

**UNIVERSITY OF BANJA LUKA**  
**FACULTY OF NATURAL SCIENCES AND MATHEMATICS**  
**CHEMISTRY DEPARTMENT**  
**STUDY PROGRAM: MASTER IN CHEMISTRY (MSc in Chemistry) - 300 ECTS**

**CURRICULUM**

YEAR I					
Course	Status	IX semester	ECTS	X semester	ECTS
Research Methodology in Chemistry	R	2+1	4		
Measurement Data Processing	R	2+1	4		
Elective course 1	E		6		
Elective course 2	E		6		
Elective course 3	E		5		
Elective course 4	E		5		
Study and research – Seminary work	R			0+5	10
Study and research – Master thesis	R			0+20	20

R - Required courses

E - Elective courses

Department	List of elective courses	Weekly number of classes	ECTS
Department of Analytical Chemistry	Environmental Samples Analysis	3+2	6
	Chemical Contaminants of Food and Water	2+2	5
	Chemical Analysis of Food	2+2	5
	Chromatographic Methods	2+3	5
	Sampling and Sample Preparation for Chemical Analysis	2+3	6
Department of Organic Chemistry	Synthesis and Characterization of Polymers	3+2	5
	Organic Synthesis	3+2	6
	Organic Geochemistry	3+2	6
	Applied Organic Chemistry	2+2	5
	Modern Structural Methods	2+2	5
	Computational Chemistry	3+0	5
	Organic Chemistry Didactics	2+2	5
Multimedia Resources for Teaching Chemistry	2+2	5	

Department of Physical Chemistry	Selected Chapters of Physical Chemistry	3+2	5
	Selected Chapters of Instrumental Methods	3+2	6
	Chemical Kinetics and Catalysis	2+2	5
	Colloidal Chemistry	2+2	5
	Photochemistry	2+2	5
Department of Inorganic Chemistry	Inorganic Synthesis	2+2	5
	Advanced Inorganic Chemistry	3+2	6
	Solid State Chemistry	3+2	6
	Coordination Chemistry	3+2	6
	Mechanisms of Inorganic Reactions	3+2	6
	Practical Chemistry in School	2+2	5
Department of Biochemistry	Experimental Biochemistry	2+3	6
	Biochemistry of Free Radicals	2+3	5
	Biochemical Toxicology	2+2	5
	Enzyme Kinetics	2+2	5
Other Departments	Nanochemistry	3+2	5
	Contemporary Materials	2+2	5
	Standards and standardization	2+2	5
	Surface active substances	2+2	5
	Alternative fuels and lubricants	2+2	5