



<b>Course ID:</b> HFH404	<b>Course name: INHIBITION OF ENZYMATIC ACTIVITY</b>		
<b>Cycle: FIRST</b>	<b>Year: FOURTH</b>	<b>Semester: VIII</b>	<b>ECTS credits: 3</b>
<b>Course status: ELECTIVE</b>	<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>	The aim of the module is to introduce the student to the mechanism of inhibited enzymatic reactions, as well as to the different types of inhibitors that reduce the enzymatic activity.		
<b>Thematic course units:</b>	<ol style="list-style-type: none"><li>1. Types of inhibitors</li><li>2. Reversible inhibitors</li><li>3. Transient analog state</li><li>4. Irreversible inhibitors</li><li>5. Kinetics of inhibited enzymatic reactions</li><li>6. Inhibition mechanism</li><li>7. Determination of the inhibition constant</li><li>8. Inhibition by substrate</li><li>9. Slow inhibition</li><li>10. Irreversible inhibition</li><li>11. Inhibition of the reaction with two substrates</li></ol>		
<b>Learning outcomes:</b>	<b>Knowledge:</b> Students will gain knowledge of different types of inhibition. <b>Skills:</b> Students will be able to use experimental methods in enzyme inhibition. <b>Competences:</b> Application of inhibitors to enzyme activity in biotechnology, pharmaceutical and food industries.		
<b>Teaching methodology:</b>	Lectures (oral presentation and interactive classes) Laboratory exercises		
<b>Assessment methods and grading system<sup>1</sup>:</b>	<b>Grading criteria</b>		
	Criteria	Maximal score	Required score
	1. Class attendance	5	3
	2. Class activities	15	8
	3. Midterms	2 × 20	2 × 11
4. Final exam	40	22	
	Total	100	55

<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

	Scores and grading		
	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
<b>Literature<sup>2</sup>:</b>	<p><b>Mandatory literature:</b></p> <ol style="list-style-type: none"> <li>1. H. J. Smith, C. Simons, Enzymes and Their Inhibition, Drug Development, Cambridge, University Press, 2005</li> <li>2. D. V. Roberts, Enzyme Kinetics, Cambridge University Press</li> <li>3. R.A. Copeland, Evaluation of enzyme inhibitors in drug discovery, Wiley Inc. USA, 2005</li> </ol> <p><b>Supplementary literature:</b></p> <ol style="list-style-type: none"> <li>1. H. Bisswanger, Enzyme Kinetics, Principles and Methods, Wiley Inc. USA, 2008</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