

NAME OF THE COURSE		Organic chemistry I				
Code	PMC005	Year of study	2.			
Course teacher	dr. sc. Stjepan Orhanović, assistant professor	Credits (ECTS)	6,0			
Associate teachers		Type of instruction (number of hours)	L	S	E	F
			45	15		
Status of the course	mandatory	Percentage of application of e-learning	10 %			
COURSE DESCRIPTION						
Course objectives	Course objective is acquiring knowledge about basic groups of organic compounds, their structure, nomenclature, physical properties, synthesis and reactivity					
Course enrolment requirements and entry competences required for the course	Enrolment requirement is completed exam General chemistry I and competences acquired upon taking course General chemistry II.					
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	<p>Upon completing exam student will be able to:</p> <ol style="list-style-type: none"> 1. describe organic compounds in relation to their functional groups 2. give proper name to organic compounds following IUPAC recommendations 3. describe physical and chemical properties of organic compounds in every group 4. present and describe reaction mechanism of reactions characteristic for specific class of compounds 5. distinguish organic compounds isomers 					
Course content broken down in detail by weekly class schedule (syllabus)	<p>Lectures:</p> <ol style="list-style-type: none"> 1. Introduction to organic chemistry 83 hours) 2. Hybridisation: sp^3, sp^2, sp, resonant structures (3 hours) 3. Alkanes: structural formulas, nomenclature, isomery, physical properties (3 hours) 4. Alkanes: conformers, chemical properties – halogenation, oxidation (3 hours) 5. Stereoisomers: enantiomers, diastereomeres, determination of relative configuration, determination of absolute configuration (3 hours) 6. Alkyl halides: nucleophilic substitution S_N2, elimination $E2$ (3 hours) 7. Alkyl halides: nucleophilic substitution S_N1, elimination $E1$ (3 hours) 8. Alkenes, alkynes: structural formulas, nomenclature, isomery, physical properties, chemical properties (3 hours) 9. Electrophilic addition (3 hours) 10. Alcohols, ethers: structural formulas, nomenclature, physical properties, chemical properties (3 hours) 11. Tiols, sulphides: structural formulas, nomenclature, physical properties, chemical properties (3 hours) 12. Aldehydes and ketones: structural formulas, nomenclature, physical properties, chemical properties – nucleophilic addition (3 hours) 13. Synthesis of acetals, hemiacetals, ketals, hemiketals, imines, Schiff bases, diols (3 hours) 14. Carboxylic acids: structural formulas, nomenclature, physical properties, chemical properties – acidity, esterification (3 hours) <p>Seminars follow lecture subjects with one hour for every lecture</p>					
Format of instruction	<input checked="" type="checkbox"/> lectures <input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work		<input type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)			
Student responsibilities	Attending classes and seminars, at least 70 % of terms					
Screening student	Class	2	Research		Practical training	

work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)	attendance					
	Experimental work		Report		(Other)	
	Essay		Seminar essay		(Other)	
	Tests	1,5	Oral exam	2,5	(Other)	
	Written exam		Project		(Other)	
Grading and evaluating student work in class and at the final exam	Before every lecture quiz is being held on the previous lecture subject, student that accomplishes more than 50 % of the total points gains one grade higher on the respectable partial written exam. Passing grade requires at least 50 % points on partial exams. Passing grade on the written exam is condition for attending oral exam.					
Required literature (available in the library and via other media)	Title			Number of copies in the library	Availability via other media	
	S.H. Pine, J.B. Hendrickson, D.J. Cram, G.S. Hammond; Organska kemija, Školska knjiga, Zagreb 1994.			10		
Optional literature (at the time of submission of study programme proposal)	Andrew Streitwieser, Clayton H. Heathcock, Edward M. Kosower: Introduction to Organic Chemistry, Prentice Hall, Inc. 1992. D. Klein: Organic Chemistry, John Wiley and Sons, Inc. 2012. Maja Pavela-Vrančić, Organska kemija, powerpoint prezentacija					
Quality assurance methods that ensure the acquisition of exit competences	Personal consultations, completing partial exams, students survey for the evaluation of the subject and teacher, evidence of the presence on the classes, analysis of the success rate on the quizzes, partial and final tests.					
Other (as the proposer wishes to add)						