



Course ID: HOB309	Course name: MOLECULAR MODELING IN ORGANIC CHEMISTRY		
Cycle: FIRST	Year: THIRD	Semester: VI	ECTS credits: 1
Course status: ELECTIVE		Total course hours: 15 Lectures: 15	
Teaching participants:	Teachers and associates with expertise in the field to which the subject belongs		
Prerequisite for enrollment:	-		
Course aims:	The aim of the course is to introduce students to the basic computer tools used in organic chemistry and biochemistry.		
Thematic course units:	<ol style="list-style-type: none">1. Introduction to modeling programs2. Molecule geometry and stereochemistry3. Conformational analysis4. Examination of the reaction mechanism5. Spectrum simulation6. Protein structure and modeling7. Interaction of biomolecules with ligands		
Learning outcomes:	<p><i>Knowledge:</i> Acquisition of basic knowledge of computer tools used to monitor chemical reactions (synthesis, interaction of molecules with ligands, mechanisms of organic reactions), simulation of spectra.</p> <p><i>Skills:</i> To enable the student to use computer tools for the stated purposes by using programs and available online platforms.</p> <p><i>Competencies:</i> The student will be able to use different computer methods in order to monitor chemical reactions and interactions of molecules.</p>		
Teaching methodology:	Auditory lectures		
Assessment methods and grading system¹:	Grading criteria		
	Criteria	Maximal score	Required score
	1. Class attendance	5	3
	2. Class activities	-	-
	3. Midterms	50	27
	4. Final exam	45	25
Total	100	55	
Scores and grading			
Score	Grade	Grade	

¹The grading structure for each subject is determined by the Council of the organizational unit before the beginning of the academic year in which the subject is taught as per Article 64, paragraph 6 of the Law on Higher Education of Sarajevo Canton

	(BiH)	(ECTS)
< 55	5	F, FX
55-64	6	E
65-74	7	D
75-84	8	C
85-94	9	B
95-100	10	A

Literature²:	<p>Mandatory literature:</p> <ol style="list-style-type: none"> Zlatović, M., Petrović, M. (2016) Osnovi molekuskog modeliranja, Planeta Print Höltje, H. D., Sippl, W., Rognan, D., Folkers, G. (2008) Molecular modeling: basic principles and applications, Wiley-VCH. <p>Supplementary literature:</p> <ol style="list-style-type: none"> Hoppensteadt, F.C., Peskin, C.S. (2010) Modeling and simulation in medicine and life sciences, Springer
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²The Senate of the higher education institution, as an institution, or the Council of the organizational unit of the higher education institution, as a public institution, determines by a special decision, which is published on its website before the beginning of the academic year obligatory, mandatory and recommended textbooks and manuals, as well as other recommended literature based on which exams are prepared and taken as per Article 56, paragraph 3 of the Law on Higher Education of the Sarajevo Canton