Course Unit Descriptor

Study Programme: Chemistry			
Course Unit Title: Organic Chemistry IV			
Course Unit Code: IHO-301			
Name of Lecturer(s): Assistant professor Aleksandar Oklješa			
Type and Level of Studies: Bachelor Academic Studies			
Course Status (compulsory/elective): Elective			
Semester (winter/summer): Winter			
Language of instruction: English			
Mode of course unit delivery (face-to-face/distance learning): Face-to-face			
Number of ECTS Allocated: 5			
Prerequisites: None			
Learning objectives Obtaining knowledge of Molecular Orbital (MO) theory and the principle of hard and soft acids and bases (HSAB) as the most accessible approaches to understanding many aspects of reactivity. Gaining knowledge and skills in planning of organic reactions and their applications in modern organic synthesis.			
Learning outcomes Qualifying students to create and interpret organic reactions for the synthesis of the planned compounds.			
Syllabus *Theoretical instruction* Molecular Orbital (MO) theory and structures of organic molecules. The Principle of Hard and Soft Acids and Bases (HSAB). Factors affecting the position of an equilibrium and chemical reactivity. Ionic Reactions – Reactivity. Pericyclic Reactions (sigmatropic rearrangement, Diels-Alder reactions, [3+2]- and [2+2] cycloaddition reactions. The Woodward-Hoffmann Rules. Photochemical Reactions. *Practical instruction* Laboratory synthesis of organic compounds.			
Required Reading: 1. G. Proctor, Stereoselectivity in organic synthesis, Oxford, University press, 1998			
Weekly Contact Hours: 60	**Lectures:** 30	**Practical work:** 30	
Teaching Methods: Lectures and laboratory work			
Knowledge Assessment (maximum of 100 points): 100			
Pre-exam obligations	points	**Final exam**	points
Activity	5	Written exam	35
Lab exercises	25	Oral exam	15
Seminar work	20		