

<b>Study Programme:</b> Chemistry			
<b>Course Unit Title:</b> Chemical Crystallography			
<b>Course Unit Code:</b> IHN-304			
<b>Name of Lecturer(s):</b> Assistant professor Marko Rodić			
<b>Type and Level of Studies:</b> Bachelor Academic Studies			
<b>Course Status (compulsory/elective):</b> Elective			
<b>Semester (winter/summer):</b> Winter			
<b>Language of instruction:</b> English			
<b>Mode of course unit delivery (face-to-face/distance learning):</b> Face-to-face			
<b>Number of ECTS Allocated:</b> 5			
<b>Prerequisites:</b> None			
<b>Learning objectives</b> Obtaining knowledge on fundamentals of crystallography, symmetry and structural chemistry.			
<b>Learning outcomes</b> After successfully completing the course, the student is able to: Differentiate between crystalline and amorphous solids; recognize symmetry elements of molecules and simple crystal structures; describe three-dimensional periodicity of crystal structure; define relationship between diffraction pattern and crystal structure; describe and explain basic structural types; use crystallographic visualization programs and crystallographic databases.			
<b>Syllabus</b> <i>Theoretical instruction:</i> Crystalline state of matter. Crystal structure and crystal lattice. Symmetry elements and operations. Symmetry point groups. Crystal systems. Bravais lattices. Space groups. Basic principles of X-ray diffraction. Crystallographic programs and databanks. Basic principles of crystal chemistry. Basic structural types. Classifications of crystal structures by bonding types. Physical properties of crystals. Polymorphism. Phase transitions.  <i>Practical instruction:</i> Geometrical crystallography. Demonstration of crystal structure determination. Use of crystallographic visualization programs and crystallographic databases. Elaboration of selected structural types.			
<b>Required Reading:</b> 1. Weekly teaching load			
<b>Weekly Contact Hours:</b> 60	<b>Lectures:</b> 30	<b>Practical work:</b> 30	
<b>Teaching Methods:</b> Lectures and laboratory work			
<b>Knowledge Assessment (maximum of 100 points):</b> 100			
<b>Pre-exam obligations</b>	points	<b>Final exam</b>	points
Activity	10	Written exam	70
Lab exercises	20		