



<b>Course ID:</b> HAH438	<b>Course name: ENVIRONMENTAL CHEMISTRY</b>		
<b>Cycle: FIRST</b>	<b>Year: FOURTH</b>	<b>Semester: VII</b>	<b>ECTS credits: 4</b>
<b>Course status: MANDATORY</b>		<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> [do not enter names in this section. Leave the wording as indicated in this section]		
<b>Prerequisite for enrollment:</b>	-		
<b>Course aims:</b>	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.		
<b>Thematic course units:</b>	<ol style="list-style-type: none"><li>1. Introduction, environment, pollution, transport of pollutants</li><li>2. Cycles of matter and energy, cycles of individual elements.</li><li>3. Atmosphere, composition and properties, temperature profile, and inversion</li><li>4. Atmospheric solids, size, and distribution.</li><li>5. Sulfur compounds in the atmosphere, photochemical oxidation</li><li>6. Nitrogen compounds in the atmosphere</li><li>7. Photochemical smog, ozone in the atmosphere.</li><li>8. Standard sampling methods, air quality standards</li><li>9. Water. Physico-chemical properties, a hydrological cycle of water.</li><li>10. Physical, chemical, and biological properties of water</li><li>11. Drinking water quality parameters</li><li>12. Wastewater quality parameters</li><li>13. Urban wastewater, biological treatment</li><li>14. Industrial wastewater treatment methods</li><li>15. Standard methods of water sampling, water quality</li></ol>		

	standards (for drinking and wastewater)																																													
<b>Learning outcomes:</b>	<p><b>Knowledge:</b> Understanding the criteria and factors of the process and system of environmental protection 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><b>Skills:</b> 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><b>Competences:</b> 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>																																													
<b>Teaching methodology:</b>	<p>Oral presentation method</p> <p>Research method</p> <p>Method of practical work</p>																																													
<b>Assessment methods and grading system<sup>1</sup>:</b>	<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> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="3">Scores and grading</th> </tr> <tr> <th>Score</th> <th>Grade (B&amp;H)</th> <th>Grade (ECTS)</th> </tr> </thead> <tbody> <tr> <td>&lt; 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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<b>Literature<sup>2</sup>:</b>	<p><b>Mandatory literature:</b></p> <ol style="list-style-type: none"> <li>Muhić-Šarac Tidža, Uvod u hemiju životne sredine, PMF, Sarajevo 2011.</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

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.