



## CD 8.5.1 DISCIPLINE CURRICULUM

EDITION: 06

DATE: 20.09.2017

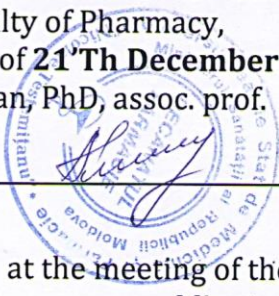
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**FACULTY OF PHARMACY**  
**STUDY PROGRAM 0916.1 PHARMACY**  
**CHAIR OF SOCIAL PHARMACY "VASILE PROCOPISIN"**

**APPROVED**

at the meeting of the Commission for Quality Assurance and Evaluation of the Curriculum,  
Faculty of Pharmacy,  
Minutes no. 2 of 21<sup>Th</sup> December 2017  
Chairman, PhD, assoc. prof.

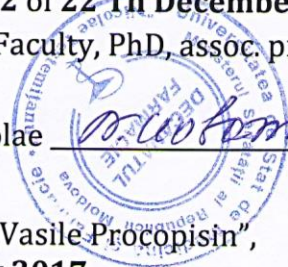
UNCU Livia



**APPROVED**

at meeting of the Council of the Faculty of Pharmacy,  
Minutes no. 2 of 22<sup>Th</sup> December 2017  
Dean of Faculty, PhD, assoc. prof.

CIOBANU Nicolae



**APPROVED**

at the meeting of the chair of social pharmacy „Vasile Procopișin”,  
Minutes no. 3 of 01<sup>Th</sup> November 2017  
Head of chair, PhD, assoc. prof.

BRUMAREL Mihail

## SYLLABUS

**DISCIPLINE: PHARMACEUTICAL PROPAEDEUTIC**

Integrated studies

Type of the course: **Compulsory discipline**

Chisinau, 2017



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### I. INTRODUCTION

- **General presentation of the discipline: place and role of the discipline in the formation of specific competences of the professional/specialty training program**

**Pharmaceutical propaedeutic** this is a discipline that studies general concepts related to the training of specialists and pursuit of the profession of pharmacist, pharmaceutical activity and medicines as one of the major study objective for pharmaceutical vocation-related subjects, conditions and basic regulation from pharmaceutical field, activity of pharmaceutical companies, of pharmacist, medicine, pharmaceutical forms, international quality standards of medicines and pharmaceutical services.

- **Mission of the curriculum (aim) in professional training**

The aim of discipline is to initiate student with pharmacy as a specialty, as a health care system, system components and its general regulations activities, basic concepts, their characteristics and contents, training of students in basic professional skills, their preparation for studying principal subjects at the senior years as well as educating the student in the spirit of respect and love for the profession.

- **Language of teaching the discipline:** Romanian, English, Russian.
- **Beneficiaries:** students of the 2-nd year, faculty of Pharmacy, specialty Pharmacy

### II. MANAGEMENT OF THE DISCIPLINE

|                                   |           |   |           |
|-----------------------------------|-----------|---|-----------|
| Code of discipline                |           | <b>S.04.O.046</b>   |           |
| Name of the discipline            |           | <b>Pharmaceutical propaedeutic</b>  |           |
| Responsible for the discipline    |           | <b>Mihail Brumărel</b> PhD, associate professor<br><b>Elena Chițan</b> assistant professor<br><b>Anatolii Peschin</b> assistant professor |           |
| Year                              | <b>II</b> | Semester  | <b>4</b>  |
| Total number of hours, including: |           |   | <b>90</b> |
| Lectures                          | <b>17</b> | Practical/laboratory hours  | <b>17</b> |
| Seminars                          | -         | Self-training   | <b>56</b> |
| Form of assessment                | <b>DC</b> | Number of credits   | <b>3</b>  |



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### 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 know the structure of the health system in the Republic of Moldova, the organizational structure of the coordinating bodies in the assistance of population with medicines;
- ✓ to know role and aim of pharmacy and pharmacist in the health care system;
- ✓ to know legislation in the field of pharmaceutical activities and of medicine;
- ✓ to know the nomenclature of pharmaceutical companies;
- ✓ to know the basic pharmaceutical regulations;
- ✓ to know the notions of pharmaceutical enterprise, pharmacist, medicine (original, generic, essential, vital, allopathic, homeopathic, etc.), pharmaceutical form, sick person, medicines consumer;
- ✓ to know the principles of medicines classification;
- ✓ to know the principles and conditions of medicines storage;
- ✓ to know the stages of medicines development;
- ✓ to know the evolution of regulations in the field of pharmaceutical legislation;
- ✓ to know the standards for ensuring the performance of medicines and pharmaceutical services.

*at the application level:*

- ✓ to determine the characteristics of pharmaceutical activities;
- ✓ to apply accumulated knowledge in the future studying of pharmaceutical vocation-related subjects: medicines technology, pharmaceutical management and legislation, pharmaceutical chemistry, pharmacognosy etc.

*at the integration level:*

- ✓ to understand the importance of propaedeutic studies for individual development in the specialty field;
- ✓ to be able to use logical, sociological methods, etc. in researching and studying of medicines assistance and other pharmaceutical sciences;
- ✓ to assess the compliance of the conditions for carrying out pharmaceutical activities for various enterprises;
- ✓ to determine the content and directions of achieving the concept of pharmaceutical activity;
- ✓ to be able to assimilate more easily the knowledge at the pharmaceutical profile disciplines of the following years of studies.

### IV. PROVISIONAL TERMS AND CONDITION

In order to successfully acquire the didactic material, it is necessary for students to have initial knowledge in medical and pharmaceutical terminology, general hygiene, bioethics, to have practical skills to work with the medical and pharmaceutical scientific databases, to know methods of effective communication between pharmacist - pharmacist, pharmacist - physician, pharmacist - patient, as well as possessing general knowledge in the field of behavioral rules.



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### V. THEMES AND ESTIMATE ALLOCATION OF HOURS

| No.          | THEME   | Number of hours |                    |                   |
|--------------|---|-----------------|--------------------|-------------------|
|              |   | Lec-<br>tures   | Practical<br>hours | Self-<br>training |
| 1            | <b>General notions of pharmaceutical propaedeutic.</b> Subject of the study and purpose of the discipline in vocational training.   | 1               | 2                  | 6                 |
| 2            | <b>Organization of medical assistance of population.</b> General notions of public health. Levels of healthcare subsystems in the Republic of Moldova.  | 1               |                    |                   |
| 3            | <b>Place and role of pharmacy as a field of activity and of pharmacist</b> in health system.  | 1               |                    |                   |
| 4            | <b>Pharmaceutical system.</b> Structure and features of component subsystems. <b>Pharmaceutical assistance</b> of population.   | 1               | 2                  | 6                 |
| 5            | <b>Pharmaceutical companies.</b> Type of enterprises and their characteristics. Tasks and functions.  | 1               |                    |                   |
| 6            | <b>Pharmaceutical staff.</b> The pharmaceutical personnel training system. Postgraduate training. Certification of pharmaceutical personnel.  | 1               |                    |                   |
| 7            | <b>Ethics, bioethics and pharmaceutical deontology notions.</b> The oath of the pharmacist. Rules of conduct in the pharmaceutical assistance process.  | 1               | 2                  | 6                 |
| 8            | <b>Pharmaceutical activity.</b> Notions. Characteristic. Regulations.   | 1               | 2                  | 6                 |
| 9            | <b>Notions of pharmaceutical legislation.</b> Basic laws and regulatory areas.  | 1               |                    |                   |
| 10           | <b>Medicine.</b> The origin of medicines. Allopathic and homeopathic medicines. Principles of organizing medicines storage.   | 1               | 2                  | 6                 |
| 11           | <b>Classification of medicines.</b> Route of administration of medicines.   | 1               |                    |                   |
| 12           | <b>Pharmaceutical forms of medicines.</b> Basic requirements for pharmaceutical forms.  | 1               |                    |                   |
| 13           | <b>Medicines development.</b> Steps of development.   | 1               | 2                  | 6                 |
| 14           | <b>Legal status of medicines.</b> Prescription of medicines.  | 1               |                    |                   |
| 15           | <b>Standards to ensure the performance of medicines.</b>  | 1               | 2                  | 6                 |
| 16           | <b>Standards and quality indicators of pharmaceutical services.</b>   | 1               |                    |                   |
| 17           | <b>National and international bodies in the field of health and pharmaceutical assistance.</b> World Health Organization. European bureau. Programs "Medicines". International Pharmaceutical Federation. Tasks and directions of activity. Association of Pharmacists of the Republic of Moldova (APhRM). Task and purpose. Principles of activity. APhRM Congresses and Meetings. | 1               | -                  | 6                 |
|              | Defense of term papers. Final evaluation.   |                 | 3                  | 8                 |
| <b>Total</b> |   | 17              | 17                 | 56                |



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### VI. REFERENCE OBJECTIVES OF CONTENT UNITS

| Objectives  | Content units   |
|---|---|
| <b>Chapter 1. Healthcare system pharmaceutical assistance of population.</b>  |   |
| <ul style="list-style-type: none"> <li>✓ to know the pharmaceutical terminology;</li> <li>✓ to know the nomenclature of pharmaceutical companies;</li> <li>✓ to know the basic regulations in the pharmaceutical field;</li> <li>✓ to know the purpose and objectives of the pharmaceutical system;</li> <li>✓ to know the notions of pharmaceutical enterprise and pharmacist;</li> <li>✓ to be able to apply accumulated knowledge in the future studying of pharmaceutical vocation-related subjects: medicines technology, pharmaceutical management and legislation, pharmaceutical chemistry, pharmacognosy etc.</li> <li>✓ to know and understand the main elements of professional ethics and deontology;</li> <li>✓ to apply ethical and deontological rules and regulations in relation with patients, colleagues, superiors.</li> <li>✓ to understand the importance of propaedeutic studies for individual development in the specialty field;</li> </ul> | General notions of pharmaceutical propaedeutic.   |
|   | Organization of health care for the population.   |
|   | The place and role of the pharmacy and pharmacist in the health system.                 |
|   | Pharmaceutical system. Pharmaceutical assistance.                                       |
|   | Pharmaceutical companies.   |
|   | Pharmaceutical staff.   |
|   | Ethics, bioethics and pharmaceutical deontology notions.                                |
|   | Pharmaceutical activity. Regulations.   |
|   | Notions of pharmaceutical legislation.  |
| <b>Chapter 2. Characteristics of the medicine as a basic element in pharmaceutical assistance</b>   |   |
| <ul style="list-style-type: none"> <li>✓ to know the basic regulations in the field of medicine;</li> <li>✓ to know the stages of discovery / development of medicines;</li> <li>✓ to know the notions of medicine and pharmaceutical form;</li> <li>✓ to know the types of classifications of drugs;</li> <li>✓ to know standards for ensuring the performance of medicines;</li> <li>✓ to know the basic principles of medicines storage;</li> <li>✓ to know the role and functions of professional organizations in the pharmaceutical and health sectors;</li> <li>✓ to be able to better understand and assimilate the knowledge at the pharmaceutical profile disciplines of the following years.</li> </ul>  | Medicine. The origin of medicines.  |
|   | Classification of medicines.  |
|   | Pharmaceutical forms of medicines.  |
|   | Medicines development.  |
|   | Legal status of medicines.  |
|   | Standards to ensure the performance of medicines.                                       |
|   | Standards and quality indicators of pharmaceutical services.                            |
|   | National and international bodies in the field of health and pharmaceutical assistance. |



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### VII. PROFESSIONAL (SPECIFIC) (SC) AND TRANSVERSALS (TC)) COMPETENCES AND STUDY OUTCOMES

#### Professional (specific) (SC) competences:

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

**PC2:** Knowledge of medicine in terms of action, indications, contraindications, adverse events of administration and their interactions; the practical implementation of patient counselling and pharmaceutical assistance.

**PC3:** Use and adaptation of theoretical knowledge from the field of pharmacy to practical situations; making professional work more efficient by introducing innovative elements from pharmaceutical field; applying the requirements of pharmaceutical legislation in practice; establishing the correlation between the components of the pharmaceutical activity process and the health care system of the population.

**PC4:** Diagnosing the particularities and organizational culture of the institution in the pharmaceutical system where the specialist operates; designing and coordinating pharmaceutical activity in various institutions: state-owned or private-type pharmacies; hospital pharmacies; pharmaceutical warehouse; medicines factories, laboratories for quality control and certification of medicines, etc.; the active engagement of the specialist in the process of accomplishing the mission of the pharmaceutical institution.

**PC5:** Determining the criteria of personal activity according to real conditions and in a concrete social context.

**PC6:** Adopting messages in various socio-cultural environments, promoting the principles of tolerance and compassion towards patients.

#### Transversal competences (TC):

**TC1:** Compliance with pharmaceutical ethics and deontology rules at the preparation, analysis, transport and dispensing of medical remedies to the population and medical institutions.

**TC2:** Determination of the needs in the continuing professional training of the pharmacist.

**TC3:** Promoting the spirit of initiative, dialogue, cooperation, positive attitude and respect for others, empathy, altruism and continuous improvement of own activity.

#### Study outcomes:

**At the end of the course, the student will be able to:**

- To know the structure and mission of the health system;
- To know the structure of the medicines assistance system and the interconnection of its component parts;
- To know the role and purpose of the medicines assistance system and its achievement pathway;
- To know the current role of the pharmacist in the health system and the basic requirements towards the pharmacist;
- To know the essence of pharmaceutical activity and the basic requirements for the exercise of pharmaceutical activity;
- To know the types of pharmaceutical companies and the basic conditions of their activity;





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- To know the notions of medicine, pharmaceutical form and other notions deriving from them;
- To know the classification principles and classifications of medicines and the basic activities of their use in medical practice;
- To know the organizational principles of the storage of medicines;
- To know the role and functions of professional pharmaceutical organizations;
- To become more confident in choosing the right profession in the spirit of respect and love for it through its role in society.

### VIII. THE STUDENT'S SELF-TRAINING

| No. | Expected product  | Strategies for achieving   | Evaluation criteria  | Deadline                   |
|-----|---|--|--|----------------------------|
| 1   | Working with the manual and legislative and normative acts.       | Systematic work in library and multimedia resource center.<br>Use of current electronic sources on the topic under discussion.   | 1. Quality of formed judgments, logical thinking, flexibility.<br>2. The quality of systematization of the informational material obtained through its own activity.   | During the second semester |
| 2   | Preparation of papers and presentations (the topics are proposed) | Analysis of relevant sources on the topic of the paper.<br>Analysis, systematization and synthesis of information on the proposed theme.<br>Compilation of the report in accordance with the requirements in force and its presentation. | 1. The quality of systematization of the informational material obtained through its own activity.<br>2. Concordance of the information with the proposed theme.<br>3. The level of argumentation of the conclusions.<br>4. Ingenuity of presentation, creativity. | During the second semester |

### IX. METHODOLOGICAL SUGGESTIONS FOR TEACHING-LEARNING-ASSESSMENT

#### • *Teaching and learning methods used*

Course, practical work, individual work, didactic practice. Courses are supported by responsible for the discipline. Students can access the lectures in PDF format on the department's website. For the assessment of practical knowledge and skills, various interactive learning processes are used.

#### • *Applied teaching strategies /technologies applied (specific to the discipline)*

During the studies, some specific methods are used: "Brainstorming", "Group Interviews", "Case Studies", etc. Individual work in the learning process includes the self-study of subjects at the teacher's indication, the study of additional material for each subject from basic and additional bibliographic sources from the databases available through the communication networks of legislative and regulatory acts regulating pharmaceutical activity, preparing for intermediate assessment.

Individual work in the learning process includes the study of additional material for each subject from basic and additional bibliographic sources from the databases available through the communications networks of legislative and regulatory acts regulating pharmaceutical activity. Each student at the end of the discipline study must present and sustain a lecture in the form of a lecture paper, with the theme of the teacher's indication, which falls within the topics studied.



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

**Current:** is carried out by checking the presence at the courses and practical classes, frontal and individual verification of the preparation of didactic material at practical classes and defense of term papers.

**Final:** The course ends with a differentiated colloquium. The mark for the colloquium includes the annual average mark (50%) and mark for the oral answer (50%).

The average annual mark is calculated based on the results of the current assessment and student's individual work.

The annual average mark and the mark for oral answer will be expressed in numbers according to the grading scale indicated in the table.

Final mark obtained will be expressed in number with two decimal that will be transferred to the student record book.

### Method of marks rounding at the assessment stages

| Grille of intermediate marks (annual average, mark for oral answer) | National grading system | Equivalent ECTS |
|---|-------------------------|-----------------|
| 1,00-3,00   | 2                       | F               |
| 3,01-4,99   | 4                       | FX              |
| 5,00  | 5                       | E               |
| 5,01-5,50   | 5,5                     |                 |
| 5,51-6,00   | 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               |
| 8,51-9,00   | 9                       |                 |
| 9,01-9,50   | 9,5                     | A               |
| 9,51-10,0   | 10                      |                 |

**Remark:** Failing to come to the colloquium test without motivated reasons is recorded as "absent" and is equivalent to 0 (zero). The student has the right to pass 2 times the not passed colloquium.

## X. RECOMMENDED LITERATURE:

### A. Compulsory:

1. Carata, A. Management, marketing și legislație farmaceutică. Vol.1. Management în domeniul farmaceutic. București: Editura Didactică și Pedagogică, R.A, 2008, 303 p.
2. Desselle, S.P.; Zgarrick D.P. Managementul farmaciilor. Informații esențiale pentru practica farmaceutică. Vol.1. Ediția 2. Pritco, 2011. 353 p. ISBN 978-973-769-814-2
3. Desselle, S.P.; Zgarrick D.P. Managementul farmaciilor. Informații esențiale pentru practica farmaceutică. Vol.2. Ediția 2. Pritco, 2011. 298 p. ISBN 978-973-769-814-8





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4. Remington, J. P. The Science and Practice of Pharmacy, Vol.1. 22nd Edition, Pharmaceutical Press, 2013. 3024 p. ISBN 978-085-711-062-6.
5. Safta, V.; Brumărel, M.; Ciobanu, N.; Adauji, S. Management şi legislaţie farmaceutică. Chişinău: F.E.P. Tipografia Centrală, 2012. 800 p.
6. Wiedenmayer, K.; Summers, S. R.; Mackie, C.A.; Gous, A. G. S.; Everard, M. Developing pharmacy practice. A focus on patient care. The Netherlands, The Hague: World Health Organization Department of Medicines Policy and Standards in collaboration with International Pharmaceutical Federation, 2006, 97 p.  
<https://www.fip.org/files/fip/publications/DevelopingPharmacyPractice/DevelopingPharmacyPracticeEN.pdf>
7. From Making Medicines to Optimizing Outcomes: The evolution of a profession 1912-2012. Report on Pharmacy, Pharmaceuticals and Global Health, commissioned by FIP and prepared by the UCL School of Pharmacy on the occasion of the Federation's Centennial Congress, 2012. 88 p. [https://www.fip.org/centennial/files/static/UCL\\_BOOKLET\\_Web.pdf](https://www.fip.org/centennial/files/static/UCL_BOOKLET_Web.pdf)
8. Materialul prelegerilor Propedeutica farmaceutică.
9. Pharmacist Ethics and Professional Autonomy: Imperatives for Keeping Pharmacy Aligned with the Public Interest, FIP 2014.  
[https://www.fip.org/www/uploads/database\\_file.php?id=358&table\\_id=](https://www.fip.org/www/uploads/database_file.php?id=358&table_id=)
10. Safta, V. Farmacie socială. Chişinău: S.n., 2011. 376 p.

### B. Additional:

1. Eţco, C. Management în sistemul de sănătate. Chişinău: Epigraf, 2006. 862 p.
2. Voitcu, M.; Cărauş E.-M. Management sanitar şi farmaceutic. Iaşi: "Gr. T. Popa", 2003. 245 p. ISBN 973-790-626-8
3. Allen, Loyd V. Jr, Remington: The Science and Practice of Pharmacy, 22nd edition, Pharmaceutical Press, 2012.
4. Bejan V. Elemente de propedeutică farmaceutică. Chişinău, 2010.
5. Facultatea Farmacie la 40 de ani (File de istorie), sub red. V. Procopişin, N. Ciobanu. Chişinău, 2004.
6. Făuritorii unei istorii de aur. 60 ani de învăţământ medical superior în Moldova, Chişinău, 2005.
7. From Making Medicines to Optimizing Outcomes: The evolution of a profession 1912-2012, Report on Pharmacy, Pharmaceuticals and Global Health, commissioned by FIP and prepared by the UCL School of Pharmacy on the occasion of the Federation's Centennial Congress, 2012.
8. Grosu, Iu. De Nicolo Testemitano Testimonium Chişinău, Medicina, 1997.
9. Pharmacist Ethics and Professional Autonomy: Imperatives for Keeping Pharmacy Aligned with the Public Interest, FIP 2014.
10. Popuşoi, E., Stroev I. Profesorul Coţovschi. Chişinău. Cartea moldovenească, 1980, 158 p.
11. Popuşoi E., C. Vârnăv. – medic emerit, savant şi filosof. Ocrotirea sănătăţii. 1966, Nr.1
12. Robert S., Beardsley, Carole L. Kimberlin, William N. Tindall, Communication Skills in Pharmacy Practice, A Practical Guide for Students and Practitioners, Lippincott Williams & Wilkins, fifth edition, 2008, 267 p.
13. Universitatea de Stat de Medicină şi Farmacie „Nicolae Testemiţanu” la 60 ani, Chişinău, Centrul Editorial-Poligrafic „Medicina”, 2005.
14. Wiedenmayer K., Summers S. R., Developing pharmacy practice. A focus on patient care, World Health Organization Department of Medicines Policy and Standards Geneva, Switzerland in collaboration with FIP The Hague: The Netherlands, Handbook, 2006, 97 p.