



48SJ-PHAT13
ECTS: 3.00
CYCLE: 2023L

Course syllabus - part A Pharmacology and Toxicology 1/3

SUBJECT MATTER CONTENT

LECTURE

General pharmacology. Elements of pharmacokinetics. Pharmacodynamics. Drug interactions at the level of pharmacokinetics and pharmacodynamics. Adverse drug reactions. Autonomic system drugs. Modern antibiotic therapy.

SEMINAR

Basics pharmacodynamics. Receptors for drugs. Agonists and antagonists. Pharmacodynamic drug interactions. Drugs affecting the autonomic nervous system. Introduction to pharmacology of ANS. Adrenergic agonists. Adrenergic antagonists. Drugs affecting the autonomic nervous system. Introduction to pharmacology of ANS. Drugs stimulating cholinergic receptors and cholinesterase inhibitors. Drugs blocking cholinergic receptors. Drugs acting non-directly. Antibiotics part 1. Concepts in antibiotic pharmacology. Bacteriostatic vs Bacteriocidal antibiotics. Mechanism of action of antibiotics. Complications of antimicrobial therapy. Rational use of antibiotics. Antimicrobial resistance. Antibiotics part 2 - characteristics of specific groups of antibiotics. Antiviral drugs - classification, mechanism of use, indications and contraindications. Adverse effects and interactions. Antifungal drugs -classification, mechanism of use, indications and contraindications. Adverse effects and interactions. Antiparasitic drugs -classification, mechanism of use, indications and contraindications. Adverse effects and interactions. Disinfectants, antiseptics, sterilants.

CLASSES

Basics pharmacology. Definition of drug and poison. Drug production, clinical trials. Branches and divisions of pharmacology. Generic name, trade name Adverse effects of drugs. Pharmacokinetics (basics pharmacokinetics -routes of administration, processes of absorption, distribution, metabolism and excretion, pharmacokinetic parameters: half-life, volume of distribution, drug clearance, drug interactions, therapeutic monitoring of drugs). Drugs affecting the autonomic nervous system. Introduction to pharmacology of ANS. Adrenergic agonists. Adrenergic antagonists. Autacoids and their receptors histamine, serotonin.

TEACHING OBJECTIVE

The basic aim in the pharmacology and toxicology teaching is learning and understanding by students mechanisms of drug action, adverse and toxic effects and possible interactions which can occur during polytherapy. Special attention is given to pharmacotherapy's safety and efficient drug use in a therapy of particular diseases.

DESCRIPTION OF THE LEARNING OUTCOMES OF THE COURSE IN RELATION TO THE DESCRIPTION OF THE CHARACTERISTICS OF THE SECOND LEVEL LEARNING

Legal acts specifying learning outcomes:
311/2023

Disciplines: medical sciences

Status of the

course:Obligatoryjny

Group of courses:A -

przedmioty podstawowe

Code: ISCED 0912

Field of study:Medicine

Scope of education:

Profile of education:

General academic

Form of studies: full-time

Level of studies: uniform

master's studies

Year/semester: 2/4

Types of classes: Lecture,
Seminar, Classes

Number of hours in semester:Lecture: 10.00,
Seminar: 20.00, Classes:
10.00

Language of instruction:English

Introductory subject:

Anatomy

Prerequisites: Completed 1
year of studies in the field of
medicine..

Name of the organisational unit conducting the

course:Katedra Farmakologii i Toksykologii

Person responsible for the realization of the course:dr
hab. n. med. Michał Majewski,
prof. UWM

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Additional remarks:

OUTCOMES FOR QUALIFICATIONS AT LEVELS 6-8 OF THE POLISH QUALIFICATION FRAMEWORK IN RELATION TO THE SCIENTIFIC DISCIPLINES AND THE EFFECTS FOR FIELDS OF STUDY:

Symbols for outcomes related to the discipline:

M/NMA_P7S_UW+, M/NMA_P7S_WG+++

Symbols for outcomes related to the field of study:

E.W43.+ , C.U19.+ , C.W38.+ , C.U14.+ , C.W40.+ , C.U18.+ , C.W42.+ , C.U16.+ , K.6.+ , K.10.+ , K.8.+ , C.W37.+ , E.U34.+ , K.2.+ , G.W10.+ , E.W29.+ , C.W47.+ , K.7.+ , C.U13.+ , C.W35.+ , C.W45.+ , C.U15.+ , E.U33.+ , K.3.+ , K.11.+ , K.4.+ , E.U31.+ , E.U19.+ , K.5.+ , E.U32.+ , C.W44.+ , C.W4.+ , C.U17.+ , C.W43.+ , KA7_UU4+ , C.W36.+ , C.W39.+ , C.W48.+ , C.W46.+ , C.W41.+ , K.1.+

LEARNING OUTCOMES:

Knowledge:

W1 - knows the main mechanisms of drugs' action and their changes in the system depending on age; W2 - determines the influence of disease on the metabolism and elimination of drugs; W3 - knows the basic rules of pharmacotherapy; W4 - knows important adverse effects of drugs, including those resulting from their interaction; W5 - understands the problem of drug resistance, including multidrug drug resistance; W6 - characterizes separate groups of therapeutic agents.

Skills:

U1 - performs simple pharmacokinetic calculations; U2 - orders drugs at appropriate doses to correct pathological phenomena in the body and in particular organs; U3 - designs a scheme of rational chemotherapy, empirical and targeted; U4 - correctly prescribes all forms of prescription of medicinal substances; U5 - uses pharmaceutical guides and databases on medicinal products; U6 - estimates toxicological hazard in specific age groups and in liver and kidney failure, and knows how to prevent drug poisoning; U7 - interprets the results of toxicological tests.

Social competence:

K1 - promoting pro-health behaviors; K2 - using objective sources of information; K3 - formulating conclusions from own measurements or observations; K4 - implementing the principles of professional camaraderie and cooperation in a team of specialists, including representatives of other medical professions, also in a multicultural and multinational environment; K5 - formulating opinions on various aspects of professional activity; K6 - accepting responsibility related to decisions made as part of professional activity, including in terms of own and other people's safety. K7 - establishing and maintaining deep and respectful contact with the patient, as well as showing understanding for ideological and cultural differences; K8 - being guided by the good of the patient; K9 - respecting medical confidentiality and patient rights; K10 - taking actions towards the patient based on ethical principles, with awareness of social conditions and limitations resulting from the disease.

TEACHING FORMS AND METHODS:

Lecture(W1;U1;K1):Multimedia presentation.

Seminar(W1;U1;K1):Discussion combined with problem solving. Analysis of information contained in the characteristics of medicinal preparations. Analysis of interactions between individual drugs and between drugs and food. Team multimedia presentations.

Classes(W1;U1;K1):Discussion combined with problem solving. Analysis of information contained in the characteristics of medicinal preparations. Analysis of interactions between individual drugs and between drugs and foods. Team multimedia presentations.

FORM AND CONDITIONS OF VERIFYING LEARNING

OUTCOMES:

Lecture (Colloquium test) - To pass, it is necessary to obtain 60% of the points from the test -

Seminar (Colloquium test) - To pass, it is necessary to obtain 60% of the points from the test -

Classes (Colloquium test) - To pass, it is necessary to obtain 60% of the points from the test -

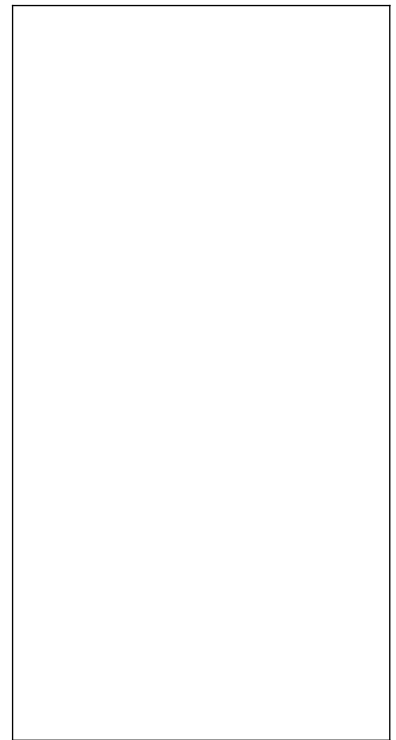
BASIC LITERATURE:

1. James M. Ritter, Rod J. Flower, Graeme Henderson, Yoon Kong Loke, David MacEwan, Humphrey Rang, *Rang Dale's Pharmacology*, Tom 9th Edition, Wyd. Elsevier, R. 2018, s. 808

2. Bertram Katzung, Anthony Trevor, *Basic and Clinical Pharmacology*, Tom 15th Edition, Wyd. McGraw Hill, R. 2020, s. 1328

SUPPLEMENTARY LITERATURE:

1. Laurence Brunton, Bjorn Knollmann, *Goodman and Gilman's The Pharmacological Basis of Therapeutics*, Tom 14th Edition, Wyd. McGraw Hill, R. 2022, s. 1664



Detailed description of ECTS credits awarded - part B

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Pharmacology and Toxicology 1/3

The number of ECTS credits awarded consists of:

1. Contact hours with the academic teacher:

- participation in: Lecture	10.0 h
- participation in: Seminar	20.0 h
- participation in: Classes	10.0 h
- consultation	2.0
	Total: 42.0 h.

2. Independent work of a student:

Preparation for exercises, seminars, colloquiums.	33.00 h
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Total: 33.0 h

contact hours + independent work of a student Total: 75.0 h

1 ECTS credit = 25-30 h of an average student's work, number of ECTS credit = 75.0 h : 25.0 h/ECTS = 3.00 ECTS on average: 3.0 ECTS

- including the number of ECTS credits for contact hours with the direct participation of an academic teacher: 0,00 ECTS points,

- including the number of ECTS credits for hours of independent work of a student: