

Level: PhD				
Course title: Astrophysical plasmas				
Status: elective				
ECTS: 15				
Requirements: -				
Learning objectives Detailed knowledge and understanding of plasma description with the special attention on astrophysical plasmas and effects related to them.				
Learning outcomes Upon completion of the course, students should possess: <ul style="list-style-type: none"> - General abilities: of analysis and synthesis, abilities of using and further developing of existing models; - Subject specific abilities: detailed knowledge and understanding of different plasma descriptions, understanding of plasma state of astrophysical interest, understanding of different mechanisms in astrophysics related to plasma. 				
Syllabus <i>Theoretical instruction</i> Statistical description of a many-body system. Particle and fluid motions in gravitational and electromagnetic fields. Magnetohydrodynamics of conducting fluids. Plasma description: two fluids. Plasma description: kinetics. Plasma of astrophysical relevance. Nonconducting astrophysical fluids. Astrophysical dynamo. Magnetic reconnection.				
Weekly teaching load				Other:
Lectures: 6	Exercises: -	Other forms of teaching: -	Student research: 4	