COURSE UNIT DESCRIPTION

Course unit title	
Organic Chemistry I	

Lecturer(s)	**Department**
Dr. Gražina Petraitytė	Dept. Organic Chemistry, Vilnius University

Cycle	**Type of the course unit**
First	

Mode of delivery	**Period of delivery**	**Language of instruction**
Face to face	Autumn	English

Prerequisites and co-requisites
General chemistry (prerequisites), Quantum chemistry (co-requisites).

Number of credits	**Student's total workload**	**Contact hours**	**Self-study hours**
5	135	64	71

Programme Learning Outcomes to be developed.
A1. will apply appropriate terminology, nomenclature, units of measurement used in describing chemical substances and their structure. A3. will characterise the main reactions of inorganic, organic and biologically active substances. A7. will be able to explain physical phenomena and apply them for the examination of chemical substances. B3. will choose and compare the most appropriate materials and reaction conditions to achieve a specific goal B5. will synthesize materials using common methods; will describe various methods of synthesis. B6. will work with chemicals safely. B8. will be able to conduct standard laboratory procedures and use laboratory equipment. C1. will apply theoretical knowledge in solving quantitative and qualitative problems of both familiar and unfamiliar nature. C2. will plan problem-solving strategies. C3. will evaluate and mathematically process the data.

Learning outcomes of the course unit	**Teaching and learning methods**	**Assessment methods**
After successful completion of this course student should be able to: • Propose the retrosynthetic plan for given organic compound; • Prepare and present laboratory work report; • Synthesize organic molecules and assess their purity; •	Writing of laboratory work reports, presenting and defence of these reports in one-to-one	All laboratory works must be done, laboratory reports must be compiled and

	conversation with instructor; Textbook reading.	defended.

Topics	Contact work hours						Time and tasks of self-study	
	Lectures	Consultations	Seminars	Tutorials	Laboratory work	Total contact hours	Self-study	Tasks
Lab. work Extraction. Separation and identification of unknown compounds. Distilation. Separation and identification of unknown compounds.					12			Textbook reading. Problem solving. Preparation of laboratory work reports.
Lab. work Identification of functional groups.					4			Textbook reading. Problem solving. Preparation of laboratory work reports.
Lab. work Crystallization. Purification of benzoic acid. Purification of unknown compound.					6			Textbook reading. Problem solving. Preparation of laboratory work reports.
Lab. work Synthesis of 1-bromobutane					6			Textbook reading. Problem solving. Preparation of laboratory work reports.
Lab. work Bromination of cinnamic acid. Acid catalysed izomerization of maleic acid.					12			Textbook reading. Problem solving. Preparation of laboratory work reports
Lab. work Diels-Alder reaction.					6			Textbook reading. Problem solving. Preparation of laboratory work reports
Lab. work Synthesis and nitration of acetanilide. Nitration of veratrol.					12			Textbook reading. Problem solving. Preparation of laboratory work reports

Lab. work Synthesis of aspirin.					6			Textbook reading. Problem solving. Preparation of laboratory work reports
Total					**64**			

Assesment strategy	**Weight %**	**Assessment period**	**Assessment criteria**
Laboratory work	10%	Every week	Tests (2 times). Safe work in the laboratory. Ability to get reliable results. All laboratory works must be done, laboratory reports must be compiled and defended in one-to one conversation with laboratory teacher. In case of Fail, student must repeat laboratory work.

Reading list

Author	**Year of publ.**	**Title**	**Publisher**	**Number of volumes in the library of faculty**
Main reading list				
T. W. G. Solomons, C. B. Fryhle	2000, 2004, 2008	Organic Chemistry	Wiley	71
J. McMurry	2003 2004	Organic Chemistry	Brooks/Cole	16
R. Baltrušis, J. Degutis, G. Dienys, V. Mickevičius, A. Šačkus	2010	Organinė Chemija (Organic Chemistry)	Žodynas	100
Additional reading list				
J. Clayden, N. Greeves, S. Warren, P. Wothers	2007	Organic Chemistry	Oxford University Press	14