



Course ID: HAH235	Course name: ENVIRONMENTAL CHEMISTRY I		
Cycle: FIRST	Year: THIRD	Semester: IV	ECTS credits: 4
Course status: MANDATORY		Total course hours: 60 Lectures: 30 Laboratory: 30	
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:	Introducing students to the basic elements of the environment and gaining knowledge about integrated protection, control, restoration, and preservation of the integrity and quality of the environment. Enabling students to sample air and water media and analysis of selected water and air quality parameters.		
Thematic course units:	<ol style="list-style-type: none">1. Introduction, environment, pollution, transport of pollutants2. Cycles of matter and energy, cycles of individual elements3. Atmosphere, composition and properties, temperature profile, and inversion4. Atmospheric solids, size, and distribution.5. Sulfur compounds in the atmosphere, photochemical oxidation6. Nitrogen compounds in the atmosphere7. Photochemical smog, ozone in the atmosphere.8. Standard sampling methods, air quality standards9. Water. Physico-chemical properties, a hydrological cycle of water.10. Physical, chemical, and biological properties of water11. Drinking water quality parameters12. Wastewater quality parameters13. Urban wastewater, biological treatment.14. Industrial wastewater treatment methods15. Standard methods of water sampling, and water quality		

	standards (for drinking and wastewater).																																													
Learning outcomes:	<p>Knowledge: Understanding the criteria and factors of environmental protection processes and systems through the adoption of legality and certain aspects of the environment. The student will be able to interpret dynamic but also some complex processes in the environment.</p> <p>Skills: The student will be able to perform proper sampling of air and water and analyze the selected parameters of water and air quality as well as interpret the results obtained.</p> <p>Competences: The student will be able to comprehensively understand the environment, understand the impact on the state and changes in ecosystems, as well as to perform appropriate methods of analysis of air and water.</p>																																													
Teaching methodology:	<p>Oral presentation method</p> <p>Research method</p> <p>Method of practical work</p>																																													
Assessment methods and grading system¹:	<table border="1"> <thead> <tr> <th colspan="3">Grading criteria</th> </tr> <tr> <th>Criteria</th> <th>Maximal score</th> <th>Required score</th> </tr> </thead> <tbody> <tr> <td>1. Class attendance</td> <td>5</td> <td>3</td> </tr> <tr> <td>2. Class activities</td> <td>15</td> <td>8</td> </tr> <tr> <td>3. Midterms</td> <td>40</td> <td>22</td> </tr> <tr> <td>4. Final exam</td> <td>40</td> <td>22</td> </tr> <tr> <td>Total</td> <td>100</td> <td>55</td> </tr> <tr> <th colspan="3">Scores and grading</th> </tr> <tr> <th>Score</th> <th>Grade (B&H)</th> <th>Grade (ECTS)</th> </tr> <tr> <td>< 55</td> <td>5</td> <td>F, FX</td> </tr> <tr> <td>55–64</td> <td>6</td> <td>E</td> </tr> <tr> <td>65–74</td> <td>7</td> <td>D</td> </tr> <tr> <td>75–84</td> <td>8</td> <td>C</td> </tr> <tr> <td>85–94</td> <td>9</td> <td>B</td> </tr> <tr> <td>95–100</td> <td>10</td> <td>A</td> </tr> </tbody> </table>	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	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
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Literature²:	<p>Mandatory literature:</p> <p>1. Muhić-Šarac Tidža, Uvod u hemiju životne sredine, PMF, Sarajevo 2011.</p>																																													

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

Supplementary literature:

1. Tuhtar D. Zagađenje zraka i vode. Sarajevo: Svjetlost; 1984.
2. Đuković J. Zaštita životne okoline: zaštita vazduha. Tuzla: Univerzitet u Tuzli, 1983.
3. Andrews JE, Brimblecombe P, Jickells TD, Liss PS, Reid B. A Introduction to Environmental Chemistry. Blackwell Publishing; 2004.
4. Stanley ME. Environmental Chemistry. CRC Press Taylor and Francis Group; 2010.