COURSE DESCRIPTION CARD - SYLLABUS

Course name
Drug chemistry - structure, metabolism, side effects [S1IFar2>CLsmdn]

Course

Field of study
Pharmaceutical Engineering

Year/Semester
3/5

Area of study (specialization)
–

Profile of study
general academic

Level of study
first-cycle

Course offered in
Polish

Form of study
full-time

Requirements
elective

Number of hours

Lecture
0

Laboratory classes
0

Other
0

Tutorials
15

Projects/seminars
0

Number of credit points

1,00

Coordinators

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Lecturers

Prerequisites

The student should have basic knowledge in the field of biology, biochemistry and chemistry. He should also have the skills to acquire knowledge and information from the indicated sources and be ready and able to work in a team.

Course objective

Transfer of knowledge about the therapeutic, side, undesirable and toxic effects of xenobiotics. Issues related to the fate of selected drug groups in the body and the significance of changes observed in therapy will be presented. Students learn about the issues related to the impact of the route of administration to the observed effects of their actions (therapeutic and side effects).

Course-related learning outcomes

Knowledge:
The student has knowledge of the basic concepts related to the biological activity of xenobiotics. [K_W1]
2. The student has knowledge about the chemical changes that the substance undergoes in the system. [K_W25]
The student has knowledge about the possibility and type of adverse drug reactions. [K_W5;K_W25]

Skills:
The student understands the content of the information leaflet contained in medicinal products and literature in the field of pharmaceutical sciences. [K_U1]
The student is able to use scientific literature to update data on all forms of xenobiotic activity. [K_U1; KU24]
The student demonstrates the ability to discuss drug safety. [K_U25]

Social competences:
The student understands the importance of the safety of therapy. [K_K1]
The student is aware of the advantages and risks of inappropriate use of chemical substances. [K_K3]
The student is able to interact and work in a group. [K_K2]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Knowledge and skills acquired during meetings are verified on the basis of a final test in the form of a test consisting of 10 questions. The test takes place at the last meeting. Final issues will be sent to students using the university system (WISUS). Passing threshold: 50% of points. Depending on the epidemic situation, the test will be performed in stationary or online mode.

Programme content

The program covers the following topics:
1. Basic concepts related to biological activity and chemical structure.
2. Drug safety.

Course topics

The student will learn the basic concepts related to the biological activity of the chemical structure and safety of drug use. As part of this, we will discuss:
• distribution routes and the fate of xenobiotics in the system based on selected routes of administration,
• drug metabolism on any examples,
• side effects and pleiotropic medicinal substances,
• the concept and importance of interaction in the pharmaceutical and pharmacodynamic phases.

Teaching methods

Multimedia presentation illustrated with examples and a discussion. Preparation of presentations and discussions by students on a topic given by the teacher.

Bibliography

Basic:
1. Zając M., Jelińska A., Muszalska I.: „Chemia leków z elementami chemii medycznej” Wydawnictwo Naukowe Uniwersytetu Medycznego im. Karola Marcinkowskiego w Poznaniu, 2018
2. Graham P.: „Chemia medyczna", PWN, Warszawa, 2019
3. Sznitowska M., Kaliszan R.: "Biofarmacja", Elsevier Urban & Partner, Wrocław, 2014

Additional:
1. Steinhilber D., Schubert-Zsilavecz M., Roth H.J.: „Chemia medyczna”, MedPharm Polska, Wrocław, 2012
2. Patric G.: „Chemia leków - krótkie wykłady, PWN, Warszawa, 2004

Breakdown of average student's workload

	Hours	ECTS
Total workload	30	1,00
Classes requiring direct contact with the teacher	15	0,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	15	0,50