

Level: Specialist academic studies of chemistry				
Course title: Green Chemistry (SH-611)				
Status: Elective				
ECTS: 5				
Requirements: None				
Learning objectives <ul style="list-style-type: none"> • Expanding knowledge and critical understanding of principles of green chemistry as one of the most modern chemistry disciplines and its application in contemporary analytical chemistry, organic and pharmaceutical synthesis, environmental protection and energy preservation and conservation. • Expanding students' knowledge of application of various advanced analytical methods and techniques in accordance with green chemistry principles. 				
Learning outcomes <i>After successful completion of the course, a student is able to:</i> <ul style="list-style-type: none"> • explain significance of sustainability for the environment, • independently choose the appropriate methodology and plan, design and conduct the necessary experiments in solving problems in new or unfamiliar multidisciplinary context, • demonstrate independence and originality in complex and unexpected situations, • demonstrate ethical and social responsibility, professionalism, integrity and reliability in reporting on research results, • successfully communicate with professionals from the same or different area, • demonstrate the need for further professional development. 				
Syllabus <i>Theoretical instructions</i> Nontoxic and benign solvents in chemical synthesis and industry. Ionic liquids. Biocatalysts. Homogeneous and heterogeneous catalytic processes. Liquid-liquid extraction using the environmental friendly solvents. Sustainable and alternative energy sources. Energy storage. Nuclear materials. Application of advanced analytical techniques and methods in green chemistry. <i>Practical instructions</i> The experiments are designed to illustrate the concepts discussed during the lectures and to familiarize students with green chemistry materials, tools, and techniques. The lab is considered an integral part of the course.				
Weekly teaching load				Other: /
Lectures: 2	Exercises: /	Other forms of teaching: 2	Student research: /	