

Level: bachelor				
Course title: Electromagnetism				
Status: elective				
ECTS: 7				
Requirements: none				
Learning objectives Introduction to the basic laws of electromagnetism.				
Learning outcomes Student should develop: General abilities: following the literature; search and using the Internet. Specific abilities: Adopting the knowledge from electromagnetism and understanding the basic laws.				
Syllabus <i>Theoretical instruction</i> Electric charge and electrostatic field in vacuum. Electrostatic field in presence of conductors and dielectrics. Electric field energy. Stationary and quasistationary currents. Properties of conductors. Electric circuits. Work and power of electric currents. Fields of moving charges. Stationary magnetic field in vacuum and in magnetics. Electromagnetic induction. Electromagnetic oscillations and AC circuits. Magnetic field energy. The electromagnetic field. Solving selected numerical problems. <i>Practical instruction</i> Selected experimental exercises: Dielectric permittivity, Ohm's law, Wheatstone bridge, RC-circuit, RLC-circuit, Specific conductivity of fluids, Tangent compass.				
Weekly teaching load				Other:
Lectures: 3	Exercises: 2	Other forms of teaching: 1	Student research:	