



COURSE UNIT DESCRIPTION

Course unit title	Code
Drug Utilization Research	

Annotation
Drug utilization research is important for promoting rational drug and safe drug use, drug utilization research data can be used for decision-making in healthcare policy. During the course the students are provided with knowledge about the main aspects of drug utilization research: importance and practical applicability of drug utilization research data, data sources and data classification systems, different models of drug utilization research. Specifics of drug utilization research of different drug groups will be discussed, as well as drug utilization research in different age groups, different geographical regions, factors influencing drug utilization will be discussed.

Lecturer(s)	Department, Faculty
Coordinating: Prof. Dr. Björn Wettermark	Faculty of Medicine, Institute of Biomedical Sciences, Pharmacy and Pharmacology Center, Geležinio vilko str. 29A, Vilnius

Study cycle	Type of the course unit
Integrated	Elective

Mode of delivery	Semester or period when it is delivered	Language of instruction
Lectures and seminars in auditoriums	Autumn/spring semester	Lithuanian/English

Requisites
Prerequisites: none. Co-requisites (if relevant): 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			
Aim – to provide knowledge about drug utilization, influence on treatment efficacy, research in area of drug utilization, planning, execution, presentation of results of drug utilization research, to cultivate analytical and critical thinking when solving problems in drug utilization.			
Learning outcomes of the study programme	Learning outcomes of the course unit	Teaching and learning methods	Assessment methods
1.2	Will be able to search for and analyse information sources and organise data in Lithuanian and English;	Lectures, seminars, workshops	Exam, practical exercises
2.1	will be able to plan, conduct and coordinate pharmaceutical research in accordance with bioethical requirements;	Lectures, seminars, workshops	Exam, practical exercises, project preparation
4.2	will be able to work individually and collaboratively in teams of diverse healthcare professionals in Lithuania and internationally.	Lectures, seminars, workshops	Exam, practical exercises, project preparation

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. Introduction to drug utilization research. Methodology, quantitative and qualitative research.	1		1	2			4	4	Reading of scientific literature, preparation for seminar/workshop
2. Primary and secondary data in drug utilization research. Databases.	1		1	2			4	4	Preparation for workshop: databases, their differences advantages and disadvantages.
3. Classification systems of medicines and diseases. Units of measure used in drug utilization research	1		1	2			4	4	Preparation for workshop: units of measure in drug utilization research.
4. Main statistical methods used in drug utilization research. Visualization of drug utilization research data.	1		1	2			4	4	Preparation for workshop: Main statistical methods, visualization of data.
5. Drug utilization research at individual level. Analysis and evaluations of medicine costs.	1		1	2			4	4	Preparation for workshop: analysis and evaluations of medicine costs.
6. Multilevel analysis in drug utilization research.	1		1	2			4	4	Reading of scientific literature, preparation of an overview of a study.
7. Quality indicators in drug utilization research.	1		1	2			4	4	Reading of scientific literature, preparation of an overview of a study.
8. Qualitative studies in drug utilization research.	1		1	2			4	4	Reading of scientific literature, presenting an

									overview of a study.
9. Comparison of drug utilization in different geographical regions. Changes in drug utilization depending on time and season.	1		1	2			4	4	Preparation for workshop: seasonal variability in drug utilization
10. Comparative studies patient, doctor and healthcare system factors.	1		1	2			4	5	Reading of scientific literature, preparation for seminar/workshop : comparing healthcare systems.
11. Management of drug utilization at healthcare system level, impact on healthcare politics.	1		1	2			4	5	Preparation for workshop: interpreting drug utilization research results and implementation in practice.
12. Drug utilization research in different populations. Drug utilization in children and elderly.	1		1	2			4	5	Reading of scientific literature, preparation for seminar/workshop : Drug utilization specifics in different age groups.
13. Antibiotic utilization research. Cardiovascular medicine utilization research.	1		1	2			4	5	Preparation for workshop: antibiotic and antihypertensive medicine utilization research in Lithuania.
14. Adherence research. Database search, survey methods and tools for improving drug use.	2		2	4			8	8	Reading of scientific literature, preparation for seminar/workshop : tools used in adherence research, comparison of tools.
15. Drug utilization research and pharmacovigilance.	1		1	2			4	5	Preparation for workshop: pharmacovigilance.
16. Drug utilization research result analysis. Improvement of prescribing quality in relation to	1		1	2			4	6	Reading of scientific

quality indicators. Pharmaceutical intervention as a tool to improve drug use.									literature. Preparation for exam.
Total	16		16	32			64	71	

Assessment strategy	Weight %	Deadline	Assessment criteria
Practical excercises	20	During the semester	Students will receive practical excercises during the semester. The excercises will be evaluated within a 10 point system. Evaluation criteria will be presented in writing at the beginning of the semester.
Project	25	During the semester	Students will be preparing a project during the semester – analysis of a study and presentation of the analysis. The project will be evaluated within a 10 point system. Evaluation criteria will be presented in writing at the beginning of the semester.
Exam	55	Exam session	Students' theoretical knowledge of drug utilization research will be evaluated. The exam is held during the exam session. Point value is provided for every question. Total point value of the exam is 10. Exam evaluation criteria are presented during the last lecture of the semester.

Author	Publishing year	Title	Issue of a periodical or volume of a publication; pages	Publishing house or internet site
Required reading				
Elseviers M., Wettermark B., Mueller T. et al.	2024	Drug Utilization Research: Methods and Applications, 2nd Edition		Wiley Blackwell
Recommended reading				
M.N.G. Dukes	1993	Drug utilization studies Methods and uses		World Health Organization Prieiga internetu https://iris.who.int/handle/10665/260517 Susijusi nuoroda: https://iris.who.int/bitstream/handle/10665/260517/9789289013086-eng.pdf