

Description of an Individual Course Unit

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Study program		All		
Module				
Type and level of studies		PhD studies		
Course title		Structure and Reactivity of Organic Molecules		
Professor (for lectures)		Nataša Valentić		
Professor/assistant (for practice)				
Professor/assistant (for LAB)				
Number of ECTS		5	Type of the course (mandatory/elective)	elective
Prerequisite				
Objective of the course To enable the student to use theoretical knowledge to understand, explain or predict the mechanisms of organic reactions, depending on the structure of organic compounds and reaction conditions, on the basis of logically organized and understandable facts. ; To train the student in the synthesis of new organic compounds or modification of existing compounds, to advance scientific research and its specific application. Correlation between the structure and reactivity (or activities) of organic molecules provides a rational approach to the synthesis and analysis of their properties. ;				
Learning outcomes of the course After successfully completing the course, the students: are trained to independently understand, explain or predict the mechanisms of organic reactions, depending on the structure of organic compounds and reaction conditions, on the basis of theoretical knowledge; have gained knowledge for a rational approach to the synthesis of new organic molecules and the analysis of their properties.				
Course Contents				
Theoretical contents The course introduces students to the mechanisms of organic reactions, depending on the molecular structure and reaction conditions on the basis of logically organized and understandable facts in order to obtain the desired compounds, with special emphasis on the regioselectivity and stereoselectivity. Correlation between the structure and reactivity (or activities) of organic molecules provides a rational approach to the synthesis of molecules with desired properties.				
Practical part (practices, LAB, study research work)				
Literature				
1	P. Sykes, "A Guidebook to Mechanism in Organic Chemistry", 6th Ed., Longman Group Ltd., New York, 1995.			
2	F.A. Carey, R.J. Sundberg, "Advanced Organic Chemistry", 4th Ed., Kluwer Academic Publishers, New York, 2000.			
3	M.B. Smith, J. March, "March's Advanced Organic Chemistry: Reactions, Mechanisms, ; and Structure", 6th Ed., Wiley-Interscience, New York, 2007. ;			
4	Recommended references from scientific journals.			
5				
Lessons per week				
Lectures	Practices	LAB	Study research work	Other activities
3				
Teaching Methods Lectures, consultations, seminars.				
Grading methods (max. number of points is 100)				
Pre-exam assesments	points	Final examination		points
activity during lectures		written exam		
practical assesments		oral exam		50
mid-term exams				
seminars	50			