

PATIENT CARE V+VI

Faculty	Program	Specialization	Course code
Center for Medical Education in English	6-year PharmD	-	

1. GENERAL INFORMATION

Course name	Name of the superior course/ module	Academic year	Year of studies
PATIENT CARE V+VI	-	2020 / 2021	Fifth
Semester	Year of matriculation	Education profile	Level of studies
-	2016 / 2017	-	in English
Mode of studies	Language of teaching	Type of course	Course coordinator
in English	English	Mandatory	Szkutnik-Fiedler Danuta dr hab. n. farm.
Superior course/module coordinator	Person giving credit for completing the course	Teacher Assistants	
-	Szkutnik-Fiedler Danuta dr hab. n. farm.		

2. LEARNING OBJECTIVES. GENERAL CHARACTERISTICS OF MODULE/COURSE

This course will enable students to acquire therapeutic knowledge and further develop their skills in identifying, solving, and preventing drug therapy problems. The course will be taught in a modified problem-based format, utilizing the principles of Patient Care and self-directed learning.

3. PRELIMINARY REQUIREMENTS

Basics of: Anatomy, Physiology, Chemistry, Pharmacology, Pharmacokinetics and information from previous Patient Care courses I-IV.

4. CURRICULAR CONTENTS

Students will be required to integrate knowledge learned in previous and concurrent courses including, pathophysiology, pharmaceuticals, pharmacology, pharmacokinetics, and self-medications, and incorporate new pharmacotherapeutic information in order to identify and resolve drug therapy problems in simulated patients. A systematic decision-making framework or process introduced in previous courses and emphasized in this course will form the basis of patient case work-ups for each topic. This process will enable students to identify and state the patient's drug therapy problem. Students will be expected to develop a Care Plan to address the identified problems for the patient. The Care Plan will include specific pharmacist recommendations.

5. DESCRIPTION OF ASSUMED MODULE/COURSE LEARNING OUTCOMES AND VERIFICATION OF LEARNING OUTCOMES

LEARNING OUTCOMES UPON COMPLETION OF THE COURSE STUDENT WILL ACHIEVE WITHIN:	Number of educational standard or program learning outcome	Reference to the second degree characteristics of Polish Qualifications Framework	Assessment / method of verification of assumed learning outcomes	Methods of realization
KNOWLEDGE				
know the principles of cooperation between a pharmacist and a doctor which are the basis of modern pharmacotherapy, including issues concerning the development of the hospital formulary and therapeutic standards;	E_W27	P7S_WK	benchmark test	lectures
know the issues of modern pharmacotherapy of selected lifestyle diseases and diseases that require chronic treatment, based on the principles of medical practice known as evidence-based medicine, therapeutic standards and guidelines of Polish and European medical associations;	E_W24	P7S_WG	benchmark test	classes-A
know the role of the pharmacist in clinical research;	E_W23	P7S_WG	benchmark test	lectures

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know the legal, ethical and methodological aspects of clinical trials and functioning of the clinical research center;	E_W22	P7S_WG	benchmark test	lectures
understand the importance of product characteristics and medical device in the optimization of pharmacotherapy;	E_W21	P7S_WG	benchmark test, diagnosis of individual case	student individual workload, classes-A
know criteria for the selection of drugs and clinical indications for conducting dose-adjusted supervised therapy in the biological fluids of the body;	E_W17	P7S_WG	diagnosis of individual case	classes-A
know and understand the causes and methods of preventing and reducing the incidence of drug-induced complications caused by: the use of medicines outside the registered indications (off-label), not taking account of the contraindications and limitations to their use, irrational pharmacotherapy, drug advertising in the mass media and the general availability of drugs, especially available without a prescription (OTC);	E_W16	P7S_WG	benchmark test, diagnosis of individual case	classes-A
know and understand the causes of and methods of preventing and reducing the incidence of adverse drug reactions;	E_W15	P7S_WG	benchmark test, diagnosis of individual case	classes-A
know and understand the principles of individualized pharmacotherapy that allow for differences in effects of drugs due to physiological factors in the state of disease;	E_W14	P7S_WG	benchmark test, diagnosis of individual case	student individual workload, classes-A
know and understand the rules of determining the patient's need for medicinal products;	E_W13	P7S_WG	diagnosis of individual case	classes-A
know and understand the importance of and role of the pharmacist in overseeing the pharmacotherapy of patients with chronic diseases;	E_W12	P7S_WG	benchmark test, diagnosis of individual case	lectures, classes-A
know and understand the rules for monitoring the efficacy and safety of pharmacotherapy in individual patients in the process of pharmaceutical care, as well as the tools to facilitate the detection of drug problems;	E_W11	P7S_WG	benchmark test, diagnosis of individual case	lectures, classes-A
know the tools and principles for documenting pharmaceutical care;	E_W08	P7S_WG	diagnosis of individual case	classes-A
know the principles of conducting medical interviews that serve to detect, classify and solve drug-related problems, as well as internationally used systems for the classification of drug problems;	E_W07	P7S_WG	diagnosis of individual case	classes-A
know and understand the idea of pharmaceutical care;	E_W06	P7S_WK	benchmark test	classes-A, lectures
know the principles of drug application, depending on the type of dosage form, and the type of packaging and the dispensing system;	E_W05	P7S_WG	benchmark test	lectures
know the rules for dispensing medications from pharmacies based on the doctor's orders and without a prescription, and the system of drug distribution in Poland;	E_W01	P7S_WG	benchmark test	lectures, classes-A

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know and understand possible drug interactions with food, such as the impact of food on drugs (at the level of absorption, transport, biotransformation and excretion of drugs) and drug effects on the absorption, transport, metabolism, and excretion of nutrients;	D_W38	P7S_WG	diagnosis of individual case	student individual workload
know the processes that the xenobiotic undergoes in the body, with particular emphasis on the processes of biotransformation, depending on the route of administration and route of exposure;	D_W27	P7S_WG	diagnosis of individual case	student individual workload
know the rules of monitoring adverse reactions;	D_W25	P7S_WG	benchmark test	classes-A
know the ways of avoiding unfavourable interactions;	D_W24	P7S_WG	benchmark test, diagnosis of individual case	classes-A, lectures
know the rules for proper combination of drugs;	D_W23	P7S_WG	diagnosis of individual case	classes-A
know the problems of interactions between drugs and between drugs and food products;	D_W22	P7S_WG	benchmark test, diagnosis of individual case	classes-A
know drug-specific and dose-dependent side effects;	D_W20	P7S_WG	diagnosis of individual case	classes-A
know indications and contraindication for particular drug groups;	D_W19	P7S_WG	diagnosis of individual case	classes-A
know pharmacological properties of particular drug groups;	D_W18	P7S_WG	diagnosis of individual case	classes-A
know hereditary factors affecting the efficacy and safety of the drugs used;	D_W14	P7S_WG	diagnosis of individual case, benchmark test	classes-A
know and understand the factors that influence drug action;	D_W13	P7S_WG	benchmark test	classes-A
know and understand basic concepts and issues related to drug action;	D_W12	P7S_WG	benchmark test, diagnosis of individual case	classes-A
know and understand the problems related to bioequivalence of drugs;	D_W11	P7S_WG	benchmark test	classes-A
know the basis of therapeutic monitoring of drug concentration;	D_W10	P7S_WG	benchmark test	classes-A
know and understand the physiological, pathophysiological and environmental conditions influencing pharmacokinetic processes;	D_W09	P7S_WG	benchmark test, diagnosis of individual case	classes-A
know the pharmacokinetic parameters describing the processes of absorption, distribution and elimination of drugs and methods of their determination;	D_W08	P7S_WG	benchmark test	classes-A
know and understand the following pharmacokinetic processes: absorption, distribution, metabolism, release (ADME) that determine the dose - concentration - time relation;	D_W07	P7S_WG	benchmark test	classes-A
understand the importance of factors characterizing drug substance and dosage form for improving the bioavailability of the drug substance and modifying the time of its action;	D_W04	P7S_WG	benchmark test	classes-A

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know and understand the mechanisms of modification of physiological process by pharmacological agents;	A_W06	P7S_WG	benchmark test	classes-A
understand the processes that the drug undergoes in the body, depending on the method of administration;	D_W02	P7S_WG	benchmark test	classes-A
know the structure and function of biological barriers in the body which affect the absorption and distribution of the drug;	D_W01	P7S_WG	benchmark test	classes-A
know the main metabolic pathways and their interdependence, the mechanisms regulating the metabolism and the effects of drugs on these processes;	A_W12	P7S_WG	benchmark test	classes-A
know and understand the criteria for evaluating the bioavailability of the drug substance from the dosage form and methods of assessing the pharmaceutical availability;	D_W03	P7S_WG	benchmark test	classes-A
know the grip points and the mechanisms of drug action;	D_W16	P7S_WG	test, benchmark test	lectures, classes-A
SKILLS				
actively participate in clinical research;	E_U40	P7S_UW	benchmark test	classes-A
actively participate in the work of a therapeutic team, cooperate with physicians, nurses and laboratory diagnosticians in order to choose optimum treatment for the patient;	E_U39	P7S_UW	benchmark test	classes-A
actively monitor and report adverse drug reactions, implement preventive actions, give information to healthcare professionals, patients and family members about complication resulting from pharmacotherapy;	E_U38	P7S_UW	benchmark test	classes-A
predict the impact of various factors on pharmacokinetic and pharmacodynamic properties of drugs and solve the problems of individualization and optimization of pharmacotherapy;	E_U37	P7S_UW	diagnosis of individual case	classes-A
detect and classify drug problems and propose a way to resolve them;	E_U33	P7S_UW	diagnosis of individual case	student individual workload, classes-A
conduct interview with the patient in order to collect information that is necessary for the implementation and provision of pharmaceutical care;	E_U31	P7S_UW	diagnosis of individual case	student individual workload, classes-A
conduct pharmaceutical consultation during issuing of a pharmaceutical drug available without a prescription (OTC);	E_U29	P7S_UW	benchmark test	classes-A
make preliminary assessment of a causal relationship between the drug used and the observed response;	E_U10	P7S_UW	diagnosis of individual case	classes-A
identify the hazards associated with pharmacotherapy used in different groups of patients and plan preventive actions;	E_U09	P7S_UW	benchmark test, diagnosis of individual case	classes-A
prepare an educational plan for the patient in order to solve the detected drug problems;	E_U08	P7S_UW	diagnosis of individual case	classes-A, student individual workload

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define and differentiate the health information needed in the process of pharmaceutical care for patients with various chronic diseases;	E_U07	P7S_UW	diagnosis of individual case	student individual workload, classes-A
prepare a plan for monitoring pharmacotherapy, specifying the type of indicators used to evaluate the effectiveness and frequency of measurement of these indicators;	E_U06	P7S_UW	diagnosis of individual case	student individual workload
prepare the plan of pharmaceutical care that includes setting goals for the therapy and an indication of actions allowing for their implementation;	E_U05	P7S_UW	diagnosis of individual case	classes-A
determine the responsibilities of individuals belonging to the professional staff in pharmacies, and divide responsibilities in the area of the expedition of drugs from the pharmacy and the provision of information about medicines;	E_U02	P7S_UK	benchmark test	classes-A
provide information about the drug action in a manner that is understandable to the patient;	D_U18	P7S_UK	diagnosis of individual case	student individual workload, classes-A
justify the benefits of a combination drug;	D_U14	P7S_UW	benchmark test, diagnosis of individual case	classes-A
predict adverse reactions depending on the dose and route of administration;	D_U12	P7S_UW	benchmark test, diagnosis of individual case	classes-A
justify the influence of hereditary factors on the effectiveness and safety of medicines;	D_U10	P7S_UW	diagnosis of individual case	classes-A
explain the causes and effects of interaction in the pharmacokinetic phase and interpret the impact of the factors on drug action;	D_U09	P7S_UW	benchmark test, diagnosis of individual case	classes-A
determine the change in dosage of the drug in an individual patient based on monitoring the concentration of the drug in the blood;	D_U08	P7S_UW	diagnosis of individual case, benchmark test	classes-A
justify the need to change the dosage of the drug in an individual patient (depending on the disease, age, genetic factors, etc.);	D_U07	P7S_UW	diagnosis of individual case	classes-A
use the acquired knowledge to analyze the functional state of the body in order to optimize and individualize pharmacotherapy and prevention;	A_U06	P7S_UW	diagnosis of individual case	classes-A
COMPETENCES				
work in a team.	B_K03	P7S_KK	oral answer	classes-A
draw and form conclusions on the basis of own measurements and observation;	B_K02	P7S_KK	benchmark test, diagnosis of individual case	classes-A, student individual workload
have the habit of using information technology to search for and select information;	B_K01	P7S_KK	benchmark test	student individual workload, classes-A
have the habit of engaging supportive and preventive actions.	A_K03	P7S_UO	benchmark test	classes-A, lectures

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be aware of social conditions and limitations resulting from the disease and the need for promoting healthy behaviours;	A_K02	P7S_UO	benchmark test	classes-A, lectures
evaluate actions and resolve moral dilemmas based on ethical standards and principles;	A_K01	P7S_UK	diagnosis of individual case	classes-A

6. DIDACTIC METHODS AND STUDENT WORKLOAD

FORM OF CLASSES

TOTAL STUDENT WORKLOAD				DIDACTIC METHODS	
NUMBER OF CONTACT HOURS PLUS E- LEARNING	NUMBER OF HOURS OF STUDENT'S INDIVIDUAL WORK	NUMBER OF E- LEARNING HOURS	ECTS POINTS (including e- learning)		
LECTURES	12	18	0	1,00 (0,00)	lecture
CLASSES-A	38	62	0	4,00 (0,00)	lesson discussions cases film simulations
TOTAL STUDENT WORKLOAD	50	80	0	5,00 / 5,00	

7. ASSESSMENT CRITERIA

Evaluation of the students' ability to identify and resolve patients' drug therapy problems will be based on a two MCQ tests including 20-30 questions.

Absence at more than 4 classes will result in failing for Patient Care classes (no credit).

Credit of this program is based on attendance and on the completion of the tests and final exam (at least 60%).

8. PRIMARY LITERATURE

1. CPHA **Compendium of Therapeutics For Minor Ailments (CTMA 2)** , Canadian Pharmacists Association, 2016.
2. CPHA **Compendium of Therapeutic Choices. 7th Edition** , Canadian Pharmacists Association, 2017.

9. COMPLEMENTARY LITERATURE

1. Cate Whittlesea, Karen Hodson **Clinical Pharmacy and Therapeutics, 6th ed.** , Elsevier, 2018.
2. Caroline S. Zeind, Michael G. Carvalho **Applied Therapeutics. The clinical use of drugs. 11th ed.** , Wolters Kluwer, 2018.
3. Burton M.E., Shaw L.M., Schentag J.J., Evans W.E.
Applied Pharmacokinetics and Pharmacodynamics: Principles of Therapeutic Drug Monitoring. , Lippincott Williams & Wilkins (LWW), 2006.
4. Briggs, Gerald G.; Freeman, Roger K.; Towers, Craig V.;
Forinash, Alicia B. **Drugs in Pregnancy and Lactation: A Reference Guide to Fetal and Neonatal Risk, 11th ed.** , Lippincott Williams & Wilkins (LWW), 2017.

10. CLASS REGULATIONS

File added as an attachment.

11. CLASS SCHEDULE

File added as an attachment.

12. RESEARCH GROUPS

Clinical Pharmacy (Chair and Department of Clinical Pharmacy and Biopharmacy)

13. FINAL INFORMATION

ul. św. Marii Magdaleny 14, 61-861 Poznań

14. ASSESSMENT SYTEM

LOCAL ASSESSMENT	LOCAL DEFINITION	ECTS ASSESSMENT	ECTS DEFINITION
good - good level of knowledge, skills and competences	C	good - in general solid work with a number of noticeable mistakes	
3,5	fairly good - satisfactory knowledge, skills and competences but with major shortcomings	D	acceptable - satisfactory but with major mistakes
3	satisfactory - satisfactory knowledge, skills and competences with many mistakes	E	satisfactory - results meet the minimal criteria
2	unsatisfactory - unacceptable knowledge, skills and competences	FX,F	unsatisfactory - basic shortcomings in mastering of the program