



Pharmacology

| 1. IMPRINT | |
|--|--|
| Academic Year | 2024/2025 |
| Department | Faculty of Medicine and Dentistry |
| Field of study | English Dentistry Division |
| Main scientific | Medical Science |
| Study Profile | General academic |
| Level of studies | Uniform Master's studies |
| Form of studies | Stationary |
| Type of module / course | Obligatory |
| Form of verification of learning outcomes | Exam |
| Educational Unit / Educational Units | Chair and Department of Experimental and Clinical Pharmacology Centre for Preclinical Research and Technology CePT, Banacha 1b, 02-927 Warsaw, tel. (+48) 022 1166160 |
| Head of Educational Unit / Heads of Educational Units | Prof. Dagmara Mirowska-Guzel, MD, PhD Phone: (+48) 022 1166160 |
| Course coordinator | Dr. Aleksandra Wiśłowska-Stanek, aleksandra.wislowska-stanek@wum.edu.pl |
| Person responsible for syllabus | Prof. Dagmara Mirowska-Guzel, MD, PhD Phone: (+48) 022 1166160 Dr. Aleksandra Wiśłowska-Stanek, aleksandra.wislowska-stanek@wum.edu.pl |
| Teachers | Ewa Widy-Tyszkiewicz MD, PhD, SciD; ewa.widy-tyszkiewicz@wum.edu.pl Aleksandra Wiśłowska-Stanek, MD, PhD; awislowska@wum.edu.pl Marcin Granat, Msc; marcin.mgranat@gmail.com |

| 2. BASIC INFORMATION | | | |
|---|-----------------------------|-------------------------------|---------------------------------|
| Year and semester of studies | III year, V and VI semester | Number of ECTS credits | 7 |
| FORMS OF CLASSES | | Number of hours | ECTS credits calculation |
| Contacting hours with academic teacher | | | |
| Lecture (L) | | 15 | 0.6 |
| Seminar (S) | | 25 | 1.0 |
| Discussions (D) | | | |
| e-learning (e-L) | | | |
| Practical classes (PC) | | 35 | 1.4 |
| Work placement (WP) | | 100 | 4 |
| Unassisted student's work | | | |
| Preparation for classes and completions | | | |

| 3. COURSE OBJECTIVES | |
|-----------------------------|--|
| O1 | Learning the rules about rational pharmacotherapy |
| O2 | Understanding the basic benefits, adverse effects and toxicity associated with pharmacotherapy |

| 4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING | |
|---|---|
| Code and number of effect of learning in accordance with standards of learning | Effects in time: |
| Knowledge – Graduate* knows and understands: | |
| C.W5. | disinfection, sterilization and antiseptics |
| C.W9. | the phenomenon of resistance to antibiotic. |
| C.W18. | the mechanisms of action of drugs and the pharmacokinetics and biotransformation of various groups of drugs |

Załącznik nr 4A do Procedury opracowywania i okresowego przeglądu programów studiów
(stanowiącej załącznik do zarządzenia nr 68/2024 Rektora WUM z dnia 18 kwietnia 2024 r.)

| | |
|--------|---|
| C.W19. | the indications, contraindications, adverse effects of drugs, and their interactions |
| C.W20. | rules of the treatment of viral, bacterial and fungal infections |
| C.W21. | the analgesia and anxiety treatment rules and pharmacotherapy of the emergency states |
| C.W22. | the rules of drug prescription |

Skills– Graduate* is able to:

| | |
|-------|--|
| C.U2. | the results of microbiological, serological and susceptibility tests |
| C.U8. | prescribe drugs according to the indications |

5. ADDITIONAL EFFECTS OF LEARNING

| Number of effect of learning | Effects of learning i time |
|------------------------------|----------------------------|
|------------------------------|----------------------------|

Knowledge – Graduate knows and understands:

| | |
|----|---|
| K1 | - |
|----|---|

Skills– Graduate is able to:

| | |
|----|---|
| S1 | - |
|----|---|

Social Competencies – Graduate is ready for:

| | |
|-----|---|
| SC1 | - |
|-----|---|

6. CLASSES

| Form of class | Class contents | Effects of Learning |
|---------------|---|-------------------------|
| Lectures | L 1 – Lecture 1. Sources of information about drugs. During lecture the student learns about reliable sources of information about drugs. | C.W18., C.W19. |
| | L 2 – Lecture 2. Antiarrhythmic drugs. Student learns about antiarrhythmic drugs and basic rules treatment of arrhythmia with particular emphasis on adverse effects | C.W18., C.W19., C.U8 |
| | L 3 – Lecture 3. Lipid lowering drugs. Treating of obesity. Student learns about drugs used in the treatment of dyslipidemia and obesity. | C.W5., C.W19., C.U8. |
| | L 4 – Lecture 4. Drugs used in pregnancy and lactation. | C.W19., C.U8. |

**Załącznik nr 4A do Procedury opracowywania i okresowego przeglądu programów studiów
(stanowiącej załącznik do zarządzenia nr 68/2024 Rektora WUM z dnia 18 kwietnia 2024 r.)**

| | | |
|----------|--|-------------------------------------|
| | Student learns about rules of treatment during pregnancy and sources of information about safety of drugs during pregnancy. | |
| | L5 – Lecture 5. Drugs used in headaches. Content: Division of headaches. Migraine definition. Phases of migraine. Abortive treatment of migraine. Prophylaxis treatment of migraine. Treatment of cluster headaches Treatment of trigeminal neuralgia. | C.W18., C.W19., C.W21., C.U8. |
| | L6 – Lecture 6. Treatment of poisoning Content: Edinburg Coma Scale. Common toxic syndromes (toxidromes). Supportive therapy. Charcoal: agents not absorbed by charcoal. Toxins and antidota. | C.W19., C.U8. |
| | L7 - Lecture 7. Treatment of parasites diseases Content: Treatment of protozoan diseases. Treatment of helminthes diseases | CW9, C.W13., CW18, C.W19. |
| Seminars | S 1 – Seminar 1. General pharmacology. Rules of pharmacokinetics and pharmacodynamics. Content: Pharmacokinetics and pharmacodynamics parameters LADME (absorbtion, distribution, metabolism, excretion), rules and mechanism of action drugs. | C.W18. |
| | S 2 – Seminar 2. Pharmacology of gastrointestinal tract. Content: Treatment of gastrointestinal diseases: gastric and duodenal ulcers, diarrhea, constipation and eradication of Helicobacter pylori. | C.W18., C.W19. |
| | S 3 – Seminar 3. The respiratory system drugs. Content: Groups of drugs used in the treatment of asthma and chronic obstructive pulmonary disease. Information about expectrants and mucolitics.. Mechanisms and adverse effects. | C.W18., C.W19. |
| | S 4 – Seminar 4. Drugs used in general anesthesia. Content: Basic principles of premedications and general anesthesia. Groups of drugs used in anesthesia: mechanism of action, effectiveness and adverse effects. | C.W18., C.W19. |
| | S 5 – Seminar 5. Drugs used in hypertension. Content: Rules of the hypertension treatment. Groups of drug used in the treatment in the hypertension. Mechanism of action, adverse effects, contraindications. | C.W18, C.W19. |
| | S 6 – seminar 6 - Non-narcotic analgesic drugs Content: Rules of analgesia treatment. Analgesic ladder. Mechanism of action of non-narcotic analgesic drugs. | C.W18., C.W19., C.W21. |
| | S 7 – Seminar 7 - Narcotic analgesic drugs. Content: Basic indication of narcotic analgesic. Mechanism of adverse effects. Overdose management. | C.W18., C.W19., C.W21. |
| | S8-Seminar 8 – Cholinergic pharmacotherapy. Content: Groups of drugs activating and blocking parasympathetic system. Indications, contraindications and adverse effects of drugs. | C.W18., C.U8. |
| | S9 -Seminar 9- Drugs acting on sympathetic system. | C.W18., C.W19. |

| | | |
|-------------------|--|---------------------------------|
| | Content: Groups of drugs that activate or inhibit sympathetic system. Indications, contraindications and adverse effects of groups affecting alpha and beta-adrenergic receptors. | |
| | S10-Seminar 10 – Drugs used in the treatment of diabetes. Content: The rules of treatment of diabetes type 1 and 2. Forms of insulin, the rules of their use, adverse effects. Groups of non-insulin antidiabetic drugs, mechanism of action and adverse effects. | C.W18., C.W19. |
| | S11-Seminar 11 – Glucocorticosteroids. Content: Mechanism of action of glucocorticosteroids, indications and adverse effects. | C.W18., C.W19. |
| | S12-Seminar 12 - The gonadal hormones and inhibitors. Oral contraceptives. Content: Female and male gonadal hormones. Forms of contraceptives – indications, adverse effects, contraindications. Indications, adverse effects and contraindication of gonadal inhibitors. | C.W18., C.W19. |
| | S13-Seminarium 13 – Drugs used in the heart failure. Content: The rules of treatment of the heart failure. The groups of drugs used in the heart failure, their mechanism of action and adverse effects | C.W18., C.W19. |
| Practical classes | PC1-Practical classes 1- disinfectants and antiseptics. Drugs used in dentistry. Content: Basic rules of use of disinfectants and antiseptics. Mechanism of action of individual disinfectant and antiseptic drugs and their adverse effects. The groups of drugs used in dentistry. | C.W5. |
| | PC2-Practical class 2- Chemotherapy in the dentistry. Content: Antibacterial drugs affecting the cell wall). Mechanism of bacterial resistance. Interpretation of antibiograms. Basic rules of the use of chemotherapy in the dentistry. Groups of chemotherapeutics affecting the bacteria cell wall, their exact mechanism of action, spectrum of antibacteria action, adverse effects. | C.W9, C.W18., C.W19., C.U2. |
| | PC3-Practical class 3- Chemotherapy in dentistry . Content: Antibacterials affecting the protein or nucleic acid synthesis, or affecting cell membrane. Mechanism of drug resistance. | C.W9., C.W18., C.W19., C.U2. |
| | CP4- Practical class – Antifungal and antiviral drugs. Content: Groups of drugs used in the fungal and viral infection. Their mechanism of action and adverse effects. | C.W9, C.W18, C.W20. |
| | PC5 – Practical class 5 - The central nervous drugs part 1. (anxiolytics, antidepressants). Content: Groups of drugs used in the pharmacotherapy of anxiety.. Mechanism of action of benzodiazepines, their adverse effects, rules of treatment in case of overdose of benzodiazepines. Groups of antidepressants, mechanism of action, adverse effects. | C.W22., C.U8. |
| | PC6 – Practical class 6 - The central nervous system drugs part 2. Content: Typical and atypical antipsychotic, drugs used in the treatment of Parkinson disease. Mechanism of action of typical and atypical antipsychotic, adverse effects. | C.W18, C.W19, C.U8. |

Załącznik nr 4A do Procedury opracowywania i okresowego przeglądu programów studiów
(stanowiącej załącznik do zarządzenia nr 68/2024 Rektora WUM z dnia 18 kwietnia 2024 r.)

| | | |
|--|---|------------------------------------|
| | <p>PC7 – Local anesthetics. Myorelaxants. Content: Rules of the treatment of local anesthetics, myorelaxants. Groups of drugs used as local anesthetic and myorelaxants.</p> | C.W18, C.W19., C.U8. |
| | <p>PC8- Practical class – Prescription writing. Content: Principles of writing of prescription.</p> | C.W22. |
| | <p>PC9 – Practical classes 9 – Assessment of prescription writing.</p> | C.W22. |
| | <p>PC10 – Practical class 10- Antiepileptic drugs. Content: Groups of antiepileptic drugs. Mechanism of action, adverse effects.</p> | C.W18, C.W19., C.U8. |
| | <p>PC 11 – Practical class 11 – Antiallergic drugs. Content: Antiallergic drugs of the first and second generation. Mechanism of action, adverse action.</p> | C.W18., C.W19, C.W21., C.U8. |
| | <p>PC12 – Practical class 12 – Treatment of ischemic heart disease. Content: Groups of drugs used in the treatment of ischemic heart disease. Mechanism of action adverse effects.</p> | C.W9, C.W20., C.U2., C.U8. |
| | <p>PC13 – Practical class 13 - Treatment of thyroid dysfunction. The hypothalamic and pituitary hormones. Content: Thyroid and antithyroid drugs. Groups of hormones produced by hypothalamus and pituitary glands.</p> | C.W19., C.U8. |

7. LITERATURE

Obligatory

Katzung B, Masters S, Trevor A. Basic and Clinical Pharmacology 14/E (LANGE Basic Science), Appleton-Lange Medical Publications

Supplementary

Rang & Dale's Pharmacology 9th Edition - November 4, 2018

8. VERIFYING THE EFFECT OF LEARNING

| Code of the course effect of learning | Ways of verifying the effect of learning | Completion criterion |
|---|---|----------------------|
| C.W5., C.W9., C.W18., C.W19., C.W20., C.W21., C.W22., C.U2, C.U8., | After 5 th and 6 th semester there are the assessment test. The first and second term are multiple choice test, the commission is oral. The passed test after 5 th and 6 th semester entitles the student to take an exam. The exam I term is multiple choice, the second term oral and third term commission oral. | >50% |

9. ADDITIONAL INFORMATION

- Seminars and lectures are obligatory.

2. One absence at seminars and one absence at lectures during a semester is allowed.
3. Only one class representative can contact the pharmacology teachers (via e-mail or mobile phone) on the behalf of the class.
4. All seminars and lectures are provided in the pdf version by teachers responsible for particular topics. These materials will be delivered in the web teams within 7 days after seminar or lecture.
5. All applications concerning the didactic problems should be addressed to Head of the Department: Professor Mirowska-Guzel and directed to the Coordinator of the didactic. The decision is made by Head of the Department in the consultation with the Coordinator of the Pharmacology.

The property rights, including copyrights, to the syllabus are vested in the Medical University of Warsaw. The syllabus can be used for purposes related to education during studies at the Medical University of Warsaw. The use of the syllabus for other purposes requires the consent of the Medical University of Warsaw.

ATTENTION

The final 10 minutes of the last class in the block/semester/year should be allocated to students'
Survey of Evaluation of Classes and Academic Teachers