



<b>Course ID:</b> HOB247	<b>Course name: INTRODUCTION TO BIOCHEMISTRY</b>		
<b>Cycle:</b> FIRST	<b>Year:</b> SECOND	<b>Semester:</b> IV	<b>ECTS credits:</b> 2
<b>Course status:</b> MANDATORY		<b>Total course hours: 30</b> Lectures: 30	
<b>Teaching participants:</b>	Teachers and associates with expertise in the field to which the subject belongs		
<b>Prerequisite for enrollment:</b>	-		
<b>Course aims:</b>	The aim of the course is to introduce student to the subject of biochemistry, basic classes of compounds of primary metabolism and the conditions of biochemical reactions.		
<b>Thematic course units:</b>	<ol style="list-style-type: none"> <li>1. The cell chemistry</li> <li>2. Water, Electrolytes and bioelements, Nernst equation</li> <li>3. Buffers, Henderson-Hasselbalch equation</li> <li>4. The biochemical processes in living cells (non-covalent, ionic, Van der Waals and hydrogen bonds)</li> <li>5. Carbohydrates (Classification, structure and properties)</li> <li>6. Lipids (Structure and properties of fats and oils, Lipid complex, Steroids)</li> <li>7. Proteins (Amino acids, Classification and structure of proteins)</li> <li>8. Nucleic acids and composition, DNA and RNA</li> <li>9. Biosynthesis of proteins- chemical approach</li> <li>10. Enzymes (Classification and properties). Active site and enzyme-substrate complex</li> <li>11. Cell minerals</li> <li>12. Metabolism and bioenergetics</li> </ol>		
<b>Learning outcomes:</b>	<p><i>Knowledge:</i> Acquisition of basic knowledge about the biochemistry and basic classes of compounds of primary metabolism.</p> <p><i>Skills:</i> Students will be able to follow and progress in the study of dynamic biochemistry.</p> <p><i>Competencies:</i> To give students a detailed overview of the basic compounds of primary metabolism, the formation of basic biopolymers, and the conditions of biochemical reactions.</p>		
<b>Teaching methodology:</b>	Auditory lectures		
<b>Assessment methods and grading system<sup>1</sup>:</b>	<b>Grading criteria</b>		
	Criteria	Maximal score	Required score

<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

	<table border="1"> <tbody> <tr> <td>1. Class attendance</td> <td>5</td> <td>3</td> </tr> <tr> <td>2. Class activities</td> <td>-</td> <td>-</td> </tr> <tr> <td>3. Midterms</td> <td>50</td> <td>27</td> </tr> <tr> <td>4. Final exam</td> <td>45</td> <td>25</td> </tr> <tr> <td>Total</td> <td>100</td> <td>55</td> </tr> <tr> <td colspan="3" style="text-align: center;"><b>Scores and grading</b></td> </tr> <tr> <td>Score</td> <td>Grade (BiH)</td> <td>Grade (ECTS)</td> </tr> <tr> <td>&lt; 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>	1. Class attendance	5	3	2. Class activities	-	-	3. Midterms	50	27	4. Final exam	45	25	Total	100	55	<b>Scores and grading</b>			Score	Grade (BiH)	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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<b>Literature<sup>2</sup>:</b>	<p>Mandatory literature:</p> <ol style="list-style-type: none"> <li>1. Geoffrey M. Cooper, Robert E. Hausman „STANICA – MOLEKULARNI PRISTUP“ Medicinska naklada, Zagreb, 2004.</li> <li>2. Mladen Miloš, “OSNOVE BIOKEMIJE (interna skripta), Sveučilište u Splitu, 2008.</li> </ol> <p>Supplementary literature:</p> <ol style="list-style-type: none"> <li>1. Peter Karlson, „ BIOKEMIJA“, Školska knjiga Zagreb, 1993.</li> <li>2. Lodish Berk, Matsudarira Kaiser, Kreiger Scott, Zipurski Darnell, „MOLECULAR CELL BIOLOGY“, Fith Edition, W.H.Freeman And Company, New York, 2004.</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