



<b>Course ID:</b> HOA241	<b>Course name: INORGANIC CHEMISTRY II</b>		
<b>Cycle: FIRST</b>	<b>Year: SECOND</b>	<b>Semester: IV</b>	<b>ECTS credits: 6</b>
<b>Course status: MANDATORY</b>	<b>Total course hours: 90</b> Lectures: 45 Laboratory: 45		
<b>Teaching participants:</b>	Teachers and associates with expertise in the field of Inorganic Chemistry		
<b>Prerequisite for enrollment:</b>	-		
<b>Course aims:</b>	Study of the chemistry of transition and internal transition elements through general, physical and chemical properties of elements and the most important classes of their compounds.		
<b>Thematic course units:</b>	<ol style="list-style-type: none"><li>1. General properties of d- and f-elements</li><li>2. The scandium group</li><li>3. The titanium group</li><li>4. The vanadium group</li><li>5. The chromium group</li><li>6. The manganese group</li><li>7. The Iron Triad</li><li>8. Platinum metals</li><li>9. The zinc group</li><li>10. The copper group</li><li>11. Lanthanides and actinides</li></ol>		
<b>Learning outcomes:</b>	After the course the student will be able to: <ul style="list-style-type: none"><li>– explain the similarities and differences of transition and internal transition elements and their compounds with elements and compounds of s- and p-blocks</li><li>– use vertical, horizontal and diagonal similarity indicators to predict the physical and chemical properties of elements and their compounds within d- and f-blocks</li><li>– understand and predict the structures of elemental substances and molecular and crystalline binary and ternary compounds of d-elements</li></ul>		

	<ul style="list-style-type: none"> <li>– understand, explain and compare general, physical and chemical properties and methods of obtaining elemental substances, binary and ternary compounds of d- and f-block elements with emphasis on oxides (chalcogenides), halides, hydroxides, oxosalts and oxoacids</li> <li>– predict and compare acid-base properties of elemental substances and compounds of d- and f-blocks by groups and periods</li> <li>– predict and compare redox properties of elemental substances and compounds of d- and f-blocks by groups and periods</li> <li>– know, explain, predict and distinguish the chemical reactivity of d- and f-block elements and their ionic and molecular compounds within groups and by periods, and based on that predict the products of chemical reactions</li> </ul>																																													
<b>Teaching methodology:</b>	Auditory lectures, laboratory exercises																																													
<b>Assessment methods and grading system<sup>1</sup>:</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #cccccc;"> <th colspan="3">Grading criteria</th> </tr> <tr> <th style="width: 60%;">Criteria</th> <th style="width: 20%;">Maximal score</th> <th style="width: 20%;">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>5</td> <td>2</td> </tr> <tr> <td>3. Midterms</td> <td>2 × 25</td> <td>2 × 14</td> </tr> <tr> <td>4. Final exam*</td> <td>40</td> <td>22</td> </tr> <tr> <td style="text-align: center;">Total</td> <td style="text-align: center;">100</td> <td style="text-align: center;">55</td> </tr> <tr style="background-color: #cccccc;"> <th colspan="3">Scores and grading</th> </tr> <tr> <th style="width: 60%;">Score</th> <th style="width: 20%;">Grade (BiH)</th> <th style="width: 20%;">Grade (ECTS)</th> </tr> <tr> <td style="text-align: center;">&lt; 55</td> <td style="text-align: center;">5</td> <td style="text-align: center;">F, FX</td> </tr> <tr> <td style="text-align: center;">55–64</td> <td style="text-align: center;">6</td> <td style="text-align: center;">E</td> </tr> <tr> <td style="text-align: center;">65–74</td> <td style="text-align: center;">7</td> <td style="text-align: center;">D</td> </tr> <tr> <td style="text-align: center;">75–84</td> <td style="text-align: center;">8</td> <td style="text-align: center;">C</td> </tr> <tr> <td style="text-align: center;">85–94</td> <td style="text-align: center;">9</td> <td style="text-align: center;">B</td> </tr> <tr> <td style="text-align: center;">95–100</td> <td style="text-align: center;">10</td> <td style="text-align: center;">A</td> </tr> </tbody> </table> <p>*oral exam after student successfully completes midterms</p>	Grading criteria			Criteria	Maximal score	Required score	1. Class attendance	5	3	2. Class activities	5	2	3. Midterms	2 × 25	2 × 14	4. Final exam*	40	22	Total	100	55	Scores and grading			Score	Grade (BiH)	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>1. Atkins, P., &amp; Overton, T. (2010). Shriver and Atkins' inorganic chemistry. Oxford University Press, USA.</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

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|  | <ol style="list-style-type: none"><li>2. Emira Kahrović, Nevzeta Ljubijankić, Praktikum anorganske hemije, Prirodno-matematički fakultet, 2011.</li><li>3. Filipović, D. I., Lipanović, D. S. (1995). Opća i anorganska kemija. II. dio. Kemijski elementi, njihove elementarne tvari i spojevi, Školska knjiga, Zagreb.</li><li>4. Greenwood, N. N., &amp; Earnshaw, A. (2012). Chemistry of the Elements. Elsevier.</li></ol> <p>Supplementary literature:</p> <ol style="list-style-type: none"><li>1. Miessler, G. L. And Tarr, D. A. (1999). Inorganic Chemistry, Prentice-Hall.</li></ol> |
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