Course ID: HNM401	**Course name: PROBLEM-ORIENTED TEACHING IN CHEMISTRY**		
Cycle: FIRST	**Year: FOURTH**	**Semester: VII**	**ECTS credits: 3**
Course status: ELECTIVE		**Total course hours: 45** Lectures: 30 Laboratory: 15	
Teaching participants:	**Teachers and associates with expertise in the field to which the subject belongs**		
Prerequisite for enrollment:	-		
Course aims:	Introduction to the application of problem-oriented teaching and possibilities of its application in selected topics in chemistry in middle, secondary, and high schools.		
Thematic course units:	1. Teaching strategies 2. Introduction to problem-based learning 3. Work on the text and other sources of information in problem-based learning 4. Demonstration and laboratory work in problem-based learning 5. Organization of problem-based learning 6. Stages in solving a simple and complex problems 7. Articulation of problem-based lessons 8. Evaluation of the solution of the problem situation 9. Possibilities and examples of the application of problem-based teaching in chemistry		
Learning outcomes:	Knowledge: • Compare the advantages and disadvantages of problem-based learning; Skills: • Apply problem-based learning in selected topics in chemistry Competences: • Assess the effectiveness of problem-based learning in chemistry teaching.		
Teaching methodology:	Oral presentation Discussion Research Problem-based activities		

Assessment methods and grading system[1]:

Grading criteria			
	Criteria	Maximal score	Required score
1.	Class attendance	5	3
2.	Class activities	15	8
3.	Midterm	25	14
4.	Seminar	15	8
5.	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

Literature[2]:

Mandatory literature

1. Slatina, M.(1998). *Nastavni metod*, Sarajevo: Filozofski fakultet Univerziteta u Sarajevu.
2. Muminović, H. (1998). *Mogućnosti efikasnijeg učenja u nastavi*, Sarajevo: IP „Svjetlost“ Zavod za udžbenike i nastavna sredstva.

Supplementary literature:

1. Smith, C. (2012). *Resources: Problem based practical activities.* Royal Society of Chemistry (https://edu.rsc.org/resources/problem-based-practical-activities/939.article)
2. Kurnik, Z. (2002). *Problemska nastava*. Zagreb: Školska knjiga.
3. Poljak, V. (1980). *Didaktika*, Zagreb: Školska knjiga
4. Vilotijević, M. (2001). *Didaktika 3*: Organizacija nastave, Sarajevo: BH Most.

[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