

Course title: Laboratory of advanced chemistry – Analytical chemistry					
	Specialty	Semester	Number of ECTS	Number of hours in the class	Form
	Foreign students	winter	2	15	Lab class
Name of lecturer: Dr. Dorota Zarzeckańska					
Objective of the course (expected learning outcomes and competences to be acquired)					
On completion of the course the student:					
<ul style="list-style-type: none"> • will be acquainted with modern research techniques in analytical chemistry, • will possess skills for selecting the optimal test method to the problem, • will be able to detect and determine a variety of chemicals by himself, • will gain proficiency in estimating the expected outcome and the sources and scale of errors. 					
Prerequisites:					
<ul style="list-style-type: none"> - completed courses in the following areas: general chemistry, analytical chemistry and physical chemistry - knowledge of chemical nomenclature, the ability to use the proper stoichiometric equations, calculation of the concentration of solutions, the use of laboratory glass, the basic handling of measuring instruments, the application of the safety principles in the chemical laboratory 					
Teaching methods:					
<ul style="list-style-type: none"> • Laboratory experiments 					
Course contents					
<ul style="list-style-type: none"> • modern methods used in the instrumental analytical chemistry, • presentation of the research problems and a discussion on the selection of the proper advanced analytical method, • quantitative analysis of selected compounds (including determination of pigments in leaves and flowers; fluorides in a toothpaste, phosphates in water, soft drinks and washing powders; acids in soft drinks; caffeine in a coffee). 					
Recommended reading:					
A. Primary literature:					
<ul style="list-style-type: none"> • Fundamentals of Analytical Chemistry Skoog D. Crouch Stanley R., Holler James F., West Donald M. 					
Assessment methods:					
<ul style="list-style-type: none"> • Class deliverables – execution of the indicated practical work • Mid-term tests 					
Language of instruction: English					