Course ID: HAHIO6	**Course name: SEPARATION AND PRECONCENTRATION TECHNIQUES IN INORGANIC ION ANALYSIS**		
Cycle: SECOND	**Year: FIRST**	**Semester:** I	**ECTS credits: 6**
Course status: ELECTIVE		**Total course hours: 90** Lectures: 30 Laboratory: 60	
Teaching participants:	**Teachers and associates with expertise in the field to which the subject belongs** [do not enter names in this section. Leave the wording as indicated in this section]		
Prerequisite for enrollment:	-		
Course aims:	Acquisition of basic knowledge and possibilities of application of methods based on (micro) extraction.		
Thematic course units:	1. Terms: separation and overconcentration 2. Types of extraction 3. Basics of solid phase extraction 4. Sorbents 5. Biosorbents 6. Sorbent modification and its characterization 7. Optimization of key process sorption parameters, setting method 8. Matrix of the sample and its influence on the method 9. Interferences and secondary interactions 10. Possibility of sorbent regeneration 11. Sorbent capacity 12. Data evaluation 13. Automation 14. Analysis of environmental samples		
Learning outcomes:	Knowledge: Students will acquire knowledge about solid phase extraction, conditions of setting and optimization of factors that affect the efficiency of extraction, as well as the types of sorbents used for these purposes. Skills: The student will be able to prepare a solid phase and to optimize the key factors of the sorption process. Competences: The student will be able to independently choose the type, modify the solid phase, optimize the process and evaluate the data and interpret the results.		

Teaching methodology:

Oral presentation
Research method
Practical work

Assessment methods and grading system[1]:

Grading criteria

	Criteria	Maximal score	Required score
1.	Class attendance	5	3
2.	Class activities	15	8
3.	Midterms	40	22
4.	Final exam	40	22
	Total	100	55

* Class activity is sccored through the engagement of students in exercises.

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. -

Supplementary literature:

1. J. Pawliszyn and H.L. Lord, (2011), Handbook of sample preparation, John Wiley and Sons, Inc., New York;
2. N.J.K. Simpson, (2000), Solid phase extraction: Principles, Techniques and Applications, Taylor and Francis Group LLC, New York;
3. E.M. Thurman and M.S. Mills, (1998), Solid-phase extraction: Principles and practice, John Wiley and Sons, Inc., New York.

[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