Chemistry and the environment (Goran Pipuš, Ph.D., lecturer)

Subject code: CE
Academic year: 1.
Lectures: 45
Seminar work: 15
Lab work: 30
ECTS: 8

Aims of the course:
The aim of the study subject is to refresh and upgrade the knowledge of general chemical principles acquired at the secondary school level, which form the basis for understanding the behaviour of the environment. The focus is mainly on chemical natural phenomena which are the basis for understanding and placing some new information and interpretations into principal occurrences related to the environment. The students will additionally upgrade their knowledge during their lab work where they will acquire a practical aspect of chemistry.
The students will acquire:
- the knowledge of general chemical principles (substances, mixtures, atoms, molecules, formulas, etc.),
- mastering of the basics of inorganic chemistry (bonds, reactions, solutions, gases, solids) and organic chemistry (carbon, fuels, plastics, etc.)

Subject content:
1. What is chemistry

2. Atoms and their structure

3. Chemical bond

4. Chemical reaction

5. Reactions in solutions

6. Carbon compounds - introduction into the organic chemistry

7. Molecules linked with life

8. Fossil fuel - the main source of energy

9. Plastic material

10. The planet Earth - rocks, life and energy

11. Chemicals in agriculture
12. Chemicals in households

Teaching methods:
Lectures, seminar work, lab work

Study obligations:
Preliminary test based on lab work, preliminary test based on seminar work and written exam.

Literature
P. Buell, J. Girard: Chemistry Fundamentals – An Environmental perspective, Jones and Bartlett Publishers, Inc. 2002.