

COURSE UNIT (MODULE) DESCRIPTION

Course unit (module) title				Code			
Synthetic Drugs Design							
Lecturer(s)		se unit (module) is delivered					
Coordinator: dr. Virginija Dudutienė				ences, Institute of Chemistry			
Other(s):		Naugardukas str. 24,	LT-03225 V	<i>'ilnius</i>			
Study cycle			of the cours	e unit (module)			
Second		Mandatory					
	-						
Mode of delivery	•			anguage(s) of instruction			
) is delivered					
Face to face	1 rd semester		English				
	-	ents for students					
	organic chemistry	, Additional requir	ements (if a	iny):			
biochemistry							
		Contract ha					
Course (module) volume in Total credits	student's workload	d Contact hours		Self-study hours			
5 135		48		87			
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Purnose of the co	urse unit (module).	programme compete	nces to be	leveloped			
Synthetic drug design course aims to dev							
scientific information. Students will become acquainted with the principles of synthetic drugs development starting with the search for an active compound and ending with the active drug becoming a drug and entering the market.							
search for an active compound and onam		e e e e e e e e e e e e e e e e e e e	a entering th				
Learning outcomes of the cours	Teaching and	learning	Assessment methods				

Learning outcomes of the course unit (module)	Teaching and learning methods	Assessment methods
 After successful completion of this course student should be able : To analyze and systematize scientific information. To understant and characterize the stages of the modern drug design. To characterize main drug targets. To characterize the basic strategies of lead compound optimization. To characterize pharmacokinetic and pharmacodynamic requirements for drug candidate. 	Lectures, teaching (disclosure of the object). Discussions during tutorials. Individual preparation for tutorials.	Presentation/ Final examination

Content: breakdown of the topics	Contact hours	nt ac	nd v	Self-study work: time and assignments

	Lectures	Seminars	Exercises	Laboratory work	Internship/work placement			Assignments
1. Introduction to drug design.	2	1				3	3	Textbook reading. Preparation for tutorials.
2. Choosing a drug target.	6	3				9	16	Textbook/reviews reading. Preparation for tutorials.
3. Drug discovery: finding a lead.	2	1				3	9	Textbook/reviews reading. Preparation for tutorials.
4. Lead compound optimization.	6	3				9	16	Textbook/reviews reading. Preparation for tutorials.
5. Combinatorial synthesis, computer-aided drug design.	6	3				9	16	Textbook/reviews reading. Preparation for tutorials.
6. Quantitative structure-activity relationships (QSAR)	4	2				6	12	Textbook/reviews reading. Preparation for tutorials.
7. Pharmacokinetics.	4	2				6	12	Textbook/reviews reading. Preparation for tutorials.
8. Clinical trials. Getting the drug to market.	2	1				3	3	Textbook/reviews reading. Preparation for tutorials.
Total	32	16				48	87	

Assessment strategy	Weight,%	Deadline	Assessment criteria
Midterm exam	40%	October-November	Project (oral presentation). The use of a specific biological target for therapeutic purposes or the development of a drug with a specific biological effect must be analyzed. Overall score- 10. Total score-10x0.4
Final Exam	60%	January	Final examination. Examination consists of some tasks and questions. Overall score- 10. Total score- 10x0.6.

Author	Year of publication	Title	Issue of a periodical or volume of a publication	Publishing place and house or web link
Compulsory reading				
Graham L. Patrick	2017	An Introduction to Medicinal Chemistry	ISBN: 9780198749691	Oxford University Press
Algirdas Brukštus	2011	Vaistų kūrimo principai		KTU,VU
Optional reading				
Gerhard Klebe			ISBN 978-3-642- 17906	Springer