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|  | | | **UNIVERSITY OF EAST SARAJEVO**  Faculty of Medicine | | | | | | | | | | |  | | |
| ***Study program: medicine*** | | | | | | | | | | |
| Integrated academic studies | | | | | | III study year | | | | |
| **Full subject title** | | | GENERAL PHARMACOLOGY | | | | | | | | | | | | | |
| **Department** | | | Department of Propedeutics, Faculty of Medicine in Foča | | | | | | | | | | | | | |
| **Subject code** | | | | | | **Subject status** | | | | | **Semester** | | | **ECTS** | | |
|
| МЕ-01-1-026-6 | | | | | | compulsory | | | | | VI | | | 3 | | |
| **Professor/ -s** | | Dragana Sokolovic, MD,PhD, Dragana Drakul MD,PhD | | | | | | | | | | | | | | |
| **Associate/ - s** | | senior assistant Natasa Miletic MD, | | | | | | | | | | | | | | |
| **Number of lectures/ teaching workload (per week)** | | | | | | | **Individual student workload (in hours per semester)** | | | | | | | | **Coefficient of student workload So[[1]](#footnote-2)** | |
| **L** | **E** | | | | **SP** | | **L** | | | **E** | | **SP** | | | **L** | |
| 1 | 2 | | | | 0 | | 1\*15\*1 | | | 2\*15\*1 | | 0\*15\*1 | | | 1 | |
| total teaching workload (in hours, per semester)  1\*15 + 2\*15 + 0\*15 = 45 | | | | | | | | total teaching workload (in hours, per semester)  1\*15\*1 + 2\*15\*1 + 0\*15\*1 = 45 | | | | | | | | |
| Total subject workload (teaching + student): 45 + 45 = 90 hours | | | | | | | | | | | | | | | | |
| **Learning outcomes** | | By mastering the course Pharmacology with Toxicology, which in the third year of studies (VI semester), the student will be able to acquire:  1. Basic information about medicines (origin, structure, etc.), drug interaction with living organism and possibilities for their practical application, but also to get acquainted with basic drug groups and their characteristics. In addition, more important goals of teaching include:  2. Mechanisms of the effect of drugs, the pharmacological effects of drugs and the fate of drugs in the organism (pharmacokinetics) and the possible pharmacokinetic drug interactions;   1. 3. Basic elements of the use of drugs in rational therapy, as well as knowledge of therapeutic and undesirable pharmacological effects of drugs that will allow future doctors of medicine to apply drugs properly. | | | | | | | | | | | | | | |
| **Preconditions** | | Passed exams from the second year of study in order to listen to the course, as well as pathology and pathophysiology from the third year must be satisfied in order to take the exam. | | | | | | | | | | | | | | |
| **Teaching methods** | | Lectures, Exercises, Seminars and Colloquia | | | | | | | | | | | | | | |
| ***Subject content per week*** | | **Lectures:**  1. Introduction to pharmacology and acquaintance with the subject. Division of pharmacology into disciplines. Origin of drugs. Definitions - medicine, poison.  2. Introduction of new drugs and pre-clinical and clinical trial phase  3. Pharmacokinetics: The passage of drugs through biological membranes. Resorption of drugs. Means of giving medication. General and local administration of the drug.  4. Distribution of drugs. Drug metabolism. Factors that affect drug metabolism.  5. Importance of pharmaceutical formulations. Bio availability. Eliminate drugs.  6. Pharmacodynamics. Dosage and doses of drugs. Therapeutic index and therapeutic width of the drug.  7. The modes of action of medicines. Location of drugs. Receptors.  8. Affinity and relationship of the structure and effect of the drug. Usual and inferior regulation of the receptor.  9. Agonists and antagonists .. Synergism and antagonism among drugs ..  10. Pharmacogenetics. The influence of gender on the use of drugs. Application of drugs in pregnancy and breastfeeding Special features of pharmacotherapy in the elderly and in the pathological state.  11. Drug interactions. Side effects of medicines. Addictions.  12. Pharmacology of autonomic nervous system (FANS) - Introduction, division, transmitters. receptors.  13. Cholinergic receptors, cholinergic and anticholinergic drugs (parasimpatomimetics and parasimpatolytics). Direct and indirect cholinesterase inhibitors.  14. Adrenergic and antiadrenergic drugs (sympathomimetics and sympatholytics). Ganglia blockers.  15. Histamine and antihistamines Serotonin and antiserotonic drugs Migraine therapy.  **Exercises*:***  1. Getting acquainted with the practical teaching curriculum; use of the Medicines Register; drug data sources  2. Drug (definition, division), drug names, drug use pathways  3. Mechanisms of drug action  4. Pharmacopoeia and active principles of plant drugs  5. Introduction to recipe, general rules for prescribing prescriptions  6. Reception - tablets  7. Dosage and drug effect ratio (experimental exercise)  8. Competitive antagonism (experimental exercise)  9. Uncompetitive antagonism, synergism and interaction (experimental exercise)  10. Administration of drugs to special groups of patients  11. Reception - powders  12. Cholinergic and anticholinergic drugs (experimental exercise)  13. Adrenergic and antiadrenergic drugs (experimental exercise)  14. Mistakes on the recipe, repetition of recipe materials  15. Colloquium | | | | | | | | | | | | | | |
| **Compulsory literature** | | | | | | | | | | | | | | | | |
| **Author/s** | | | | **Publication title/Publisher** | | | | | | | | | **Year** | | **Pages (from-to)** | |
| Katzung BG, ed. | | | | Basic and clinical pharmacology. 13th ed. New York: McGraw-Hill Education | | | | | | | | | 2015. | |  | |
| Rang HP, Dale MM. | | | | Rang & Dale's pharmacology. 8th ed. Edinburgh: Churchill Livingstone; | | | | | | | | | 2016. | |  | |
| **Additional literature** | | | | | | | | | | | | | | | | |
| **Author/s** | | | | **Publication title, Publisher** | | | | | | | | | **Year** | | **Pages (from-to)** | |
|  | | | |  | | | | | | | | |  | |  | |
| **Author/s** | | **Publication title, Publisher** | | | | | | | | | | | | **Year** | | **Pages (from-to)** |
| Pre-exam activities | | | | | | | | | | | | | | |  |  |
| lecture/exercise attendance | | | | | | | | | | | | 10 | | 10% |
| Seminar paper | | | | | | | | | | | | 20 | | 20% |
| Test / colloquium | | | | | | | | | | | | 20 | | 20% |
| Final exam | | | | | | | | | | | | | | |
| written exam | | | | | | | | | | | | 50 | | 50% |
| TOTAL | | | | | | | | | | | | 100 | | 100 % |
| **Certification date** | | December 13 th 2018 | | | | | | | | | | | | | | |

\* the number of necessary rows is added by using insert mode

1. The coefficient of student workload So is calculated as it follows:

   а) for the study programs not going through the licensing process: So = (total workload in semester for all of the subjects 900 hrs – total teaching workload L+E in semester for all of the subjects 870 hrs)/ total teaching workload L+E in semester for all of the subjects \_\_\_\_\_ hrs = \_\_\_\_. Consult form content and its explanation.

   b) for the study programs going through the licensing process, it is necessary to use form content and its explanation. [↑](#footnote-ref-2)