CHEMISTRY

Title of Study Programme and Code	Type (compulsory/optional)	Cycle	Year of study when the component is delivered (if applicable)
Environment Protection Engineering, 6531EX042	Optional	1st	1st
Semester/trimester when the component is delivered	**Number of ECTS credits allocated**	**Language of instruction**	**Mode of delivery (face-to-face/e-learning/…)**
2nd	5	Lithuanian	Face-to-face/ distance learning

Learning outcomes		Study methods	Assessment methods
After completion of the study subject, a student should be able:		Lecture; Practical work in laboratory; Self-study; Literature analysis.	Test; Defending of laboratory; Practical works; Exam.
LO 1	To calculate equivalents of material, speed of reactions, solutions' concentration, pH.		
LO 2	To describe properties of inorganic compounds, solutions, bio-organic compound.		
LO 3	To describe the construction of metals, polymers' properties and applications in engineering.		
LO 4	To gain laboratory experience to perform simple laboratory experiments.		

Prerequisites
(these courses must be sucessfully completed prior to taking this particular course)

Secondary school chemistry course

Course content

1. Chemical concepts and basic chemical laws.
2. The classification of inorganic compounds, methods of formation and characteristics.
3. Chemical kinetics and equilibrium. Chemical reaction speed. Catalysis.
4. The formation of solutions. Expression methods of the concentration of the solution.
5. The properties of the solution. Nonelectrolytes and electrolyte solutions. Hydrogen pH indicator. Salt hydrolysis.
6. General properties of metals and metals production techniques.
7. Corrosion of metals. Methods of protection against metal corrosion.
8. Constructional metals and alloys.
9. The properties of polymers and their application in technics.

Recommended or required reading and other learning resources/tools

1. General Chemistry: http://study.com/academy/course/general-chemistry-course.html
2. Introduction to Chemistry: http://oli.cmu.edu/courses/free-open/chemistry/
3. Chemistry: http://moodle.utenos-kolegija.lt/course/view.php?id=189

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