



<b>Course ID:</b> HODNM11	<b>Course name: SELECTED CHAPTERS FROM METHODOLOGY OF CHEMISTRY EDUCATION</b>		
<b>Cycle:</b> THIRD	<b>Year:</b> FIRST	<b>Semester:</b> I	<b>ECTS credits:</b> 7
<b>Course status:</b> MANDATORY		<b>Total course hours: 60</b> Lectures: 30 Laboratory: 30	
<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>	Developing the ability to teach based on critical thinking. Developing competencies for the application of modern teaching approaches in chemistry teaching.		
<b>Thematic course units:</b>	<ol style="list-style-type: none"><li>1. Development of critical thinking in chemistry teaching</li><li>2. Encouraging motivation in the implementation of chemistry teaching</li><li>3. Creativity in teaching chemistry</li><li>4. Distance education and learning</li><li>5. Developing interest for the application of simulation in chemistry teaching</li><li>6. The concept of practical work in chemistry</li><li>7. Linguistic and cultural diversity and their impact on the teaching of chemistry</li></ol>		
<b>Learning outcomes:</b>	Knowledge: <ul style="list-style-type: none"><li>• Present setting and solving problems in chemistry teaching (problem-based approach)</li></ul> Skills: <ul style="list-style-type: none"><li>• Design teaching materials for chemistry for distance education and learning</li></ul> Competences: <ul style="list-style-type: none"><li>• Analyze the results of the application of modern approaches in chemistry teaching</li><li>• Analyze logical thinking through three levels of representation in chemistry teaching</li></ul>		
<b>Teaching methodology:</b>	Oral presentation Discussion Research		

<b>Assessment methods and grading system<sup>1</sup>:</b>	<b>Grading criteria</b>		
	Criteria	Maximal score	Required score
	1. Class attendance	-	-
	2. Class activities	-	-
	3. Midterm	20	11
	4. Seminar	3x10	3x6
	5. Final exam	50	26
	Total	100	55
	<b>Scores and grading</b>		
	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>	<p>Mandatory literature:</p> <ol style="list-style-type: none"> <li>1. Rees, S., Newton, D. (2020). <i>Creative Chemists: Strategies for Teaching and Learning</i>. Royal Society of Chemistry.</li> <li>2. Barke H.-D., Harsch G., Schmid, S. (2012). <i>Essentials of Chemical Education</i>. Berlin and Heidelberg: Springer</li> <li>3. Clark, R.C., &amp; Mayer, R.E. (2008). <i>E-learning and the science of instruction</i>. San Francisco: Pfeiffer</li> <li>4. Mintzes, J.J., Wandersee, J.H., Novak, J.D. (2004). <i>Assessing Science Understanding: A Human Constructivist View</i>. San Diego: Academic Press.</li> </ol>		

<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

<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