



<b>Course ID:</b> HOB408	<b>Course name: PRINCIPLES OF ORGANIC SYNTHESIS</b>																				
<b>Cycle:</b> FIRST	<b>Year:</b> FOURTH	<b>Semester:</b> VII	<b>ECTS credits:</b> 3																		
<b>Course status:</b> ELECTIVE	<b>Total course hours: 45</b> Lectures: 30 Laboratory: 15																				
<b>Teaching participants:</b>	<b>Teachers and associates with expertise in the field to which the subject belongs</b>																				
<b>Prerequisite for enrollment:</b>	-																				
<b>Course aims:</b>	Students will learn about the latest developments in the field of organic synthesis																				
<b>Thematic course units:</b>	Introduction. Planning the synthesis of organic compounds. Synthetic strategy. Protecting groups. Synthons. Inversion polarity. Introduction to retrosinteznu analysis. Retrosynthesis analysis - closing a connection. Retrosynthesis analysis - bifunctional compounds. Retrosynthesis analysis - carbocyclic compounds. Retrosynthesis analysis - polycyclic compounds. Retrosynthesis analysis - heterocycle. Problems regioselective and stereoselective synthesis. Biomimetic synthesis. The use of computers in the planning of organic synthesis. Synthesis of complex molecules strategy																				
<b>Learning outcomes:</b>	Knowledge: Acquiring knowledge about new synthetic approaches, synthesis planning, retrosynthesis, use of new reagents for functionalization, and preparation of reagents and products Skills: Ability to independently retrosynthetic analysis of simpler / moderately complex organic molecules. Understanding the structure, properties and reactivity of some classes of heterocyclic compounds. Competences: To instruct students in modern trends in the development of organic synthesis																				
<b>Teaching methodology:</b>	Classroom lectures and laboratory exercises																				
<b>Assessment methods and grading system<sup>1</sup>:</b>	<table border="1"><thead><tr><th colspan="3">Grading criteria</th></tr><tr><th>Criteria</th><th>Maximal score</th><th>Required score</th></tr></thead><tbody><tr><td>1. Class attendance</td><td>5</td><td>3</td></tr><tr><td>2. Class activities</td><td>10</td><td>5</td></tr><tr><td>3. Midterms</td><td>45</td><td>25</td></tr><tr><td>4. Final exam</td><td>40</td><td>22</td></tr></tbody></table>			Grading criteria			Criteria	Maximal score	Required score	1. Class attendance	5	3	2. Class activities	10	5	3. Midterms	45	25	4. Final exam	40	22
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<sup>1</sup> The 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

	Total	100	55
	Scores and grading		
	Score	Grade (B&H)	Grade (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

  

<b>Literature<sup>2</sup>:</b>	<b>Mandatory literature:</b>
	<ol style="list-style-type: none"> <li>1. Tišler, M. (1987) Sintezne strategije, Univerza v Ljubljani.</li> <li>2. Čeković, Ž. (1980) Principi organske sinteze, Naučnaknjiga Beograd.</li> </ol>
	<b>Supplementary literature:</b>
	<ol style="list-style-type: none"> <li>1. Ho, T. L. (1992) Tandem Organic Reactions, J. Wiley-Interscience.</li> <li>2. Smith, M. B. (1994) Organic Synthesis, McGraw-Hill.</li> <li>3. Fuhrhop, J.H., Li, G. (2003) Organic Synthesis: Concepts and Methods, Wiley-VCH.</li> </ol>

<sup>2</sup> The 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