - PhD Studies			
<b>Course name:</b> Active Galactic Nuclei			
<b>Lecturers:</b> Dragana Ilić			
<b>Status:</b> Optional			
<b>ECTS:</b> 9			
<b>Attendance prerequisites:</b> none			
<b>Course aims:</b> Obtaining advanced and specific knowledge in the field of active galactic nuclei			
<b>Course outcome:</b> 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.			
<b>Course content:</b> 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.			
<b>Literature:</b>			
1. Popović, L. Č., Ilić, D. 2016, Aktivna galaktička jezgra, Matematički fakultet			
2. Peterson, B.: 2004, An Introduction to Active Galactic Nuclei, Cambridge University Press			
3. Krolik, J. H.: 1999, Active Galactic Nuclei: From the Central Black Hole to the Galactic Environment			
4. Osterbrock D. E.: 1989 Astrophysics of Gaseous Nebulae and Active Galactic Nuclei			
5. Ilic, D. 2006, Aktivna galakticka jezgra: primer galaksije Mrk 817, Zaduzbina Andrejevic, Beograd			
6. selection of actual scientific papers			
<b>Number of hours: 10</b>	<b>Lectures: 4</b>	<b>Tutorials: 6</b>	
<b>Teaching and learning methods:</b>			
Frontal, group, practical work			
<b>Assessment (maximal 100 points)</b>			
<b>Course assignments</b>	<b>points</b>	<b>Final exam</b>	<b>points</b>
Lectures	-	Written exam	-
Exercises / Tutorials	20	Oral exam	50
Colloquia	-	Written-oral exam	-
Essay / Project	30		