

Study Programme: Chemistry, Biochemistry			
Course Unit Title: Analytical Chemistry II			
Course Unit Code: Z-204			
Name of Lecturer(s): Full professor Slobodan Gadžurić; Full professor Đendi Vaštag			
Type and Level of Studies: Bachelor Academic Studies			
Course Status (compulsory/elective): Compulsory			
Semester (winter/summer): Winter			
Language of instruction: English			
Mode of course unit delivery (face-to-face/distance learning): Face-to-face			
Number of ECTS Allocated: 8			
Prerequisites: None			
Course Aims:			
<ul style="list-style-type: none"> • Providing a wide and balanced theoretical and practical knowledge of key analytical concepts. • Providing the necessary methodological basis in the field of quantitative analysis as a basis for further understanding and application in other fields of chemistry. • Developing practical skills and ability to apply standard methodologies and good laboratory practice in solving problems in analytical chemistry in further chemical education, and later in the profession. 			
Learning Outcomes:			
<ul style="list-style-type: none"> • specify application of methods of quantitative analysis in contemporary society. • demonstrate acquired knowledge and understanding of basic facts, concepts, principles and theories of qualitative analytical chemistry in solving basic familiar and unfamiliar analytical problems. • formulate conclusions on the basis of collection and interpretation of volumetric and gravimetric results and write report on the conducted analysis. • apply mathematical and statistical knowledge and computer skills in error analysis in the quantitative analytical experiments. • handle with equipment and apply simple computer software or models in processing experimental data. 			
Syllabus:			
Quantitative chemical analysis, volumetric analysis: measuring mass and volume. Errors in quantitative analysis. Acid–base titrations. Complexometric titrations. Oxido-reduction methods. Precipitation titrations. Gravimetric analysis, operations in gravimetric analysis, gravimetric determination. Instrumental endpoint detection.			
<i>Practical instruction:</i>			
Laboratory exercises in accordance with the theoretical syllabus.			
Required Reading:			
1. R. Kellner, J. Mermet, M. Otto, H. M. Widmer: Analytical Chemistry, Wiley/VCH, 1998.			
2. Weekly teaching load			
Weekly Contact Hours: 135	Lectures: 45	Practical work: 75+15	
Teaching Methods:			
Lectures and laboratory work			
Knowledge Assessment (maximum of 100 points): 100			
Pre-exam obligations	points	Final exam	points
Lab exercises	20	Written exam	(60)
Test I , Test II, Test III	60	Oral exam	20