

**(Table 5.2) Course unit description**

Study program : Chemistry				
Type and level of studies: Doctoral Academic Studies				
<b>Course unit:</b> Analysis of complex materials				
<b>Teacher in charge:</b> Stanić D. Zorka, associate professor				
<b>Language of instruction (English or other foreign language):</b> English				
ECTS:10				
Prerequisites: Enrolled study program				
<b>Semester (Winter Semester or Summer Semester):</b> Winter or summer semester				
<b>Course unit objective</b> The main purpose of this course is to provide a higher level of students' knowledge in a field of modern chemical analysis of complex materials (sampling, separation and isolation of the analyte, the selectivity and application of methods for chemical measurement, standardization, evaluation of results).				
<b>Learning outcomes of Course unit</b> The student should be familiar with the basic knowledge of the analysis of various complex materials - ions, elements and compounds (from macro to ultramicro amounts in the sample) using modern methods and instruments.				
<b>Course unit contents</b> <i>Theoretical classes</i> General principles of chemical analysis of complex materials. Sample and sampling. Methods of sample decomposition. Analytical methods for the determination of analyte (macro/ultramicro amount) in the sample. Water analysis. Analysis of soil samples. Analysis of coal and ashes. Analysis of the silicate. Analysis ores and alloys. Analysis of mineral fertilizers. Analysis of surface active substances. Analysis of biological materials. Analysis of food. Statistical analysis and evaluation of results. <i>Practical classes</i>				
<b>Literature</b> 1. R. Bock, A Handbook of Decomposition Methods in Analytical Chemistry; Wiley, New York, 1979.				
<b>Number of active teaching hours</b>				<b>Other classes</b>
Lectures: 5 hours weekly	Practice:	Other forms of classes: <i>(for example: mentoring system)</i>	Independent work:	
<b>Teaching methods</b> Lectures, semester papers, searching database in the field of current research.				
<b>Examination methods ( maximum 100 points)</b>				
<b>Exam prerequisites</b>	<b>No. of points:</b>	<b>Final exam</b>	<b>No. of points:</b>	
Student's activity during lectures	10	oral examination	50	
practical classes/tests		written examination		
Seminars/homework	40	.....		
Project				
Other				
<b>Grading system</b>				
<b>Grade</b>	<b>No. of points</b>	<b>Description</b>		
10	100-91	Excellent		
9	90-81	Exceptionally good		
8	80-71	Very good		
7	70-61	Good		
6	60-51	Passing		
5	under 50	Failing		