Course ID: HOA203	**Course name: INORGANIC SYNTHESIS**		
Cycle: FIRST	**Year: SECOND**	**Semester: III**	**ECTS credits:2**
Course status: ELECTIVE		**Total course hours: 30** Lectures: 15 Laboratory: 15	
Teaching participants:	Teachers and associates with expertise in the field of Inorganic Chemistry		
Prerequisite for enrollment:	-		
Course aims:	Introducing students to methods and techniques in inorganic synthesis and product characterization.		
Thematic course units:	1. Synthesis planning. Quantitative parameters. Synthetic pathway design. Relationship: synthesis-structure-properties. 2. Methods of obtaining and separating inorganic substances. General procedures. Electrochemical synthesis. Syntheses in non-aqueous solvents. Solvothermal and hydrothermal syntheses. Ionic exchange method. Solvent extraction. Chromatography. High vacuum technique. Inert atmosphere technique. 3. Crystallization and crystal structure of inorganic substances. Methods of preparation of single crystals. 4. Identification and formulation of the product. Chemical analysis. Cleanliness. Spectroscopy. Diffraction techniques. Thermal methods.		
Learning outcomes:	After the course the student will be able to: – list the procedures for the synthesis of inorganic compounds – list the basic techniques of crystallization of inorganic compounds – list methods and techniques for characterization of inorganic compounds		

<table>
<tr><td></td><td>– plan the synthesis of inorganic compounds based on acid-base and redox properties of the reactant and product</td></tr>
<tr><td>Teaching methodology:</td><td>Auditory lectures, laboratory exercises</td></tr>
<tr><td>Assessment methods and grading system[1]:</td><td>
<table>
<tr><th colspan="3">Grading criteria</th></tr>
<tr><th>Criteria</th><th>Maximal score</th><th>Required score</th></tr>
<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>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 (BiH)</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>
</table>
</td></tr>
<tr><td>Literature[2]:</td><td>Mandatory literature:
1. Kahrović, E. (2011). Uvod u eksperimentalnu anorgansku hemiju, Prirodno-matematički fakultet.
2. Girolami, G. S., Rauchfuss, T. B., & Angelici, R. J. (1999). Synthesis and technique in inorganic chemistry: a laboratory manual. University Science Books.
Supplementary literature:
1. Xu, R., & Xu, Y. (Eds.). (2010). Modern inorganic synthetic chemistry. Elsevier.</td></tr>
</table>

[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