



CD 8.5.1 DISCIPLINE CURRICULUM

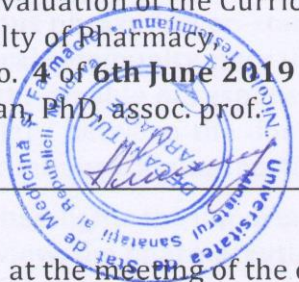
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FACULTY OF PHARMACY
STUDY PROGRAM 0916.1 PHARMACY
CHAIR OF SOCIAL PHARMACY "VASILE PROCOPISIN"

APPROVED

at the meeting of the Commission for Quality Assurance and Evaluation of the Curriculum, Faculty of Pharmacy
Minutes no. ~~4~~ of ~~6th~~ June 2019
Chairman, PhD, assoc. prof.

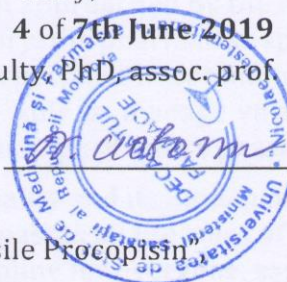
UNCU Livia



APPROVED

at meeting of the Council of the Faculty of Pharmacy,
Minutes no. ~~4~~ of ~~7th~~ June 2019
Dean of Faculty, PhD, assoc. prof.

CIOBANU Nicolae



APPROVED

at the meeting of the chair of social pharmacy „Vasile Procopișin”
Minutes no. **10** of **29th** May 2019
Head of chair, PhD, assoc. prof.

BRUMAREL Mihail

SYLLABUS

DISCIPLINE: HISTORY OF PHARMACY

Integrated studies

Type of the course: **Optional discipline**

Chisinau, 2019



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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**

History of pharmacy, as a discipline, aims to study the basis of historical and logical methods of developing the pharmacy as a historical process and the medical and pharmaceutical knowledge of the peoples of the world in different historical periods of mankind in relation to the evolution and change of socio-economic formations, the achievements of natural sciences and culture, taking into account the relationship between general and private, national and international, from the pharmaceutical, medical and social point of view. Essential attention should be paid to the evolution of indigenous medicine and pharmacy.

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

The basic mission of the discipline is the initiation in the professional activity of the pharmacist with the selection and processing of the archive materials, various sources of professional information about the past and the present profession, acquiring practical skills to formulate objective conclusions on the past events, as well as educating the students respect and love for the profession on the example of its predecessors and forerunners, the initiation of students in the elementary notions of art and pharmaceutical science, the training of students on the basis of professional knowledge, their preparation for studying at the senior years of other profile disciplines.

- **Languages of teaching the discipline:** Romanian, English, Russian.
- **Beneficiaries:** students of the 1st year, faculty of Pharmacy, specialty Pharmacy.

II. MANAGEMENT OF THE DISCIPLINE

Code of discipline		G.02.A.021	
Name of the discipline		History of pharmacy	
Responsible for the discipline		Mihail Brumărel PhD, associate professor Elena Chițan assistant professor Anatolii Peschin assistant professor	
Year	I	Semester	2
Total number of hours, including:			30
Lectures	15	Practical/laboratory hours	15
Seminars	-	Self-training	-
Form of assessment	DC	Number of credits	1



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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 modalities to select and evaluate information in the field of history of pharmacy;
- ✓ to know basic stages of universal and moldovan medicine and pharmacy development;
- ✓ to understand correlation between evolution and history of medicine and pharmacy in relation with society, history, philosophy, natural sciences realizations and culture evolution;
- ✓ to know principal events of profession's history;
- ✓ to know outstanding personalities in universal and autochthonous medicine and pharmacy;
- ✓ to understand the particularities of autochthonous medicine and pharmacy development;
- ✓ to know the evolution of pharmaceutical regulations;
- ✓ to know pharmaceutical terminology;
- ✓ to know and to understand principal elements of ethics and professional deontology.

at the application level:

- ✓ to be able to use historical-scientifically, logic, sociological methods in research and study of medicines supply and other pharmaceutical sciences;
- ✓ to apply norms and ethical and deontological rules in relations with patients, colleagues, superiors.

at the integration level:

- ✓ to be able to select and interpret important events from the numerous details counselling the development of medicine and of pharmacy;
- ✓ to evaluate and to forecast possible changes in pharmacy development regarding its previous evolution;
- ✓ to appreciate impact of remarkable personalities in deferent periods of human society development for the profession development;
- ✓ to appreciate role of native ancestors in the development of national medicine and pharmacy;
- ✓ to understand the importance of propaedeutic and historic studies for personal development in profession;

IV. PROVISIONAL TERMS AND CONDITION

In order to successfully acquire the didactic material, it is necessary for students to have initial knowledge in history and general philosophy, as well as to have practical skills to work with the medical and pharmaceutical scientific databases.



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V. THEMES AND ESTIMATE ALLOCATION OF HOURS

No.	THEME	Number of hours	
		Lectures	Practical hours
1.	History and evolution of pharmacy practice. Pharmacy in ancient times. History of Pharmacy activities. Periodization. Study sources. Medicine elements in primitive society.	1	1
2.	Medical and pharmaceutical knowledge in slaveholding system. Contribution of ancient civilizations to the future development of medicine and pharmacy.	1	1
3.	Medieval pharmacy. Medicine and Pharmacy in Byzantium.	1	1
4.	The Arabic medicine and pharmacy.	1	1
5.	Medicine and pharmacy in Dacia. Medication in Dacia.	1	1
6.	Pharmacy in medieval Europe. The beginning of pharmaceutical art. The contribution of medieval alchemy and pharmacy to the universal pharmacy.	1	1
7.	The modern history. European pharmacy in Renaissance civilization (iatrochemistry). Botanical garden. First pharmacopoeia. Pharmacy in Romanian countries.	1	1
8.	The European pharmacy of XVIII-XIX centuries. Differentiation between knowledge and pharmaceutical disciplines.	1	1
9.	The European pharmacy of XVIII-XIX centuries. Pharmaceutical periodicals. Development of pharmaceutical industry in Europe.	1	1
10.	Pharmacy and medicine in XX century. International meetings in the field of pharmacy. Modern pharmaceutical education in different countries. Studying of the history of pharmacy.	1	1
11.	Pharmacy, pharmacist and medicine in present. World's largest pharmaceutical companies.	1	1
12.	Development of healthcare, medical and pharmaceutical science in Republic of Moldova. Healthcare in Moldova during the years.	1	1
13.	Development of pharmaceutical system in postwar Moldova. Training of pharmaceutical personnel by high and secondary vocational education. Evolution of local pharmaceutical industry.	2	1
14.	History and development of State University of Medicine and Pharmacy "Nicolae Testemițanu". Faculties of the "Nicolae Testemițanu" SUMPh. Museums - sources to study the history of pharmacy.	1	1
	Colloquium	-	1
Total		15	15



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VI. REFERENCE OBJECTIVES OF CONTENT UNITS

Objectives	Content units
Chapter 1. History of pharmacy in antiquity, medieval age and the emergence and development of market relationship	
✓ to know how to select and assess information on the history of pharmacy field; ✓ to know the basic stages in the development of universal and Moldavian medicine and pharmacy; ✓ to understand the correlation between the evolution and history of medicine and pharmacy in relation to the evolution of society, history, philosophy, achievements of natural sciences and culture; ✓ to know the main events in the history of the profession; ✓ to know the key figures of medicine and universal pharmacy; ✓ to appreciate the contribution of notable personalities at different periods of human society development in the development of the profession; ✓ to be able to use historical-scientific, logical, sociological methods in research and study of medicines assistance and other pharmaceutical science; ✓ to be able to select and interpret the defining events from the many data about development of medicine and pharmacy;	History and evolution of pharmacy practice. Pharmacy in ancient times.
	Medical and pharmaceutical knowledge in slaveholding system. Medicine and pharmacy in Dacia.
	Medieval pharmacy.
	Pharmacy in medieval Europe.
	The modern history. European pharmacy in Renaissance civilization (iatrochemistry).
	The European pharmacy of XVIII-XIX centuries.
Chapter 2. Development of pharmacy under the influence of scientific discoveries and in the contemporary period. Development of Moldavian pharmacy.	
✓ to know the key personalities of universal and native medicine and pharmacy; ✓ to understand the particularities of the development of domestic medicine and pharmacy; ✓ to know the evolution of regulations in the field of pharmaceutical legislation; ✓ to be able to use historical-scientific, logical, sociological methods in research and study of medicines assistance and other pharmaceutical science; ✓ to evaluate and to predict possible changes in pharmacy development based on its earlier evolution. ✓ to know the notable figures of indigenous medicine and pharmacy; ✓ to appreciate the role of local ancestors in the development of national medicine and pharmacy;	Pharmacy and medicine in XX century.
	Pharmacy, pharmacist and medicine in present.
	Development of healthcare, medical and pharmaceutical science in Republic of Moldova.
	Development of pharmaceutical system in post-war Moldova.
	History and development of State University of Medicine and Pharmacy "Nicolae Testemițanu".

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, knowledge of the general principles of organization and functioning of pharmaceutical institutions, knowledge of the pharmacist's rights and obligations.



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PC2: Assessing trends in the development of population assistance with medicines, the practical implementation of patient counselling and pharmaceutical assistance.

PC3: Designing practical work in the pharmaceutical system according to the diversity of professional roles, use and adaptation of theoretical knowledge from the field of pharmacy to practical situations; analysis of timely applying the requirements of normative acts in the field of pharmacy in practice.

PC4: Comparative diagnosing and assessment of the particularities and organizational culture of the institution from the pharmaceutical system in divers territories and periods of the development of civilization.

PC5: Determining the criteria for assessing the efficacy of the pharmaceutical system and personal activity according to the actual conditions and in the concrete social context.

PC6: Taking of messages in various socio-cultural environments, use of the capacity to solve situational tasks in the pharmaceutical activity in collaboration with physicians, promotion of the principles of tolerance and compassion towards the patients.

Transversal competences (TC):

TC1: Promoting the rationale, practical applicability, evaluation and self-assessment in the decision-making process; compliance with pharmaceutical ethics and deontology rules at the dispensing of pharmaceutical remedies to the population and medical institutions.

TC2: Determination of the continuing professional training needs depending on the evolution of the pharmaceutical system; determination of the priorities in continuing professional training of pharmacist; assessing the changes taking place in the pharmaceutical system's functionality as a condition.

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 basic stages of development of medicine and pharmacy;
- To know the main elements used in the diagnosis and treatment of illnesses and their evolution over the years;
- To know the evolution of the pharmacist's functions during the development of the medicine and the pharmaceutical branch;
- To know the key personalities and their contribution to the development of national and universal medicine and pharmacy;
- To be able to select the documents from the pharmacy field, analyze and appreciate the information from them historically;
- To be able to use historical, scientific, logical, sociological methods in research and study of medicine assistance and of other pharmaceutical science.



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VIII. THE STUDENT'S SELF-TRAINING

No.	Expected product	Strategies for achieving	Evaluation criteria	Deadline
1	Preparation of papers and presentations (the topics are proposed)	Analysis of relevant sources on the topic of the paper. Analysis, systematization and synthesis of information on the proposed theme. 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. 2. Concordance of the information with the proposed theme. 3. The level of argumentation of the conclusions. 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. The lectures are available for student on the department's website. For the assessment of practical knowledge and skills, various interactive learning processes are used.

For the History of Pharmacy course, the following learning methods are recommended: analysis, highlighting of key elements, comparison, classification, etc.

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

Individual work in the learning process includes the study of additional material for each theme from the mandatory and supplementary bibliographic sources, from the available databases of the legislative and normative acts regulating the pharmaceutical activity through the communication networks. Each student, by the end of the discipline study, must present and sustain a paper in the form of a term paper, with the theme of the teacher's indication, which fit into the themes studied.

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

Current: is carried out by checking the preparation of the didactic material for the practical classes by frontal and individual control, tests.

Final: The course ends with a differentiated colloquium.

The final mark includes the annual average mark (50%) and colloquium mark for the oral answer using examination cards (50%).

The average annual mark is calculated based on the results of the defense and presentation of report and student's individual work, that will also include marks of the current assessment.

The final mark will be expressed in numbers according to the rating scale indicated in the table.



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Method of marks rounding at the assessment stages

Grille of average marks	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: Failure to appear at colloquium without good reason is recorded as "absent" and is equivalent to "fail" qualificative. The student has the right to 2 repeated re-examinations of the unpassed differentiated colloquium.

X. RECOMMENDED LITERATURE:

A. Compulsory:

1. Cotrău, M. Medicamentul de-a lungul vremii. Iași, 1995, 203 p. ISBN 973-95585-19
2. Parii, B., Rusnac L., Ungureanu A. Medicamentul de la Adam până la Ștefan cel Mare, Chișinău: Editura Poligrafia Centrală, 2006.
3. Agaroaie, L., Butnaru, E. Pagini din istoria farmaciei, Iași, Editura "Gr. T. Popa", 2013.

B. Additional:

1. Carata, A. Istoria Farmaciei. Comparații și schițe de curs pentru studenți. București: 2010.
2. Popescu, H., Mogoșanu, G.D. Istoria Farmaciei, Craiova: 2010.
3. Matei, I., Mermeze, V. Propedeutica farmaceutică, Oradea: 1998.
4. Izsak, S. Farmacia de-a lungul secolelor. București: 1979.
5. Bejan V. Elemente de propedeutică farmaceutică. Chișinău, 2010.
6. Facultatea Farmacie la 40 de ani (File de istorie), sub red. V. Procopișin, N. Ciobanu. Chișinău, 2004.
7. Făuritorii unei istorii de aur. 60 ani de învățământ medical superior în Moldova, Chișinău, 2005.
8. Grosu Iu. De Nicolo Testemitanio Testimonium Chișinău, Medicina, 1997.
9. Popușoi E, Stroeve I. Profesorul Coțovschi. Chișinău. Cartea moldovenească, 1980, p.158.
10. Popușoi E. Toma Ciorbă – medic umanist, organizator și activist public. Ocrotirea sănătății. 1984, Nr.1.
11. Popușoi E. C. Vârnăv. – medic emerit, savant și filosof. Ocrotirea sănătății. 1966, Nr.1.
12. Reglementarea activității farmaceutice în Republica Moldova, Chișinău, 2007.
13. Universitatea de Stat de Medicină și Farmacie „Nicolae Testemițanu” la 60 ani, Chișinău, Centrul Editorial-Poligrafic „Medicina”, 2005.