

Level: master				
Course title: Radio Astronomy				
Status: obligatory				
ECTS: 7				
Requirements: none				
Learning objectives The goal of the radio Astronomy course is to teach students about the theoretical fundaments of radio astronomy, observational methods relevant for this area, as well as to teach them about classes of astrophysical objects that are intensive radio emitters.				
Learning outcomes After completion of the course, students should be familiar with the properties of radio telescopes as well as trained to process and interpret radio observations of different astronomical objects, which would enable them to draw important conclusions about their physical properties.				
Syllabus <i>Theoretical instruction</i> Introduction to radio astronomy and its history; Radio telescopes; radio interferometry, Mechanisms of radio emission; Synchrotron radiation; Bremsstrahlung radiation; Supernova remnants; Inverse Compton scattering; Sunyaev-Zel'Dovich effect; Active Galactic Nuclei; Radio lines; 21 cm hydrogen line <i>Practical instruction</i> With the goal of in-depth understanding of the content covered in classes, a great deal of attention will be given to practical work where students will be encouraged to process the relevant radio observations of astrophysical objects, as well as to solve problems in class which will help prepare them for homework problems and a written exam. <i>Term paper</i> The goal of assigning a term paper is to provide students with a deeper introduction to a specific topic chosen by them. Students will have to independently search the literature and afterwards write a short description of the topic with the task of presenting the key points and their understanding of the topic. An important part of the term paper assignment will be making and delivering an in-class presentation of the topic in order to help improve their presentation skills and share the knowledge about a certain topic with fellow students.				
Weekly teaching load				Other:
Lectures: 3	Exercises: 3	Other forms of teaching: 0	Student research:	