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| Subject | **PHARMACOLOGY** |
| **Study program** | **Three year professional studies for graduate medical nurse/technician** |
| **Code:** | SMN/T-217 |
| **Study year:** | Second |
| **Semester** | Third |
| **Total no. of hours**  | 30 |
| **Credits** | 1.5 |
| **Type of the subject** | Mandatory |
| **Preconditions** | Fulfilled criteria for enrollment to second study year |
| **Conducted by:** | Department of Pharmacology |
| **Responsible teacher** | Prof. Dr. Petar Milosevski |
| **Address:** | Institute of Preclinical and Clinical Pharmacology with Toxicology, Medical Faculty, 50 Divizija bb, 1000 Skopje Tel. +389 2 3111 828, e-mail: pmilossevski@medf.ukim.edu.mk |
| **Key words** | Studies for medical nurses and technicians, basic subjects, pharmacology |
| **Aims of the study** | * Basic concepts of preclinical pharmacology
* Basic concepts of clinical pharmacology
* Role of the nurse in application of medicines
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| **Brief content** | **Theoretical course (10 hours):*** Pharmacodynamics
* Pharmacokinetics
* Drug adverse effects
* Drug interactions
* Control of safety and efficacy of the medicines used in therapy

**Seminars (20 hours):*** Drugs in therapy of:
* Gastrointestinal diseases
* Cardiovascular diseases
* Respiratory diseases
* Endocrine diseases
* Urinary tract diseases
* Hematological diseases (anemias)
* Diseases of the locomotor apparatus
* CNS diseases
* Infectious diseases
* Immunological diseases
* Malignant diseases
* Ophthalmologic diseases
* ORL diseases
* Skin diseases
* Nutrition and vitamin therapy
* Use of anesthetics
* Palliative care
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| **Organization** | Theoretical course: 20 hoursSeminars: 10 hours |
| **Methods of studying** | Lectures and seminars |
| **Anticipated results** | **Knowledge and understanding:**The student will acquire basic knowledge about drugs, modes and indications of their administration.**Key skills:**The student will be able to apply the obtained knowledge in practice. |
| **Specific recommendations for the course** | The student is obliged to participate actively in all anticipated activities, including the continual assessment of knowledge in order to get a signature.**Points for the activities of the student:**

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| **Type of activity** | Points |
| Theoretical course\* | 5-10 |
| Seminars\*\* |  20-40 |
| Continual assessment |  30-50 |
| **Total:** | **60 - 100** |

**\***Attendance at Theoretical course:51%-60% - 5 points;61%-70% - 6 points;71%-80% - 7 points;81%-90% - 8 points;91%-100% - 10 points.**\*\***Attendance at Seminars:51%-60% - 1 point;61%-70% - 2 points;71%-80% - 3 points;81%-90% - 4 points;91%-100% - 5 points.\*\*Active participation in Seminars: 15 – 35 points**Conditional criteria:** In order to approach to continual assessment of knowledge, the student has to attend regularly both theoretical courses and seminars. The assessment of knowledge is in a written form. The grade for the entire exam is obtained according to the table of grades and based on the sum of the points gained in all activities, including the continual assessment. In case the student has not acquired minimum points (60%) from the continual assessment, he/she applies to take the complete final exam.  **Complete final exam:** The exam is in a written form. It is consisted of continual assessment of knowledge on which the student has not acquired any points. |
| **Textbooks** | **Basic:*** Authorized lectures.
* Downie G, Mackenzie J, Williams A. Pharmacology and Drug Management for Nurses. (Selected chapters) Churchill Livingstone, London.
* Rang HP, Dale MM, Ritter JM, Moore PK. Pharmacology. (Selected chapters). Churchill Livingstone, London, 2005.
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