

MINISTRY OF HEALTH OF UKRAINE
HIGHER STATE EDUCATIONAL ESTABLISHMENT OF UKRAINE
«BUCOVINIAN STATE MEDICAL UNIVERSITY»

«Approval»

Vice-rector for scientific and pedagogical work
associate professor _____ I.V. Gerush

“ 27 ” _____ 08 _____ 20 20

STUDENT'S GUIDEBOOK
(SYLLABUS)
for the study of the discipline
INTRODUCTION TO PHARMACY

Field of knowledge 22 Healthcare
(code and name of the field of knowledge)

Speciality 226 Pharmacy, industrial pharmacy
(code and name of the specialty)

Educational degree master
(master, bachelor, junior bachelor)

Training course 1

Form of study full-time and part-time
(full-time, part-time, distance)

Department of Pharmacy
(name of the department)

Approved at the meeting of the department of pharmacy on June 16, 2020 (protocol №20).

Chief of the department of pharmacy,
associate professor



(Gerush O.V.)

Approved at the meeting of the subject methodical committee on disciplines of pharmaceutical profile on June 17, 2020 (protocol № 6)

Chairman of the methodological commission, associate professor



(Gerush O.V.)

1. GENERAL INFORMATION ABOUT SCIENTIFIC AND PEDAGOGICAL WORKERS, WHO TEACH THE COURSE

Department	of pharmacy
Surname, name, patronymic of scientific and pedagogical workers, position, scientific degree, academic title, e-mail	Gerush Oleg Vasyliovych – chief of the department, candidate of pharmaceutical sciences, associate professor, gerush.oleg@bsmu.edu.ua ; Tkachuk Olesya Yuriiivna – assistant, candidate of pharmaceutical sciences, tkachuk@bsmu.edu.ua Fedotova Maryna Stepanivna – assistant, fedotova.maryna@bsmu.edu.ua
Web page of the department on the official website of the university	https://www.bsmu.edu.ua/farmatsiyi/
Department website	http://pharmak.bsmu.edu.ua/
E-mail	pharmacy@bsmu.edu.ua
Address	Chernivtsi, street Celana, 9
Contact phone	+38 (0372) 55-92-89

2. GENERAL INFORMATION ABOUT THE COURSE

Discipline status	normative	
	full-time	part-time
Number of credits	3	3
Total number of hours	90	90
Lectures	20	4
Practical training	20	6
Seminars	20	-
Individual work	30	80
Type of final control	final modular control	

3. DESCRIPTION OF THE COURSE (ABSTRACT)

Introduction to pharmacy - a science that studies the historical path of development of pharmacy and pharmacy in Ukraine and the world.

4. EDUCATIONAL DISCIPLINE POLICY

4.1. List of normative documents:

- Regulations on the organization of the educational process (<https://www.bsmu.edu.ua/wp-content/uploads/2020/03/polozhennya-pro-organizacziyu-osvitnogo-proczesu-u-vdnzu-bukovinskij-derzhavnij-medichnij-universitet.pdf>);
- Instruction on assessment of educational activity of BSMU students in the conditions of introduction of the European credit-transfer system of the organization of educational process (<https://www.bsmu.edu.ua/wp-content/uploads/2020/03/bdmu-instrukczija-shhodo-oczinyuvannya-D1%94kts-2014-3.pdf>);
- Regulations on the procedure for working off missed and uncredited classes (<https://www.bsmu.edu.ua/wp-content/uploads/2019/12/reworks.pdf>);
- Regulations on the appeal of the results of the final control of knowledge of higher education applicants (<https://www.bsmu.edu.ua/wp-content/uploads/2020/07/polozhennya-pro-apelyacziyu-rezultativ-pidsumkovogo-kontrolyu-znan.pdf>);
- Code of Academic Integrity (https://www.bsmu.edu.ua/wp-content/uploads/2019/12/kodeks_academic_faith.pdf);
- Moral and ethical code of students (https://www.bsmu.edu.ua/wp-content/uploads/2019/12/ethics_code.docx);
- Regulations on the prevention and detection of academic plagiarism (<https://www.bsmu.edu.ua/wp-content/uploads/2019/12/antiplagiat-1.pdf>);

- Regulations on the procedure and conditions for students to choose elective courses (https://www.bsmu.edu.ua/wp-content/uploads/2020/04/nakaz_polozhennyz_vybirkovi_dyscopyliny_2020.pdf);

- Rules of internal labor regulations of the Higher State Educational Institution of Ukraine "Bukovynian State Medical University" (<https://www.bsmu.edu.ua/wp-content/uploads/2020/03/17.1-bdmu-kolektivnij-dogovir-dodatok.doc>).

4.2. Policy on adherence to the principles of academic integrity of higher education students:

- independent performance of educational tasks of current and final controls without the use of external sources of information;

- write-offs during knowledge control are prohibited;

- independent performance of individual tasks and correct registration of references to sources of information in case of borrowing of ideas, statements, information.

4.3. Policy on adherence to the principles and norms of ethics and deontology by higher education students:

- actions in professional and educational situations from the standpoint of academic integrity and professional ethics and deontology;

- compliance with the rules of internal regulations of the university, to be tolerant, friendly and balanced in communication with students and teachers, medical staff of health care institutions;

- awareness of the importance of examples of human behavior in accordance with the norms of academic integrity and medical ethics.

4.4. Attendance policy for higher education students:

- Attendance at all training sessions (lectures, practical (seminar) classes, final modular control) is mandatory for the purpose of current and final assessment of knowledge (except for good reasons).

4.5. Deadline policy and completion of missed or uncredited classes by higher education students:

- missed classes are completed according to the schedule of missed or uncredited classes and consultations.

5. PRECISIONS AND POST-REQUIREMENTS OF THE EDUCATIONAL DISCIPLINE (INTERDISCIPLINARY RELATIONS)

List of disciplines, on which the study is based academic discipline	List of disciplines, for which the basis is laid as a result of studying the discipline
history and culture of Ukraine	organization and economics of pharmacy
general history	ethics and deontology in pharmacy
chemistry	social pharmacy
physics	drug technology
computer science	drug toxicology
	clinical pharmacy and pharmaceutical care
	pharmaceutical management and marketing

6. AIM AND OBJECTIVES OF THE EDUCATIONAL DISCIPLINE

6.1. Goal:

The purpose of teaching the course "Introduction to Pharmacy" is to form students' knowledge of the historical path of development of pharmacy, detailed and thorough acquaintance of students with the history of pharmaceutical science and practice; formation of theoretical bases and important professional skills in the organization of provision of medicines to the population, knowledge of the basics of good pharmacy practice; formation of primary professional knowledge of the requirements for pharmacy production activity, safety rules and sanitary-epidemic regime of the pharmacy production department; acquisition by students of practical competences in the field of professional activity of pharmaceutical.

6.2. Task:

The main tasks of the study are the formation of students' historical thinking, scientific understanding of the relationship of natural and special disciplines, knowledge of the historical origins of pharmacy;

- acquainting students with the organization of the pharmacy, the tasks and functions of the pharmacy, its organizational structure, general principles of providing medicines and other goods to the pharmacy range of population and health care institutions;
- familiarization with the legal and legislative acts of Ukraine, requirements of good pharmacy practice (GPP) for the manufacture of drugs in the conditions of pharmacies, the main tasks and functions of pharmacies, labor protection and safety of pharmaceutical workers;
- acquisition of skills in dispensing, packing and packaging of medicines in pharmacy practice and acquainting students with the workplaces and equipment of the pharmacy production department;
- raising the cultural level of the modern young specialist, raising pride and a sense of need for a pharmaceutical specialty.

7. COMPETENCES, THE FORMATION OF WHICH IS CONTRIBUTED BY THE COURSE:

7.1. *integral*:

ability to solve typical and complex specialized problems and practical problems in professional pharmaceutical activity with application of provisions, theories and methods of fundamental, chemical, technological, biomedical and socio-economic sciences; integrate knowledge and resolve complex issues, formulate judgments with insufficient or limited information; clearly and unambiguously communicate their conclusions and knowledge, reasonably substantiating them, to a professional and non-professional audience.

7.2. *general* :

GC 1. Ability to act socially responsible and civilly conscious.

GC 2. Ability to apply knowledge in practical situations.

GC 4. Ability to think abstractly, analyze and synthesize, to learn and to be modernly taught.

GC 9. Information and communication technology skills.

7.3 *special (specialty, subject)*:

SC 1. Ability to use in professional activity knowledge of regulatory, legal acts of Ukraine and recommendations of good pharmaceutical practices.

8. LEARNING OUTCOMES.

GPR 1. Carry out professional activities in social interaction based on humanistic and ethical principles; identify future professional activities as socially significant for human health.

GPR 2. Apply knowledge of general and professional disciplines in professional activities.

GPR 4. Use the results of independent search, analysis and synthesis of information from various sources to solve typical problems of professional activity.

GPR 9. Carry out professional activities using information technology, "Information databases", navigation systems, Internet resources, software and other information and communication technologies.

SPR 1. To plan and implement professional activities on the basis of regulations of Ukraine and recommendations of good pharmaceutical practices.

9. INFORMATION SCOPE OF THE EDUCATION

90 hours and 3 credits ECTS are taken to study the course.

Thematic structure of the module (content modules).

MODULE 1. "Introduction to pharmacy"

Content module 1. "Introduction to pharmacy: history of medicine and pharmacy"

Theme 1. «Historical stages of formation and development of medicine and pharmacy in ancient times. Pharmacy in the middle ages. »

Theme 2. «Development of medicine and pharmacy in Ukraine from ancient Rus to XVIII century. Development of medicine and pharmacy in Ukraine in the XVIII - XIX century. The development of medicine and pharmacy in Ukraine in the first half of the XX century. Pharmacy in Ukraine in the second half of the XX - early XXI century.»

Theme 3. «Historical aspects of the formation of pharmaceutical education in Ukraine and abroad. History of formation and development of pharmacy in Bukovina. Modern medicine and pharmacy in the world. »

Theme 4. «Outstanding scientists and their contribution to the development of medicine and pharmacy. »

Theme 5. "Current control of content module 1"

Content module 2. "Introduction to pharmacy: pharmacy practical training in pharmacy organization and economics"

Theme 6-7. «A pharmacy as a healthcare facility. Fundamentals of providing a sanitary-anti-epidemic regime of pharmacy establishments. Fundamentals of pharmaceutical information organization in a pharmacy. »

Theme 8. «Organization of work of the recipe-production department. Organization of over-the-counter dispensing of medicines. »

Theme 9. «Organization of prescription drug dispensing. Organization of work of department of sale of finished medicines on prescriptions of doctors.»

Theme 10. «Organization of manufacturing and quality control of extemporaneous medicines. Quality control of medicines and other products of pharmacy assortment.»

Theme 11. «Organization of the stock department. Automation of pharmacy work.»

Theme 12. "Current control of content module 2"

Content Module 3. "Introduction to pharmacy: pharmacy technology practices"

Theme 13-14. «Regulatory and legislative acts of Ukraine on production activity and provision of sanitary-anti-epidemic regime of pharmacies. Pharmaceutical tarot packing materials. Obtaining purified water, quality control and storage conditions.»

Theme 15-16. «Regulatory and legislative acts of Ukraine, requirements for the GPP for the manufacture of non-sterile medicines. Dosage, packaging, packaging and clearance before the release of solid drugs.»

Theme 17-18. "Dosage, packaging, packaging and clearance of liquid and soft medicines. Regulatory and legislative acts of Ukraine, requirements for GPP to ensure aseptic conditions for the manufacture of medicines in pharmacies. »

Theme 19. "Current control of content module 3"

10. STRUCTURE OF THE EDUCATIONAL DISCIPLINE

Names of content modules and topics	Number of hours											
	Full-time study						Part-time study					
	Total	including					Total	including				
		Classrooms			SS	IW		Classrooms			SS	IW
L		P	S	L				P	S			
1	2	3	4	5	6	7	8	9	10	11	12	13
MODULE 1. "Introduction to pharmacy"												
<i>Content module 1. "Introduction to pharmacy: history of medicine and pharmacy"</i>												
Theme 1. «Historical stages of formation and development of medicine and pharmacy in ancient times. Pharmacy in the Middle Ages. »	8	6		2			4				4	
Theme 2. «Development of medicine and pharmacy in Ukraine from ancient Rus to XVIII century. Development of medicine and pharmacy in Ukraine in the XVIII - XIX century. The development of medicine and pharmacy in Ukraine in the first half of the XX century. Pharmacy in Ukraine in the second half of the XX - early XXI century.»	6	4		2			4				4	
Theme 3. «Historical aspects of the formation of pharmaceutical education in Ukraine and abroad. History of formation and development of pharmacy in Bukovina. Modern medicine and pharmacy in the world. »	7	5		2			9	1			8	
Theme 4. «Outstanding scientists and their contribution to the development of medicine and pharmacy. »	3	1		2			5	1			4	
Theme 5. "Current control of content module 1"	2			2								
Together with module 1	26	16		10			22	2			20	
<i>Content module 2. "Introduction to pharmacy: pharmacy practical training in pharmacy organization and economics"</i>												
Theme 6-7. «A pharmacy as a healthcare facility. Fundamentals of providing a sanitary-anti-epidemic regime of pharmacy establishments. Fundamentals of Pharmaceutical Information Organization in a Pharmacy.»	9	2	2	1	4		10	1	1		8	

Theme 8. «Organization of work of the recipe-production department. Organization of over-the-counter dispensing of medicines. »	7		2	1	4		9		1		8	
Theme 9. «Organization of prescription drug dispensing. Organization of work of department of sale of finished medicines on prescriptions of doctors.»	5		2	1	2		4				4	
Theme 10. «Organization of manufacturing and quality control of extemporaneous medicines. Quality control of medicines and other products of pharmacy assortment.»	4		2		2		4				4	
Theme 11. «Organization of the stock department. Automation of pharmacy work.»	5			1	4		8				8	
Theme 12. "Current control of content module 2"	2		2									
Together with module 2	32	2	10	4	16		35	1	2		32	
Content Module 3. "Introduction to pharmacy: pharmacy technology practices"												
Theme13-14. «Regulatory and legislative acts of Ukraine on production activity and provision of sanitary-anti-epidemic regime of pharmacies. Pharmaceutical tarot packing materials. Obtaining purified water, quality control and storage conditions.»	10	2	2	2	4		11	1	2		8	
Theme15-16. «Regulatory and legislative acts of Ukraine, requirements for the GPP for the manufacture of non-sterile medicines. Dosage, packaging, packaging and clearance before the release of solid drugs.»	8		2	2	4		8				8	

Theme 17-18. "Dosage, packaging, packaging and clearance of liquid and soft medicines. Regulatory and legislative acts of Ukraine, requirements for GPP to ensure aseptic conditions for the manufacture of medicines in pharmacies.»	10		2	2	6		12				12	
Theme19. "Current control of content module 3"	2		2									
Together with module 3	30	2	8	6	14		31	1	2		28	
Individual work (in the presence)												
Final modular control			2						2			
HOURS IN GENERAL	90	20	20	20	30		90	4	6	-	80	

11. THEMATIC LECTURES PLAN

for full-time education

№	The name of the topic	Hours
Module 1 "Introduction to pharmacy"		
1.	History of medicine and pharmacy as a science and subject of teaching. Historical stages of formation and development of medicine and pharmacy in ancient times.	2
2.	Historical stages of formation and development of medicine and pharmacy in ancient times (continued).	2
3.	Pharmacy in the Middle Ages.	2
4.	The development of medicine and pharmacy in Ukraine from ancient Russia to the eighteenth century, and in the eighteenth - nineteenth century.	2
5.	The development of medicine and pharmacy in Ukraine in the first half of the twentieth century. Pharmacy in Ukraine in the second half of the twentieth - early twentieth century.	2
6.	Historical aspects of the formation of pharmaceutical education in Ukraine and abroad.	2
7.	History of formation and development of pharmacy in Bukovina.	2
8.	Prominent scientists and their contribution to the development of medicine and pharmacy. Modern medicine and pharmacy in the countries of the world.	2
9.	Pharmacy as a healthcare facility.	2
10.	Regulatory and legislative acts of Ukraine on production activity and provision of sanitary-anti-epidemic regime of pharmacies.	2
	Together	20

for part-time form of study

№	The name of the topic	Hours
Module 1 "Introduction to pharmacy"		
1.	History of medicine and pharmacy as a science and a subject of teaching. History of formation and development of pharmacy in Bukovina. Outstanding scientists and their contribution to the development of medicine and pharmacy. Modern medicine and pharmacy in the world.	2
2.	Pharmacy as a health care institution. Normative-legal and legislative acts of Ukraine on production activity and provision of sanitary-anti-epidemic regime of pharmacies.	2
	Together	4

12. THEMATIC PLAN OF PRACTICAL LESSONS

for full-time education

№	The name of the topic	Hours
MODULE 1 "Introduction to pharmacy"		
Content module 2. Introduction to pharmacy: pharmacy practical training in pharmacy organization and economics		
1.	Pharmacy as a healthcare facility. Fundamentals of providing sanitary-anti-epidemic regime of pharmacy establishments. Fundamentals of pharmaceutical information organization in a pharmacy.	2
2.	Organization of work of the recipe-production department. Organization of OTC medicines.	2
3.	Organization of prescription medication leave. Organization of work of department of sale of finished medicines on prescriptions of doctors.	2
4.	Organization of manufacturing and quality control of extemporaneous medicines. Quality control of medicines and other products of pharmacy assortment.	2
5.	<i>Current control of content module 2</i>	2
Content Module 3. Introduction to pharmacy: pharmacy technology practices		
6.	Regulatory and legislative acts of Ukraine on production activity and provision of sanitary-anti-epidemic regime of pharmacies. Pharmaceutical tarot packing materials. Obtaining purified water, quality control and storage conditions.	2
7.	Regulatory and legislative acts of Ukraine, requirements for GPP for the manufacture of non-sterile medicines. Dosage, packaging, packaging and clearance before the release of solid drugs.	2
8.	Dosage, packaging, packaging and prescription of liquid and soft medicines. Legal and legislative acts of Ukraine, requirements for GPP to provide aseptic conditions for the manufacture of medicines in the conditions of pharmacies.	2
9.	<i>Current control of content module 3</i>	2
10.	<i>Final modular control</i>	2
Together		20

for part-time form of study

№	The name of the topic	Hours
MODULE 1 "Introduction to pharmacy"		
Content module 2. Introduction to pharmacy: pharmacy practical training in pharmacy organization and economics		
1.	Pharmacy as a healthcare facility. Organization of work of the recipe-production department. Organization of OTC medicines.	2
Content Module 3. Introduction to pharmacy: pharmacy technology practices		
2.	Regulatory and legislative acts of Ukraine on production activity and provision of sanitary-anti-epidemic regime of pharmacies.	2
3.	<i>Final modular control</i>	2
Together		6

13. THEMATIC PLAN OF THE SEMINARS

for full-time education

№	The name of the topic	Hours
MODULE 1 "Introduction to pharmacy"		
Content module 1. Introduction to pharmacy: history of medicine and pharmacy		
1.	Historical stages of formation and development of medicine and pharmacy in ancient times. Pharmacy in the Middle Ages.	2
2.	Development of medicine and pharmacy in Ukraine from ancient Rus to the XVIII century. The development of medicine and pharmacy in Ukraine in the eighteenth - early twenty-first century.	2
3.	Historical aspects of the formation of pharmaceutical education in Ukraine and abroad. History of formation and development of pharmacy in Bukovina. Modern medicine and pharmacy in the countries of the world.	2
4.	Prominent scientists and their contribution to the development of medicine and pharmacy.	2
5.	<i>Current control of content module 1</i>	2
Content module 2. Introduction to pharmacy: pharmacy practical training in pharmacy organization and economics		
6.	Pharmacy as a healthcare facility. Organization of the recipe-production department. Organization of OTC medicines.	2
7.	Organization of work of the department of sale of finished medicines for prescriptions. Organization of the stock department.	2
Content module 3. Introduction to pharmacy: practical training in pharmacy drug technology		
8.	Regulatory and legislative acts of Ukraine on production activity and provision of sanitary-anti-epidemic regime of pharmacies.	2
9.	Legal and legislative acts of Ukraine, requirements for GPP for the manufacture of non-sterile medicines.	2
10.	Regulatory and legislative acts of Ukraine, requirements for GPP to ensure aseptic conditions for the manufacture of medicines in the conditions of pharmacies.	2
	Together	20

14. THEMATIC PLAN OF INDEPENDENT WORK

for full-time education

№	The name of the topic	Hours
MODULE 1 "Introduction to pharmacy"		
1.	Pharmacy as a healthcare facility	2
2.	Fundamentals of providing sanitary-anti-epidemic regime of pharmacy establishments. Fundamentals of pharmaceutical information organization in a pharmacy.	2
3.	Organization of work of the recipe-production department.	2
4.	Organization of OTC medicines.	2
5.	Organization of the sales department for prescription drugs.	2
6.	Organization of the stock department.	2
7.	Organization of manufacturing and quality control of extemporaneous medicines. Quality control of medicines and other products of pharmacy assortment.	2
8.	Automation of pharmacy work.	2
9.	Regulatory and legislative acts of Ukraine on production activity and provision of sanitary-anti-epidemic regime of pharmacies.	2

10.	Tarot packing materials of pharmacies. Obtaining purified water, quality control and storage conditions.	2
11.	Regulatory and legislative acts of Ukraine, requirements for GPP for the manufacture of non-sterile medicines.	2
12.	Dosage, packaging, packaging and clearance before the release of solid drugs.	2
13.	Dosage, packing, packaging and clearance for liquid medicines.	2
14.	Dosage, packaging, packaging and clearance for the release of soft medicines.	2
15.	Legal and legislative acts of Ukraine, requirements for GPP to provide aseptic conditions for the manufacture of medicines in the conditions of pharmacies.	2
	Together	30

for part-time form of study

№	The name of the topic	Hours
MODULE 1 "Introduction to pharmacy"		
1.	Historical stages of formation and development of medicine and pharmacy in ancient times. Pharmacy in the Middle Ages.	4
2.	Development of medicine and pharmacy in Ukraine from ancient Russia to the XVIII century. Development of medicine and pharmacy in Ukraine in the XVIII - early XXI century.	4
3.	Historical aspects of the formation of pharmaceutical education in Ukraine and abroad. History of formation and development of pharmacy in Bukovina.	4
4.	Outstanding scientists and their contribution to the development of medicine and pharmacy.	4
5.	Modern medicine and pharmacy in the world.	4
6.	Pharmacy as a health care institution.	4
7.	Basics of providing sanitary and anti-epidemic regime of pharmacies. Basics of pharmaceutical information organization in pharmacy.	4
8.	Organization of the prescription and production department.	4
9.	Organization of over-the-counter drugs.	4
10.	Organization of work of the department of sale of finished medicines according to doctors' prescriptions.	4
11.	Organization of the stock department.	4
12.	Organization of manufacturing and quality control of extemporaneous drugs. Quality control of medicines and other products of the pharmacy range.	4
13.	Automation of the pharmacy.	4
14.	Normative-legal and legislative acts of Ukraine on production activity and provision of sanitary-anti-epidemic regime of pharmacies.	4
15.	Tarot packing materials of drugstores. Obtaining purified water, quality control and storage conditions.	4
16.	Normative-legal and legislative acts of Ukraine, requirements to NAP (GPP) for production of non-sterile medicines.	4
17.	Dosage, packaging, packaging and registration before the release of solid drugs.	4
18.	Dosage, packaging, packaging and registration before release of liquid medicines.	4
19.	Dosage, packaging, wrapping and pre-release of soft medicines.	4
20.	Normative-legal and legislative acts of Ukraine, requirements to NAP (GPP) to provide aseptic conditions for the manufacture of medicines in pharmacies.	4
	Together	80

15. LIST OF INDIVIDUAL TASKS

1. 1. Writing and defense of the abstract.

Topics:

- "History of medicine and pharmacy as a science and subject of teaching."
 - "Development of medicine and pharmacy in Ukraine from ancient Russia to the eighteenth century."
 - "Development of medicine and pharmacy in Ukraine in the first half of the twentieth century."
 - "Modern medicine and pharmacy in the World."
 - "Regulatory and legislative acts of Ukraine, requirements for GPP to provide aseptic conditions for the manufacture of medicines in the conditions of pharmacies."
2. Publication of reports in periodicals (abstracts, articles).
3. Production of visualization according to training programs (tables, visual accessories).
4. Production of stands, tables. Написання і захист реферату.

16. LIST OF THEORETICAL ISSUES TO THE MODULE

1. Knowledge of medicines in the community system.
2. Medicine and science of the times of slavery.
3. Medicine and science of ancient China.
4. Medicine and science of ancient India.
5. Medicine and science of ancient Egypt.
6. Medicine and science of ancient Greece.
7. The historical significance of the teachings of Hippocrates.
8. Ancient Roman Pharmacy. Principles of medical activity of Galen.
9. Knowledge of medicines of the early Middle Ages and the origin of alchemy.
10. The value of alchemy for the development of pharmacy.
11. Medicine and science of the East.
12. Avicenna's life and medical activities. Avicenna's works on drug knowledge.
13. Medical School in Salerno.
14. The emergence of the first pharmacies in Europe.
15. Paracelsus' life and views.
16. The development of science in the XVIII century.
17. Medicine and pharmacology of the centralized Russian state.
18. The first pharmacies and their role in the formation of pharmacy in.
19. Pharmacy order: role, functions, directions of activity.
20. The development of pharmacy in the HUS century.
21. The emergence of the first Ukrainian pharmacies.
22. Development of pharmaceutical science in Ukraine.
23. Formation and development of pharmacy business in Ukraine.
24. State and prospects of development of pharmaceutical industry in Ukraine.
25. The main tasks and functions of the pharmacy.
26. Organizational structure of the pharmacy.
27. The concept of Good Pharmacy Practice.
28. Principles of classification of pharmacies.
29. Nomenclature of posts of pharmacy staff.
30. Requirements for pharmacy staff.
31. Pharmaceutical subdivisions.
32. Sanitary-anti-epidemic regime of pharmacies.
33. Tasks and functions of the recipe production department.
34. Organization of the workplace of a prescriber for taking prescriptions and dispensing medicines.
35. Recipe - definition, main functions.
36. Types of recipes, forms of prescription forms.
37. Procedure for carrying out intra-pharmacy quality control of extemporaneous drugs.

38. Organization of incoming quality control of drugs and other products of pharmacy assortment.
39. Basic rules of storage of medicines and goods of the pharmacy assortment.
40. The task of automation of the pharmacy
41. Requirements for the packaging, packaging and clearance of non-prescription soft leave medicines according to the Standards of the Ministry of Health 42-4.5: 2015.
42. Modern types of packaging of liquid and soft medicines.
43. Devices and equipment used for the manufacture of soft dosage forms.
44. General requirements for the manufacture of sterile medicines in a pharmacy.
45. Requirements for staff of a pharmacy engaged in the manufacture of sterile and aseptic drugs.
46. List of pharmacy premises, their functional purpose and characteristics.
47. Safety precautions when working in the premises of a pharmacy.
48. Requirements for the production and office premises of the pharmacy and sanitary requirements for their cleaning.
49. Requirements for personal hygiene of pharmacy staff.

17. LIST OF PRACTICAL TASKS AND WORKS FOR THE FINAL MODULAR CONTROL

- compilation of the algorithm for placing pharmacy departments. Acquaintance with the company's documentation.
- filling in schemes and tables of development of pharmacy and medicine from ancient times to the present
- solving situational problems.

18. CONTROL METHODS

The final control is carried out at the 2nd practical session after the completion of module 1. The theoretical knowledge and practical skills and abilities are controlled. The maximum number of module control points is 200. A module is counted if the student has earned at least 120 points.

The initial level is determined at the first practical session by means of a written test work consisting of 10 test tasks.

Current control is carried out during the practical training in the form of:

- individual oral questioning on theoretical questions based on the recommended literature, which are included in methodical developments on relevant topics;
- in the form of test tasks with one correct answer and solving situational tasks on the topic of the lesson based on the recommendations in methodical development;
- in the form of written test papers.

The final control is carried out upon completion of the module and includes the control of theoretical knowledge, practical skills and competences (checking the level of mastering practical skills in the form of oral questioning and solving test tasks).

Forms of final modular control of learning success should be standardized and include control of theoretical and practical training and should be carried out in the form of solving test problems and situational problems. The final lesson is held in 3 stages:

Stage I - is a test control of the level of theoretical training of students. Each student is offered 10 test assignments, which are rated at 2 points for each;

Stage II - individual written test work, containing 5 control questions. The correct answer to each question is 10 points;

Stage III - check the level of mastering practical skills in the form of oral interviews from the main sections of pharmacy introduction: the concept of pharmacy, functions of pharmacy, historical aspects of pharmacy, the concept of scientists of the twentieth century, types of regulations on sanitary regime in pharmacy, concept of modern scientists of medicine and pharmacy. This stage is rated at 10 points.

Final control is allowed for students who have fully attended the classroom training in the discipline provided in the curriculum and have scored at least a minimum of points when studying the module. A student who has not completed all the types of work required by the curriculum, for good reason, is corrected to the individual curriculum and allowed to complete the academic debt by a specified deadline.

19. EVALUATION OF STUDENT TRAINING LEVEL FOR DISCIPLINE

Module evaluation

Assessment for the module is determined on the basis of the sum of the assessments of the current educational activity (in points) and the assessment of the final module control (FMC) (in points), which is exposed when assessing theoretical knowledge and practical skills according to the lists determined by the discipline program.

The maximum number of points a student can earn while studying for each module is 200, including:

for current educational activity - 120 points;

according to the results of the final module control - 80 points.

Evaluation of current educational activities

During the assessment of mastering of each topic of the module, students are given grades on a 4-point (traditional) scale and on a 200-point scale, using accepted and approved assessment criteria for the respective discipline. This takes into account all types of work provided by methodological development for the study of the topic. The student must **receive a grade on each topic**. Traditionally rated scores are converted into scores based on the number of topics in the module.

for full-time education

Module number number of study hours / amount of credit	Number of content modules, their numbers	Number of practical classes	Conversion to traditional scores							The minimum number of points
			Traditional marks				Score for completing an individual assignment as a type of IW			
			«5»	«4»	«3»	«2»	«5»	«4»	«3»	
Module 1 90/3,0	3	18	6	5	4	0	12	8	4	76

* 1 removal of module 1 - not evaluated

for part-time forms of study

Module number number of study hours / amount of credit	Number of content modules, their numbers	Number of practical classes	Conversion to traditional scores							The minimum number of points
			Traditional marks				Score for completing an individual assignment as a type of IW			
			«5»	«4»	«3»	«2»	«5»	«4»	«3»	
Module 1 90/3,0	2	2	50	40	30	0	20	15	10	70

The maximum number of points that a student can earn for his / her current educational activity is 120 points. It is calculated by adding up the number of points corresponding to the grade of "excellent" at each practical session ($6 \times 18 = 108 + 12$) with the addition of the maximum number of points for individual independent work.

The minimum number of points that a student can earn while studying the module is calculated by summing the number of points corresponding to the grade "3" in each class: $4 \times 18 = 72$, with the minimum number of points for individual independent work (4): $72 + 4 = 76$.

Assessment of individual work of the student: the number of points for different types of individual independent work of the student depends on its scope and significance, but is not more than 12 points.

So:

A score of 5 is converted to 12 points;

"4" - 8 points;

"3" - in 4 points.

The maximum number of points that a student can score for the current academic activity is 120 points. It is calculated by adding the number of points corresponding to the grade "excellent" in each practical lesson ($50 \times 2 = 100 + 20$) with the addition of the maximum number of points for individual independent work.

The minimum number of points that a student can score when studying the module is calculated by adding the number of points corresponding to the grade "3" in each lesson: $30 \times 2 = 60$ with the addition of the minimum number of points for individual work (10): $60 + 10 = 70$.

Assessment of individual student work: the number of points for different types of individual independent work of the student depends on its scope and significance, but is not more than 20 points.

So:

Grade "5" is converted into 20 points;

"4" - 15 points;

"3" - in 10 points.

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20.4. Information resources

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2. www.moz.gov.ua - the official website of the Ministry of Health of Ukraine
3. fp.com.ua - site of «Pharmacist Practice» magazine
4. www.provisor.com.ua - the official site of «Provisor» magazine

21. COMPILER OF THE GUIDE FOR STUDENT (SILABUS)

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