Course ID: HAH357	**Course name: ELECTROANALYTICAL METHODS**		
Cycle: FIRST	**Year: THIRD**	**Semester: V**	**ECTS credits: 5**
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 basic theoretical and practical knowledge of electroanalytical methods of analysis and the possibility of their application in quantitative chemical analysis, acquiring practical skills for working on instruments encountered in the electroanalytical laboratory, as well as independent solving tasks in this area.		
Thematic course units:	1. Introduction to electroanalytical chemistry 2. Basic concepts, Practical aspects of an electrochemical cell 3. Electrode potential, Schematic representation of the article, and calculating the potential of the article 4. Classification of electroanalytical methods 5. Qualitative and quantitative electroanalytical analysis techniques and methods for determining the concentration of analytes (standard curve method, standard addition method, internal standard method) 6. I-E curves: basic concepts, voltammetric and polarographic analysis techniques 7. Amperometric titrations and examples from practice 8. Examples of calculations in polarography 9. Potentiometry: general; reference and indicator electrodes, methods for measuring potential 10. Application of potentiometric titrations (acid-base, sedimentation, complexing, and redox systems) 11. Conductometric titration: introduction and application (acid-base and sediment systems) 12. Examples of calculations in potentiometry 13. Electrogravimetry; in general and examples from practice 14. Coulometry and application of coulometric titrations		

<table>
<tr><td></td><td>(acid-base and oxido-reduction determinations)
15. Calculation examples in coulometry and electrogravimetry</td></tr>
<tr><td>Learning outcomes:</td><td>Knowledge: By successfully mastering the material, students will acquire practical basics and theoretical knowledge of the application of electroanalytical methods.

Skills: The student will be able to work on individual instruments encountered in the electroanalytical laboratory.

Competences: The student will be able to independently solve problems from practice from choosing the appropriate electroanalytical method to performing analysis and interpretation of the results.</td></tr>
<tr><td>Teaching methodology:</td><td>Oral presentation method
Method of practical work</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>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>
</table>
</td></tr>
<tr><td>Literature[2]:</td><td>Mandatory literature:
1. E. Ruždić, (2000), Elektroanalitičke metode, Univerzitetska knjiga, Sarajevo
2. M. Memić, S. Žero, (2016), Praktikum iz instrumentalnih metoda analize, PMF, Sarajevo;
Supplementary literature:
1. M. Memić, J. Huremović, E. Ruždić, (2016), Zbirka zadataka</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

	iz instrumentalnih metoda analize, PMF, Sarajevo; 2. D.A. Skoog, D.M. West, F.J. Holler, (1999), Osnovi analitičke kemije, šesto izdanje (englesko), prvo izdanje (hrvatsko), Školska knjiga, Zagreb;