



Course ID: HOB243	Course name: ORGANIC CHEMISTRY II		
Cycle: FIRST	Year: SECOND	Semester: IV	ECTS credits: 6
Course status: MANDATORY		Total course hours: 90 Lectures: 30 Laboratory: 60	
Teaching participants:	Teachers and associates with expertise in the field to which the subject belongs		
Prerequisite for enrollment:	-		
Course aims:	The student will be introduced to the reactions of electrophilic addition at unsaturated carbon, additions at conjugate systems, substitutions on unsaturated C atom, free radical reactions as well rearrangement reactions.		
Thematic course units:	<ol style="list-style-type: none">1. Electrophilic additions at unsaturated carbon center Mechanism, orientation and stereochemistry of addition reactions.2. Addition reaction of alkenes and alkynes3. Addition on conjugate polyunsaturated systems4. Substitution reactions at a unsaturated C atom- Aromatic compounds5. Mechanisms and orientation of electrophilic aromatic substitution6. Electrophilic aromatic substitution reactions- heteroatoms as electrophiles7. Electrophilic aromatic substitution reactions-carbon as electrophiles8. Nucleophilic aromatic substitution, synthesis with aromatic compounds9. Polycyclic aromatic compounds10. Heterocyclic aromatic compounds11. Oxidation and reduction reactions12. Free radical reactions13. Molecular rearrangement reactions14. Rearrangement to Electron Deficient Carbon15. Rearrangements of free radicals and anions16. Photochemical reactions		

Learning outcomes:	<p>Knowledge: The student will be able to state and explain the main conditions for electrophilic addition reactions, electrophilic aromatic substitutions of molecular rearrangements and photochemical reactions as well as products obtained in the mentioned chemical reactions</p> <p>Skills: The student will be able to synthesize organic compounds and explain the mechanism of these syntheses. They will also be able to compare the conditions under which electrophilic addition reactions, electrophilic aromatic substitutions, molecular rearrangements and photochemical reactions take place and assess the specifics of those reactions.</p> <p>Competences: The student is able to independently solve problems based on correctly assessed and written mechanisms of organic reactions as well as practically synthesize organic compounds.</p>																																													
Teaching methodology:	Auditory lectures and laboratory exercises																																													
Assessment methods and grading system¹:	<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> <tr> <td>Total</td> <td>100</td> <td>55</td> </tr> <tr> <th colspan="3">Scores and grading</th> </tr> <tr> <th>Score</th> <th>Grade (B&H)</th> <th>Grade (ECTS)</th> </tr> <tr> <td>< 55</td> <td>5</td> <td>F, FX</td> </tr> <tr> <td>55–64</td> <td>6</td> <td>E</td> </tr> <tr> <td>65–74</td> <td>7</td> <td>D</td> </tr> <tr> <td>75–84</td> <td>8</td> <td>C</td> </tr> <tr> <td>85–94</td> <td>9</td> <td>B</td> </tr> <tr> <td>95–100</td> <td>10</td> <td>A</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	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
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Literature²:	<p>Mandatory literature:</p> <ol style="list-style-type: none"> Volhardt, K.P.C., Schore, N.E. (2004) ORGANSKA HEMIJA: struktura i funkcija, IV izdanje, Data status, Beograd, 2004 Wade, L. G. (2017) ORGANSKA KEMIJA, Školska knjiga Zagreb. Čopra-Janićijević, A., Klepo, L., Topčagić, A. (2013) PRAKTIKUM ORGANSKE HEMIJE, PMF, Sarajevo. Pine, S.H. (1994) ORGANSKA HEMIJA, Školska knjiga Zagreb 																																													

¹ 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

² 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

Supplementary literature:

1. Maksimović, M., Čopra-Janićijević, A., Vidic, D., Topčagić, A., Klepo, L., Dizdar, M., Čulum D. (2019) OSNOVE ORGANSKE HEMIJE – Zbirka zadataka, PMF, Sarajevo.
2. Maksimović, M. (2003) KARBOHIDROGENI-Zadaci i rješenja iz organske hemije, PMF, Sarajevo