



## COURSE UNIT DESCRIPTION

Course unit title	Code
Pharmacotherapy and rational drug use	

Annotation
The study module integrates knowledge acquired during physiology, pathophysiology, and pharmacology studies, empowers students to develop a deep understanding of safe and evidence-based medication practices for treating diseases safely, effectively and rationally. During the course patient-centered care and the development of pharmaceutical research within clinical fields are promoted.

Lecturer(s)	Department, Faculty
<b>Coordinating:</b> Assoc. Prof. of partnership David John Woods	Faculty of Medicine, Institute of Biomedical Sciences, Pharmacy and Pharmacology Center, Gelezinio Vilko st. 29 a, Vilnius

Study cycle	Type of the course unit
Integrated Studies (1st and 2nd Cycle)	Mandatory

Mode of delivery	Semester or period when it is delivered	Language of instruction
Classroom-based/Online-based/ Blended	Autumn semester	English

Requisites
<b>Prerequisites:</b> The student must have completed the fundamentals of clinical medicine and pharmacology courses. <b>Co-requisites (if relevant):</b> None

Number of ECTS credits allocated	Student's workload (total)	Contact hours	Individual work
5	135	64	71

Purpose of the course unit: programme competences to be developed			
The objectives of the course are: 1) To provide knowledge about pharmacotherapy and rational drug use, the specifics of prescribing medications for different patient age groups, drug interactions, and safety, 2) To develop students' competencies and abilities to review all medications taken or prescribed to a patient, identify pharmacotherapeutic problems and solve them, manage adverse drug effects, and integrate the principles of rational pharmacotherapy into professional practice.			
Learning outcomes of the study programme	Learning outcomes of the course unit	Teaching and learning methods	Assessment methods
1.8	Will acquire a comprehensive understanding of pharmacotherapy and its associated terminology, demonstrating the ability to effectively integrate this knowledge, along with the principles of rational drug use, into professional practice.	Lectures (including virtual learning environments), seminars, practical sessions (problem-solving tasks, discussions, laboratory work simulations, visual material	Test, open and closed questions, practical tasks (oral, written, computer-based, in virtual environment).
1.9	Will demonstrate the ability to independently search for and critically		

	analyze scientific information sources, as well as synthesize data on the latest scientific evidence within the field of pharmacotherapy, in both Lithuanian and English.	demonstrations, student presentations).	
1.12, 5.9, 6.5	Will possess the capability to conduct a comprehensive review of medications prescribed to a patient, evaluate the rationality of pharmacological treatment, identify therapeutic errors and drug interactions, and propose recommendations or implement appropriate measures to enhance the safety and efficacy of pharmacotherapy.		
3.16	Will demonstrate the ability to critically evaluate scientific data related to pharmaceuticals, provide informed guidance and recommendations regarding medications and their rational use to patients and other healthcare professionals, actively collaborate as an equal partner in the development of clinical trials, and contribute to drug registration and post-registration monitoring processes.		
3.17	Will possess the ability to identify, characterize, and document suspected adverse drug reactions, manage such reactions effectively, and report relevant cases to competent regulatory authorities.		

Course content: breakdown of the topics	Contact hours							Individual work: time and assignments	
	Lectures	Tutorials	Seminars	Workshops	Laboratory work	Internship/work placement	Contact hours, total	Individual work	Assignments
1. Clinical aspects of pharmacy, applied and clinical pharmacokinetics and pharmacodynamics.	1		1	2			4	4	Scientific literature analysis, practical tasks: medication dosage calculations.
2. Medication review	1		1				2	4	Scientific literature analysis, practical tasks: solving clinical situations.
3. Adverse drug effects.	1		1	2			4	4	Scientific literature analysis, practical tasks: solving clinical situations.
4. Drug safety. Pharmacovigilance. Management of adverse drug reactions.	1		1	2			4	4	Scientific literature analysis, practical tasks: interpretation of laboratory data.
5. Pharmacokinetic and pharmacodynamic characteristics during pregnancy and breastfeeding.	1		1	2			4	4	Scientific literature analysis, practical tasks: medication review, solving clinical situations.

6. Pharmacokinetic and pharmacodynamic characteristics in childhood.	1		1	2			4	4	Scientific literature analysis, practical tasks: solving clinical situations.
7. Pharmacokinetic and pharmacodynamic characteristics in elderly.	1		1	2			4	5	Scientific literature analysis, practical tasks: solving clinical situations.
8. Pharmacotherapy for managing digestive disorders.	1		1	2			4	5	Scientific literature analysis, practical tasks: solving clinical situations.
9. Pharmacotherapy for managing cardiovascular diseases.	1		1	2			4	5	Scientific literature analysis, practical tasks: solving clinical situations.
10. Pharmacotherapy for managing pain.	1		1	2			4	5	Scientific literature analysis, practical tasks: solving clinical situations.
11. Pharmacotherapy for managing psychiatric disorders	1		1	2			4	5	Scientific literature analysis, practical tasks: solving clinical situations.
12. Pharmacotherapy for managing respiratory system diseases.	1		1	2			4	4	Scientific literature analysis, practical tasks: solving clinical situations.
13. Pharmacotherapy for managing infectious diseases.	1		1	2			4	4	Scientific literature analysis, practical tasks: solving clinical situations.
14. Pharmacotherapy for managing endocrine system and gynecological diseases.	1		1	2			4	4	Scientific literature analysis, practical tasks: solving clinical situations.
15. Pharmacotherapy for managing oncological diseases. Palliative therapy.	1		1	2			4	4	Scientific literature analysis, practical tasks: solving clinical situations.
16. Adherence to prescribed medication regimens and therapy, medication-related problems. The pharmacist's role in improving medication use.	1		1	4			6	6	Practical tasks: solving clinical situations. Preparation for the exam.
<b>Total</b>	<b>16</b>		<b>16</b>	<b>32</b>			<b>64</b>	<b>71</b>	

Assessment strategy	Weight %	Deadline	Assessment criteria
Practical assignments	45	During the semester	During the assessment of practical work, students' ability to analyze clinical situations, evaluate the appropriateness, effectiveness, and rational use of prescribed medications is examined. Practical work assessment is graded on a 10-point scale, and the evaluation criteria are provided to students in written form at the beginning of the semester.
Written exam	55	During the session	The exam evaluates students' theoretical knowledge of pharmacotherapy and the rational use of medications. It is conducted during the session, with each question assigned a score. The total score for all exam questions is 10, and the evaluation criteria are provided to students in written form before the final lecture of the semester.

Author	Publishing year	Title	Issue of a periodical or volume of a publication; pages	Publishing house or internet site
<b>Required reading</b>				
Whittlesea C. Hodson K.	2018	Clinical Pharmacy and Therapeutics, International Edition, 6th Edition		Elsevier Press
Wiffen Ph., Mitchell M., Snelling M., Stoner N.	2017	Oxford Handbook of Clinical Pharmacy		Oxford University Press
<b>Recommended reading</b>				
Walker R., Whittlesea C.	2012	Clinical Pharmacy and Therapeutics. 5th edition		Internet access: <a href="http://www.prip.edu.in/img/ebooks/Roger-Walker-Clinical-Pharmacy-and-Therapeutics-5th-Ed.pdf">http://www.prip.edu.in/img/ebooks/Roger-Walker-Clinical-Pharmacy-and-Therapeutics-5th-Ed.pdf</a>
Rutter P.	2017	Community Pharmacy: Symptoms, Diagnosis and Treatment, 4th edition		Elsevier