

<b>Name of the course</b>	<b>Water chemistry</b>
Number of instruction hours	20
Outline of course/module content	Hydrogen bond. Hydrogen bond formation and thermodynamic properties. Water molecule. Water vapor. Crystalline structure of ice. Physical and chemical properties of liquid water. Reactivity of water molecules. Spectroscopy of water molecule. Metals cycling in water. Regulation of trace elements by the solid-water interface. Chemical kinetic and redox processes in water technology. Nucleophile and electrophile interactions of organic substances in water. Photochemical reactions. Photolysis of transition metal complexes. Interactions of liquid water with solid phase. Adsorption, dissolution of minerals, nucleation i crystal growth. Colloids in water, coagulation and peptization. Filtration and flotation. Regulation of chemical composition of natural waters. Constancy of composition hydrothermal properties, sediment water interface, bioregulation of composition. Water quality criteria aspects. Modern analytical techniques in water analysis.
Description of instruction methods	Lectures, seminars, consultations.
Description of course/module requirements	Exam, seminar presentation.