NAME OF THE COURSE	Green Chemistry					
Code	PMC209	Year of study	1.			
Course teacher	Dr Renata Odžak, Associate Professor Dr Viljemka Bučević Popović, Assistant Professor	Credits (ECTS)	2.0			
Associate teachers		Type of instruction (number of hours)	L	S	E	F
			15		15	
Status of the course	obligatory	Percentage of application of e-learning	10%			

COURSE DESCRIPTION	
Course objectives	The objective of the course is to get acquainted with the basic principles of green chemistry and the procedures that lead to the reduction or complete elimination of the use of harmful substances in chemical reactions.
Course enrolment requirements and entry competences required for the course	None.
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	After completion of the course, the student will be able to: 1. define and understand the basic principles of green chemistry, 2. explain the catalytic action of 'green' catalysts, 3. define and understand the benefits of alternative reaction media and methods of conducting chemical reactions, 4. discuss the benefits of using renewables, 5. discuss the possibilities of applying green chemistry in finding environmentally friendly ways of solving global problems.
Course content broken down in detail by weekly class schedule (syllabus)	lectures: 1. Introduction to Green Chemistry. The basic 12 principles of green chemistry. (2 hours) 2. Toxicity of chemical substances. Methods for determining toxicity, LD50. (2 hours) 3. Waste, production prevention and recycling methods. (2 hours) 4. Biocatalytic reactions in the green approach to chemical processes, selected examples of biocatalytic processes. (2 hours) 5. Renewable energy sources and raw materials, selected examples of renewable energy sources. (2 hours) 6. Problems related to the use of organic solvents and alternative media for conducting chemical reactions (supercritical fluids and ionic liquids). (2 hours) 7. Alternative methods of conducting chemical reactions (microwell and photocatalytic reactions, solvent-free reactions). (3 hours) exercises: Experimental procedures modeled on the principles of green chemistry (15 hours)
Format of instruction	☒ lectures ☐ seminars and workshops ☐ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☒ independent assignments ☐ multimedia ☒ laboratory ☒ work with mentor ☐ (other)
Student responsibilities		

Screening student work *(name the*	Class attendance	0.5	Research		Practical training	

proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)	Experimental work		Report		(Other)	
	Essay		Seminar essay		(Other)	
	Tests		Oral exam	0.75	(Other)	
	Written exam	0.75	Project		(Other)	

Grading and evaluating student work in class and at the final exam	Written exam - 50% Oral exam - 50%

	Title	Number of copies in the library	Availability via other media
Required literature (available in the library and via other media)	Mike Lancaster, Green Chemistry, AnIntroductory Text (3rd ed.), RSC, Cambridge, 2016.	1	
	Lectures in pdf format		available
	Interna skripta za vježbe (Odžak, Popović Bučević)		

Optional literature (at the time of submission of study programme proposal)	
Quality assurance methods that ensure the acquisition of exit competences	The quality of teaching will be monitored by collecting feedback from students through personal consultations, community discussions and an anonymous student survey. Students' performance in the final exam will be analyzed and used to improve teaching performance in the next academic year.
Other (as the proposer wishes to add)	