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FACULTY OF PHARMACY

STUDY PROGRAM 0916.1 PHARMACY

DEPARTMENT OF DRUGS TECHNOLOGY

APPROVED
at the meeting of the Commission for Quality Assurance and Evaluation of the Curriculum faculty of Pharmacy
Minutes No. 2 of 21.12.2017
Chairman, Dr. in Pharm. Sciences., associate prof.
Livia Uncu

APPROVED
at the Council meeting of the Faculty of Pharmacy
Minutes No. 2 of 22.12.2017
Dean of Faculty, Dr. in Pharm. Sciences., associate prof.
Nicolae Ciobanu

APPROVED
approved at the meeting of the Drugs Technology Department
Minutes No.3 of 26.10.2017
Head of Department, Dr. of Applied Science., Prof.
Eugen Diug

SYLLABUS

DISCIPLINE **MEDICAL AND PHARMACEUTICAL TERMINOLOGY**

Integrated studies

Type of course: **Optional discipline**

Chisinau, 2017

INTRODUCTION

- **General presentation of the discipline:** Developing verbal and written communication skills in different sectors of medical-pharmaceutical activity by acquiring the morphological analysis skills of pharmaceutical and medical terms.

- **Mission of the curriculum (aim) in professional training:** Learning the rules for the formation of medical and pharmaceutical terms. Explaining the main families of medical and pharmaceutical terms. Identification and understanding of abbreviations used in medical and pharmaceutical activities (writing prescriptions, abbreviations for diagnostic, symptomatic and treatment terms, technological cards).

- **Language of the course:** Romanian;

- **Beneficiaries**: students of the II year, faculty of Pharmacy.

II. MANAGEMENT OF THE DISCIPLINE

Code of discipline		**S.04.A048**	
Name of the discipline		**Medical and Pharmaceutical Terminology**	
Persons in charge of the discipline		**Diana Guranda, Dr. in Pharm. Sciences., associate prof** **Rodica Solonari, Dr. in Pharm. Sciences., Univ. assistant**	
Year	**II**	Semester/Semesters	**IV**
Total number of hours, including: 60			
Lectures	**10**	Practical/laboratory hours	**-**
Seminars	**20**	Self-training	**30**
Form of assessment	**C**	Number of credits	**2**

III. TRAINING AIMS WITHIN THE DISCIPLINE

At the end of the discipline study the student will be able to:

✓ ***At the level of knowledge and understanding:***

- to determine the objectives and content of medical and pharmaceutical technology;
- to determine the discipline's study objective;
- to know the evolution of medical and pharmaceutical terminology;
- to determine the terms referring to the relationship doctor-patient-pharmacist;
- to determine the terms referring to pharmacy's organization;
- to know the terms describing the physical-chemical properties of medicinal substances, auxiliary substances, adjuvants, and package materials;
- to know the abbreviations and symbols used in drugs denomination;
- to determine the terms and abbreviations used in writing prescriptions;
- to define the terms and abbreviations for defining the routes of administration of drugs and pharmaceutical forms used in therapy.
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✓ ***At the application level:***

- to interpret the terms for modern criteria of drugs classification;
- to interpret the drug quality norms imposed by pharmacopoeias and reference standard;
- to interpret the terms for pharmaceutical raw materials;
- to interpret the terms and abbreviations for defining the routes of administration of drugs and pharmaceutical forms;
- to interpret the terms and abbreviations used in writing prescriptions;

✓ ***At the integration level:***

- to select modern criteria of drugs classification;
- to know the raw and adjuvant materials used to prepare medicinal forms;
- to correctly select appropriate packing materials for packing pharmaceutical forms;
- to recommend new auxiliary substances and necessary adjuvants for preparing extemporaneous forms;
- to know the classification of medicinal forms depending on toxicity;
- to select the classes of drugs used in different conditions.

IV. PROVISIONAL TERMS AND CONDITIONS

The medical and pharmaceutical vocabulary is the largest of all professional vocabularies and it has been estimated that, during the period of studies, a student must retain the denominations and meanings of a number of terms equal to the number required for learning about six foreign languages.

The future pharmacist learns both the terminology specific to pharmaceutical disciplines and medical terms necessary for understanding the action of drugs in prophylaxis or treatment of various diseases. The pharmacist has direct relationships with patients who buy drugs and who need pertinent information.

This course aims to provide the students with both a number of basic medical and pharmaceutical terms and the most modern neologisms for professional training.

V. THEMES AND ESTIMATE ALLOCATION OF HOURS

Lectures, practical hours/ laboratory hours/seminars and self-training

No.	THEME	Number of hours		
		Lectures	Practical hours	Self-training
1.	Definition, objectives, importance, evolution, and main elements of medical and pharmaceutical terms.	2	4	6
2.	Formation of medical and pharmaceutical terms. Terms referring to the relationship doctor-patient-pharmacist.	2	4	6
3.	Terms and abbreviations used for writing prescriptions. Component parts of a prescription.	2	4	6
4.	Terms referring to pharmacy's organization. Terms for modern criteria of drugs classification. Terms for pharmaceutical raw materials.	2	4	6
5.	Terms and abbreviations for defining the routes of administration of drugs and pharmaceutical forms used in therapy. Terms for cells, tissues, organs and systems of the human body.	2	4	6
Total		**10**	**20**	**30**

VI. REFERENCE OBJECTIVES OF CONTENT UNITS

Objectives	Content units
Theme (chapter) 1. Definition, objectives, importance, evolution, and main elements of medical and pharmaceutical terms.	
• to describe the origins of the medical and pharmaceutical language; • to analyze the component parts of medical and pharmaceutical terms; • to use basic prefixes and suffixes, to combine them in order to create medical and pharmaceutical terms; • to explain the common rules for forming appropriate medical and pharmaceutical terms, to know the correct pronunciation and orthography of these terms.	1. Science - medical and pharmaceutical terminology. 2.Medicine and Pharmacy. 3. The history of medical and pharmaceutical terms' origins.
Theme (chapter) 2. Formation of medical and pharmaceutical terms.	
• to know the correct pronunciation and orthography of medical and pharmaceutical terms • to define the main terms and abbreviations used in medical and pharmaceutical literature.	1. The structure of the main medical and pharmaceutical terms. 2. Abbreviations used in medical and pharmaceutical practice.
Theme (chapter) 3. Terms and abbreviations used for writing prescriptions.	
• to define the prescription as a scientific document. • to integrate the means of communication between the doctor and the pharmacist.	1. Component parts of a prescription. 2. Doctor-Pharmacist-Prescription.
Theme (chapter) 4. Terms for cells, tissues, organs and systems of the human body.	
• to identify the anatomical terms referring to major systems of the human body; • to identify common terms referring to symptoms, diagnostics, diagnostic testing and procedures, surgery and therapy of	1. Human anatomy. 2. The skin. Structure and types of skin. 3. Drugs classification, raw materials.

Objectives	Content units
major systems of the human body; • to appreciate the main drug classes used in therapeutics as various pharmaceutical forms; • to explain the common terms and abbreviations used in medical and pharmaceutical documentation; • To use bibliographic material as means of information.	4. Routes of drug administration.

VII. PROFESSIONAL (SPECIFIC (SC)) AND TRANSVERSAL (TC) COMPETENCIES AND STUDY OUTCOMES

✓ PROFESSIONAL COMPETENCIES (PC)

PC1: Knowing the theoretical bases of the disciplines included in the faculty syllabus, the general principles of elaboration, analysis and registration of pharmaceutical and para-pharmaceutical products; knowing the general principles of organization and functioning of pharmaceutical institutions with different legal forms of activity; knowing the legislative framework in the field of pharmacy; knowing the pharmacist's rights and obligations.

PC2: forecasting the basic economic indices of pharmacy: achievements, stocks of pharmaceuticals; circulation expenses; benefit; assessing trends in the development of drug assistance for the population; performing various practical work related to the preparation, analysis and standardization of synthetic drugs and phytopharmaceuticals; knowing the drug in terms of action, indications, contraindications, side effects, route of administration and their interactions; the practical implementation of patient counseling and pharmaceutical assistance.

PC3: integrating practical work in the pharmaceutical system according to the diversity of professional roles; use and adaptation of theoretical knowledge in the pharmacy sector to practical work situations; making professional activity more efficient by introducing innovative elements of the pharmaceutical sector; applying the requirements of pharmaceutical legislation in practice; using the computer as a working tool in the theoretical and practical pharmaceutical activity; establishing the correlation between the elements of the pharmaceutical working process and the healthcare system of the population; continuously streamlining pharmaceutical activity by introducing innovations and implementing the inventions of the sector.

PC4: identifying the organizational particularities and culture of the institution of the pharmaceutical system where the specialist is working; establishing and coordinating pharmaceutical activity in various institutions: state-owned or private pharmacies; hospital pharmacies; pharmaceutical depots; drug factories, laboratories for quality control and certification of drugs, etc.; the active involvement of the specialist in the process of fulfilling the mission of the pharmaceutical institution; proving the capacity to make decisions aimed at improving the pharmaceutical system.

PC5: determining the criteria for assessing the efficacy of the pharmaceutical system and of the personal activity according to real conditions and in a concrete social context; determining how to manage the pharmaceutical activity based on the results of the assessment; identifying research issues in the pharmacy sector; knowing the methodology of scientific research in the practical activity as a pharmacist or as a head of the pharmaceutical unit.

PC6: adapting messages to different socio-cultural environments, including through communication in foreign languages; using the abilities to solve situation problems in the pharmaceutical activity by collaborating with doctors; promoting principles of tolerance and compassion for patients; the use of information technology (and computer) in pharmaceutical activity.

✓ SPECIFIC COMPETENCIES (SC)

- ***SC1***: good knowledge and understanding of medical and pharmaceutical terms in drugs technology.
- ***SC 2***: understanding the terms referring to the relationship doctor-patient-pharmacist.
- ***SC 3***: knowing the terms referring to pharmacy organization.
- ***SC 4:*** knowing the terms for modern criteria of drug classification.
- ***SC 5:*** understanding the terms for defining the drugs' routes of administration.

✓ TRANSVERSAL COMPETENCIES (TC)

- ***TC1:*** applying the scientific-theoretical knowledge in the pharmaceutical sector to the process of production organization.
- ***TC 2***: establishing a responsible attitude towards the quality of the final product.
- ***TC 3***: ability to conduct the drug production process in a team.
- ***TC 4***: adapting to new technologies, personal professional development through problem solving.
- ***TC 5***: ability to identify a difficult problem and to analyze it with the objective to establish an achievement plan.

✓ STUDY OUTCOMES

- to determine the objectives and content of drugs and pharmaceutical technology;
- to determine the discipline's study objectives;
- to know the evolution of medical and pharmaceutical terminology;
- to determine the terms referring to the relationship doctor-patient-pharmacist;
- to determine the terms referring to pharmacy organization;
- to know the terms describing the physical-chemical properties of medicinal substances, auxiliary substances, adjuvants, and package materials;
- to know the abbreviations and symbols used in drugs denomination;
- to determine the terms and abbreviations used in writing prescriptions;
- to define the terms and abbreviations for defining the routes of administration of drugs and pharmaceutical forms used in therapy.

VIII. STUDENT'S SELF-TRAINING

NO.	Expected product	Implementation strategies	Assessment criteria	Implementation terms
1.	Working with bibliographical and informational sources	Reading the questions of the lesson which require a reflection on the subject	Ability to extract the essential: working with the medical and pharmaceutical vocabulary	During the semester
2.	Essays or other research papers	Writing the essay and other analysis and research papers. Completing the essay and presenting it.	Ability to explain common terms and abbreviations used in medical and pharmaceutical documentation. Using bibliographical material (books, magazines, CDs, Internet) as means of information.	During the semester

IX. METHODOLOGICAL SUGGESTIONS FOR TEACHING-LEARNING-ASSESSMENT

✓ ***Teaching and learning methods used***

Optional Discipline Medical and pharmaceutical terminology is taught in a traditional way: lectures, seminars, individual work. The course is held by the course holders. During the seminars, the students' work will be individualized, each student will organize his/her activity according to the situation regarding the pharmacy organization, the modern criteria for drug classification, the pharmaceutical raw materials, the abbreviations and symbols used in drug denomination, the prescription and its component parts, terms and abbreviations for drug routes of administration and pharmaceutical forms used in medicine.

The individual work will consist of completing notebooks according to the topic using medical and pharmaceutical dictionaries and gathering knowledge by studying additional literature.

✓ ***Methods of assessment*** *(including the method of final mark calculation)*

✓ **Direct and individual control by:**

- determining the objectives and content of the drugs and pharmaceutical technology;
- knowing the evolution of medical and pharmaceutical terminology;
- determining the terms referring to the relationship doctor-patient-pharmacist;
- determining the terms referring to pharmacy organization;
- knowing the terms describing the physical-chemical properties of medicinal substances, auxiliary substances, adjuvants, and package materials;
- knowing the abbreviations and symbols used in drugs denomination;
- determining the terms and abbreviations used in writing prescriptions;
- defining the terms and abbreviations for defining the routes of administration of drugs and pharmaceutical forms used in therapy.

During one semester of the optional discipline medical and pharmaceutical terminology (17 weeks), there are 2 tests.

The attendance during the semester and the marks for the tests and the course paper are listed online within the SIMU program. The average mark is automatically calculated by the SIMU program.

Final*:* At the end of the year, the students will take an examination without marking which includes the presentation of the course paper.

Method of mark rounding at different assessment stages

Intermediate marks scale (annual average, marks from the examination stages)	National Assessment System	ECTS Equivalent
1,00-3,00	**2**	**F**
3,01-4,99	**4**	**FX**
5,00	**5**	**E**
5,01-5,50	**5,5**	
5,51-6,0	**6**	
6,01-6,50	**6,5**	**D**
6,51-7,00	**7**	
7,01-7,50	**7,5**	**C**
7,51-8,00	**8**	
8,01-8,50	**8,5**	**B**
8,51-8,00	**9**	
9,01-9,50	**9,5**	**A**
9,51-10,0	**10**	

Absence on examination without good reason is recorded as "absent" and is equivalent to 0 (zero). The student has the right to have two re-examinations.

X. RECOMMENDED LITERATURE:

A. Compulsory:

1. Lăcrămioara Ochiuz, Iuliana Popovici, Dumitru Lupuleasa. Terminologie medicală și farmaceutică. Editura Polirom, 2011.
2. V. Ghicavîi, N.Bacinschi, Gh. Gușuilă. Farmacologie, ediția a III-a. Chișinău, 2012.
3. Ranga V., Tratat de anatomia omului, Ed. Medicală. București, 1990.
4. Iuliana Popovici, Dumitru Lupuleasa, Lăcrămioara Ochiuz. Dicționar farmaceutic. Ed. a 3-a. București, 2014.

B. Additional:

1. European Pharmacopoeia, 7th, Ed., Strasbourg, 2010.
2. Farmacopeea Română, ed. a X-a, Ed.Medicală, București, 1993.
3. Rusu V., Dicționar medical, ed. a 2-a. Ed. medicală, București, 2005.
4. Iuliana Popovici, Dumitru Lupuleasa. Tehnologie farmaceutică (tratat), vol.I.- Ed a 4-a. Polirom- Iași, 2017.
5. Iuliana Popovici, Dumitru Lupuleasa. Tehnologie farmaceutică (tratat), vol.II.- Ed. a 2-a. Polirom- Iași, 2017.
6. Iuliana Popovici, Dumitru Lupuleasa. Tehnologie farmaceutică (tratat), vol.III.- Ed.a 2-a. Polirom- Iași, 2017.