

Course title: Introduction to laboratory technique

Institute/Division: FACULTY OF CHEMICAL ENGINEERING AND TECHNOLOGY

Number of contact hours: 30 hours (30 h laboratories)

Course duration: 1 semester (5th semester of regular I cycle studies – fall/winter)

ETCS credits: 2

Course description:

Safety rules in force in the chemical laboratory. Characteristics and safety of chemical substances. Characteristic of glass types its parameters and usage. Characteristic of main laboratory equipment and its parameters. Learning the process of pipetting, weighing and drying, separation and filtration, pH analysis. Practising of the solutions preparation: formation of solutions from solid, hydrated salts, dilution of solutions into proper concentration. Analytical samples preparation (liquid and solid). Basis of analytical procedures: titration, weight analysis, spectrophotometric analysis.

Education effects :

- knowledge: student recognizes safety rules in the laboratory and knows how to act in case of emergency, knows the rules for choosing and using laboratory glass and equipment, knows basic techniques used in laboratory, knows the rules for laboratory samples preparation for analyses.

- skills: student can apply good techniques during laboratory practice, will be ready for making decisions about choosing proper analytical equipment and techniques, can prepare sample for analysis, can prepare solutions with proper concentrations, knows how to measure pH and concentration, knows how to weigh, measure and titrate. Will be prepared for further laboratory classes

- social: student understands the reason and benefits of safety and techniques understanding in laboratory, is able to work independently and in the group both at the laboratories and during preparation of the report,.

Assessment method: completing the laboratories (presence and delivering of reports from performed exercise and practical examination from complete analytical procedure)

Prerequisites: Basic knowledge in chemistry.

Primary target group: Students from all specialties

Lecturer: dr hab. inż. K.Gorazda, dr inż. Anna K.Nowak

Contact person: dr hab. inż. K.Gorazda e-mail: gorazda@chemia.pk.edu.pl

Remarks: Regular course