	UNIVERSITY OF EAST SARAJEVO Faculty of Technology Zvornik	
	Study programme: *Chemical Engineering and Technology*	
	Cycle I / Year I	

Course title	General Chemistry
Department	Department for Chemistry– Faculty of Technology Zvornik

Course code	**Course status**	**Semester**	**ECTS**
04-1-001-1	Compulsory	I	7

Teacher	Aleksandar Došić, PhD Associate Professor
Teaching assistant	Milomirka Obrenović, MSc, Senior Teaching Assistant

Number of hours/ teaching workload (per week)			**Individual student workload (in hours per semester)**			**Student workload coefficient S_o**
Lectures	**Auditory exercises**	**Laboratory exercises**	**Lectures**	**Auditory exercises**	**Laboratory exercises**	**S_o**
3	1	2	60	20	40	1.33
3*15+1*15+2*15=90 hours			(3*15*1.33+1*15*1.33+2+15*1.33)=120 hours			
Total course workload 90 + 120=210 hours per semester						

Learning outcomes	After finishing the course, students will be able to: 1. demonstrate knowledge and understanding of the basic concepts, laws, principles and theories of the field of chemistry, 2. analyze and solve simple problems in different fields of chemistry by using the basic laws of general chemistry, 3. perform chemical calculations and basic laboratory operations, 4. formulate accurate conclusions based on experimental results, 5. logically connect theoretical, experimental and computational knowledge, efficient learning, teamwork, use of literature, 6. safely handle chemicals and basic laboratory equipment.
Prerequisites	None.
Teaching methods	Lectures, auditory and laboratory exercises, mid-term tests (colloquia).
Syllabus outline per week	1. Introduction. Chemistry as a science. Matter and energy. States of matter. 2. Chemical symbols, formulas and equations. Basic chemical laws. 3. Atomic structure. Isotopes. Mosley's Law. 4. The periodic table of elements. 5. The Bohr model of the atom. Wave-mechanical model. 6. Chemical bonding and molecular structure. Ionic bonding. 7. Covalent bonding. Valence bond theory. 8. Molecular orbital theory. Metal bonding. 9. Intermolecular bonding. 10. Aggregate states. Melting. Boiling. Sublimation. Critical temperature and pressure. 11. Dispersion systems. Solutions (non-electrolytes and electrolytes, solution composition, properties). 12. Energy changes in chemical reactions. Chemical kinetics (the rate of chemical reactions). 13. Chemical equilibrium. Chemical equilibrium in homogeneous electrolyte systems. 14. Chemical equilibrium in heterogeneous systems. Solubility product. Types of chemical reactions. 15. Chemical reactions with and without a change in oxidation state. Electrolysis and Faraday's laws. Mid-term tests are taken after the 8th week and the 15th week. Semester verification is required after the 15th week.

Obligatory reading			
Author	**Title, publisher**	**Year**	**Pages**

Dragojević, M., Popović, M., Stević, S., Šćepanović, V.	Opšta hemija I deo, ehnološko-metalurški fakultet, Beograd	2007	1-383
Gligorić, M., Tadić, G.	Zbirka zadataka iz opšte hemije, Tehnološki fakultet, Zvornik	2004	1-236
Bogunović, Lj., Poleti D., Popović, M., Stević, S.	Praktikum opšte hemije I deo, Tehnološko-metalurški fakultet, Beograd	1997	1-236

Additional reading

Author	Title, publisher	Year	Pages
Filipović, I., Lipanović, S.	Opća i anorganska kemija, I dio-Opća kemija	1989	1-613
Popović, M., Vasović, D., Bogunović, Lj., Poleti, D. Ćuković, O.	Zbirka zadataka iz opšte hemije, Tehnološko-metalurški fakultet, Beograd	2007	1-130
Silberberg, M.S.	Chemistry, 7th, McGraw-Hill, NewYork	2015	1-615, 674-1051

	Type of student evaluation	Grade points	Percentage
Obligations, assessment methods and grading system	Pre-exam obligations		
	Attendance	6	6 %
	Laboratory exercises	20	20 %
	Mid-term test - theory	24	24 %
	Mid-term test - computational	20	20 %
	Final examination		
	Final examination (oral)	30	30 %
	Total	100	100 %
Web page	www.tfzv.ues.rs.ba		
Date	2023		