

Level: bachelor				
Course title: Chemistry of new materials			IHN-301	
Status: elective				
ECTS: 5				
Requirements: none				
Learning objectives Gaining knowledge of modern materials as well as materials for the future. Production of materials with pre-defined properties. New types of inorganic and organic materials, their preparation, properties and use.				
Learning outcomes Students’ ability to design new materials with pre-defined properties.				
Syllabus <i>Theoretical instruction</i> Importance of science of new materials. Advanced materials. Silicon and silicon based new materials. Carbon and carbon based new materials. Tough ceramics. Oxide and non-oxide ceramics. Glasses. Magnetic inorganic and organic materials. Organic and inorganic coatings and films. Polymeric materials. Functional polymers. Superconducting inorganic and organic materials. Composite materials. Bioceramics. <i>Practical instruction</i> Practical exercises accompany lecture material.				
Weekly teaching load				Other:
Lectures: 2	Exercises:	Other forms of teaching: 2	Student research:	