

STUDY PROGRAMME	CHEMICAL ANALYSIS, 653F18001
SUBJECT TITLE	Sample Preparation
NUMBER OF CREDITS	3
DURATION OF SUBJECT	Total: 80 hours (48 contact hours, 32 self-study hours)
TEACHING PERIOD	Spring Semester
SUBJECT CONTENT	<p>Subject objective Provide students with the knowledge of sample preparation for chemical analysis and develop skills necessary for a chemistry specialist..</p> <p>Learning outcomes Be able to: examine normative documents regulating procedures of sample taking and preparation for chemical analysis, apply the requirements of regulatory documents in practice; plan the steps of different object sampling; describe sampling and processing operations; distribute independently the duties while carrying out practical work; discuss, collegially seek practical tasks options; define a variety of samples and tests, explain representative sample selection procedures and the importance of chemical testing on the quality of results; characterise the properties of sample preparation, adjust the method of sample preparation according to the chemical analysis method; evaluate the influence of sampling and sample preparation on the reliability of chemical analysis results.</p> <p>Content (topics)</p> <ol style="list-style-type: none"> 1. Representative sampling and sample preparation - the main component of the quality of chemical analysis results. Surface examination and testing. Non-destructive testing. Field testing. Remote analysis. 2. General principles of representative sampling programme development. 3. Development of water sampling programme. 4. Ground water samples. Drinking water sampling. 5. Samples from surface water reservoirs. Wastewater samples. 6. Samples for soil analysis. 7. Air sampling for the determination of air pollution. 8. Food raw material and product sampling particularities. 9. Sample preparation: dissolution, homogenization, distribution into parts, decomposition and degradation. 10. Uncertainty evaluation of sample selection and sample preparation. 11. Sample preservation, transportation and archiving.
ASSESSMENT	Cumulative assessment (intermediate settlements, self-study, examination)
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