



Course ID: HOA366	Course name: SENSORS FOR POLLUTION MONITORING		
Cycle: FIRST	Year: THIRD	Semester: VI	ECTS credits: 2
Course status: MANDATORY		Total course hours: 30 Lectures: 30	
Teaching participants:	Teachers and associates with expertise in the field to which the subject belongs		
Prerequisite for enrollment:	-		
Course aims:	Introducing students to chemical sensors that are used for qualitative and quantitative analysis and monitoring of the environment. Students will be introduced to sensory techniques that in modern times have become the methods of choice for environmental control and the management and control of processes that may threaten the environment.		
Thematic course units:	<ol style="list-style-type: none">1. Gas sensors for pollution monitoring.2. Piezoelectric crystal detectors for pollution monitoring.3. Electrochemistry of medically important gases and electrochemical gas sensors.4. Electrochemical sensors for environmental monitoring: modeling, development and application.5. Chemically modified electrodes as environmental monitoring sensors. Metal sensors based on stripping techniques.6. Gas and ion-selective electrodes for pollution monitoring.7. Pollutant control techniques.8. Photoelectrochemistry in the function of a cleaner environment.		
Learning outcomes:	<p><i>Knowledge:</i> Describe the possibilities of pollutant control using sensors. Analyze the application of sensors in environmental monitoring. Evaluate the effectiveness of pollutant control techniques.</p> <p><i>Skills:</i> Select the most suitable sensor for application in pollutant control.</p> <p><i>Competences:</i> Critically assess the need for interdisciplinary approach in the development and use of sensors in the</p>		

	control of pollutants.
Teaching methodology:	Method of oral presentation, method of conversation.
Assessment methods and grading system¹:	Grading criteria
	Criteria Maximal score Required score
	1. Class attendance 5 2
	2. Class activities 5 3
	3. Midterms 45 25
	4. Final exam 45 25
	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	
Literature²:	<p>Mandatory literature:</p> <ol style="list-style-type: none"> Turkušić E. Uvod u hemijske senzore i biosenzore. Sarajevo: Prirodno-matematički fakultet; 2012. <p>Supplementary literature:</p> <ol style="list-style-type: none"> Švancara I, Kalcher K, Walcarious A, Vytras K. Electroanalysis With Carbon Paste Electrodes. Boca Raton: CRC Press; 2012.

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