

NATIONAL UNIVERSITY OF PHARMACY

Department of Commodity Science

“ ASSERTED ”

The Head of the Commodity
Science Department

_____ prof. I.I. Baranova
“ _____ ” _____ 2014 roky

WORKING PROGRAM OF THE DICIPLINE

Pharmaceutical and medical commodity science

training direction _____ 1102,1202 - Pharmacy _____

for speciality _____ 8.110201, 8.12020101- Pharmacy _____

faculty _____ Pharmaceutical _____

2014 – 2015 academic year

The Working Program Pharmaceutical and medical commodity science for students
(назва навчальної дисципліни)
in the training direction 1102,1202 - Pharmacy, for speciality 8.110201, 8.12020101 - Pharmacy

The working program is composed by: I. I. Baranova prof., Doctor of Pharmacy,
Breusova S.V. Ass. prof., PhD

Working Program is approved at the meeting of the Department of Commodity Science
Protocol from “ 01 ” september 2014 year № 1

The Head of the Commodity Science Department

_____ (Baranova I.I.)
(signature) (name)

1. Description of the course

Name of indicators	Area of knowledge, training direction, education level	Description of the course				
		full-time education	correspondence			
Number of credits –4	direction of training <u>1102, 1202 - " Pharmacy "</u> (шифр і назва)	Regulatory (optional)				
Modules – 2	Speciality (professional direction): <u>8.110201, 8.12020101 - Pharmacy</u> (5,0) engl.	Year of training:				
Content modules – 4		4th, 5th	4 th			
Individual scientific and research task _____ (name)		Semester				
Total number of hours (day) - 144		8 th, 10 th	8-й, 9 th			
		Lectures				
Weekly hours for full-time study: classroom - 78 independent work of the student - 66	Educational qualification: Magister	hours		hours		
		10	4			
		Practical, seminars			hours	
		hours		hours		
		Laboratory				
		hours		hours		
		40	24			
		Self-study work				
		hours		hours		
		40	26			
		Individual tasks (corresp.): hours KR				
		Type of control: MC, credit				

Note.

The ratio of hours of classroom training for independent and individual work is:
for full-time education – 54,17 % : 45,83 %
for correspondence course-

2. Purpose and Objectives of the course

Purpose: - studying of factors, determining quality of goods;
 - improvement of quality monitoring of goods;
 - organization of rational methods of storage of goods;
 - mastering by techniques to provide inspection analysis;
 - studying of requirements to quality of goods and materials and rules of their acceptance.

The modern graduate of pharmaceutical high school or faculty should perfectly know information:

- determination of commodity types groups of goods and materials by their functional characteristics, labelling and so forth;
- choice of the normative documentation for carrying out of inspection analysis of quality of goods and materials;
- choice of methods for estimation of quality of materials and goods;
- forecasting of influence of various factors on quality of goods and accepting actions preventing this influence;
- registration of the documentation at acceptance, storage, release and write-off of goods.

As a result of study of the course the student should know:

1. Standard documentation for medical and pharmaceutical products.
2. The range of types and brands of medical and pharmaceutical products.
3. Conditions of transportation of medical and pharmaceutical products.
4. Order of providing of inspection analysis of medical and pharmaceutical products.
5. Evaluation of quality of the goods by indicators: appearance, packaging, labeling products.
6. Rules of acceptance of the goods.
7. Accompanying documentation for specific types of goods.
8. Storage conditions for each group of products.

be able to:

1. To check appropriateness of the proposed document in accordance with the contract for the supply of products.
2. To make the necessary documents in identifying shortages of goods in quantity.
3. To validate shipping container labels.
4. To complete the necessary documentation to receive the goods in a department store.
5. To spread adopted by department store goods.
6. To accept and release product based on its expiration date.
7. To check correct storage of drugs on the premises for storage in the pharmacy.
8. To accept oxygen medical in pharmacy from the provider.

9. To release medical oxygen to consumer in pharmacy.
10. To determine the absorption capacity of medical cotton wool.
11. To identify capillarity and neutrality of medical cotton wool.
12. To identify wettability, capillarity and neutrality of medical gauze.
13. To divide surgical instruments by groups.
14. To verify correspondence of surgical instruments to the requirements of standard.
15. To provide inspection analysis of syringes according to normative documentation.
16. To provide inspection analysis of needles for injections according to normative documentation.
17. To provide inspection analysis of spectacle lenses according to normative documentation.
18. To read prescription for eyeglass lenses.
19. To divide glass containers in accordance with its classification and destination.
20. To divide glass closures in accordance with its classification and destination.
21. To accept polymeric containers in accordance with normative documentation.
22. To provide inspection analysis of glass containers of correspondence to technical requirements.
23. To make conclusion about reuse of shipping containers.
24. To make marking of shipping containers.
25. To issue document for acceptance of glass-rod containers from warehouse.
26. To make marking of drug after decanting in pharmaceutical warehouse.
27. To verify correctness of marking of ready-made drug.
28. To make conclusion about correctness of ready-made drugs placement on shelves of warehouse.
29. To identify type of retail container of ready-made drug.
30. To accept ready dressing in accordance with normative documentation.
31. To verify correctness of storage of medical items from rubber.
32. To provide inspection analysis of medical item from rubber to know its suitability to use and propose method of its renovation.
33. To name medical items from rubber.
34. To make conclusion about correctness of storage of mineral water.
35. To provide acceptance of mineral water in pharmacy.
36. To verify correctness of storage of medical leeches.

3. Program of academic discipline

Submodule 1. Theoretical bases of commodity science. Normative documentation. Classifying and coding of goods. Package, labelling and transportation of medical goods. Shipping containers.

Topic 1. Theoretical bases of commodity science.

Topic 2 . Normative documentation for medical and pharmaceutical goods.

Topic 3 . Inspection analysis of medical equipment.

Topic 4 . Classifying and coding of goods.

Topic 5 . Bases of inspection analysis of medical and pharmaceutical goods.

Topic 6. Inspection analysis of technical means for traumatology.

Topic 7. Packing, marking and transportation of medical goods. Shipping containers.

Topic 8. Inspection analysis of tools for survey, endoscopy and introscopy

Submodule 2. Bases of materiology (metal, non-metal materials). Medical tools, suture materials and items of medical technics.

Topic 9. Bases of materiology of medical and pharmaceutical goods. Metallic materials, which are used in medicine and pharmacy.

Topic 10. Inspection analysis of common surgery tools: cutting, clamping, probing and bougienage.

Topic 11. Inspection analysis of equipment for stomatology.

Topic 12. Inspection analysis of special tools: neuro-surgical, ophthalmologic and otorhinolaryngologic.

Topic 13. Inspection analysis of special tools: urological, obstetric-gynecologic.

Topic 14. Nonmetallic materials. Rubber, glass, ceramic and items of them. Inspection analysis of rubber items and devices for medical care.

Topic 15. Polymeric materials and plastics, which are used in pharmacy.

Topic 16. Inspection analysis of suture materials and piercing needles.

Topic 17. Inspection analysis of tools and devices for punctures, injections, transfusions and aspiration.

Topic 18. Inspection analysis of dressings materials and ready dressings.

Topic 19. Ophthalmic optics. inspection analysis of devices and apparatus for diagnosis, correction and protection of vision organs.

Topic 20. New directions in the improvement of consumer properties wares pharmaceutical and medical.

Topic 21. Perspective directions in creation of new types of containers and package.

Submodule 3. Pharmaceutical goods of a small range (rubber items, dressings and ready dressing means, ocular optics and others). Containers for pharmaceutical application, closures and packing materials.

Topic 22. Inspection analysis of equipment for disinfection, pre-sterilization processing and sterilization.

Topic 23. Inspection analysis of pharmaceutical goods of a small range.

Topic 24. Oxygen and nitrous oxide, which are used in medicine. Inspection analysis of Oxygen, respiratory and anesthetic apparatus.

Topic 25. Containers for pharmaceutical application. Closures and modern package materials in pharmacy.

Submodule 4. Package, marking, transportation of medical products. Organization of storage of medical products and items of medical purpose. Acceptance of goods in pharmaceutical warehouse.

5. Topics of lectures

№	Name of topic	Quantity of hours
		5,0 d
1	Theoretical bases of commodity science.	0,5
2	Normative documentation for medical and pharmaceutical goods.	0,5
4	Classifying and coding of goods.	1
5	Bases of inspection analysis of medical and pharmaceutical goods.	1
7	Packing, marking and transportation of medical goods. Shipping containers.	2
9,10	Bases of materiology of medical and pharmaceutical goods. Metallic materials, which are used in medicine and pharmacy. Inspection analysis of common surgery tools: cutting, clamping, probing and bougienage.	1
14	Nonmetallic materials. Rubber, glass, ceramic and items of them. Inspection analysis of rubber items and devices for medical care.	1
23	Inspection analysis of pharmaceutical goods of a small range.	1
25	Containers for pharmaceutical application. Closures and modern package materials in pharmacy.	2
26	Packing, marking and transporting of drugs.	2
28	Acceptance of goods in pharmaceutical warehouse.	1
31	Organization of storage of drugs and items of medical use	1
	Total:	14

6. Topics of laboratory classes

№	Name of topic	Quantity of hours
		5,0 d
1	Theoretical bases of commodity science.	0,5
2	Normative documentation for medical and pharmaceutical goods.	3,5
4	Classifying and coding of goods.	4
5	Bases of inspection analysis of medical and pharmaceutical goods.	4
7	Packing, marking and transportation of medical goods. Shipping containers.	4
9,10	Bases of materiology of medical and pharmaceutical goods. Metallic materials, which are used in medicine and pharmacy. Inspection analysis of common surgery tools: cutting, clamping, probing and bougienage.	4
14	Nonmetallic materials. Rubber, glass, ceramic and items of them. Inspection analysis of rubber items and devices for medical care.	4
16	Inspection analysis of suture materials and piercing needles.	4
17	Inspection analysis of tools and devices for punctures, injections, transfusions and aspiration.	4

18	Inspection analysis of dressings materials and ready dressings.	4 -
19	Ophthalmic optics. inspection analysis of devices and apparatus for diagnosis, correction and protection of vision organs.	3 -
23	Inspection analysis of pharmaceutical goods of a small range.	4
25	Containers for pharmaceutical application. Closures and modern package materials in pharmacy.	4
26	Packing, marking and transporting of drugs.	4
28	Acceptance of goods in pharmaceutical warehouse.	4
31	Organization of storage of drugs and items of medical use	6
	Final modular control	3
	Total:	64

7. Self-study

№	Name of topic	Quantity of hours
		5,0 d
3	Inspection analysis of medical equipment.	3
6	Inspection analysis of technical means for traumatology.	3
8	Inspection analysis of tools for survey, endoscopy and introscopy.	4
11	Inspection analysis of equipment for stomatology.	5
12	Inspection analysis of special tools: neuro-surgical, ophthalmologic and otorhinolaryngologic.	5
13	Inspection analysis of special tools: urological, obstetric-gynecologic.	5
15	Polymeric materials and plastics, which are used in pharmacy.	5
20	New directions in the improvement of consumer properties wares pharmaceutical and medical.	5
21	Perspective directions in creation of new types of containers and package.	5
22	Inspection analysis of equipment for disinfection, pre-sterilization processing and sterilization.	6
24	Oxygen and nitrous oxide, which are used in medicine. Inspection analysis of Oxygen, respiratory and anesthetic apparatus.	6
27	Inspection analysis of pharmaceutical goods.	3
29	Inspection analysis of laboratory and pharmacy glassware, equipment and facilities for small-scale mechanization.	3
30	Small tools for laboratories and pharmacies.	3
32	Inspection analysis of equipment for laboratories and pharmacies.	5
	Total:	66

8. Individual tasks

Full-time students are given topics for self-study, they must disclose in detail, to make them relevant requirements of the department and on time during the semester to pass the final testing.

9. Methods of education

In the course of teaching, the following teaching methods are used:

- Oral (lecture, story, explanation, discussion);
- Visual (illustration, illustrative materials, products for medical purpose, appliances and equipment, pharmaceutical products, medicines, containers and closures, mock-up, pharmaceutical products of a small range, etc..)
- Practical (laboratory work, tasks, situational tasks).

10. Methods of control

Full-time - current testing and oral control after each topic, content control module, which includes some questions for self-study; final module control.

Correspondence - current testing and oral control after each topic, the final module control and test on the control work.

Current control is performed on each practical class according to specific goals of the theme and during individual work of a student with a teacher for those themes which are self-studied by a student and not included into structure of practical class.

Current control of student

Traditional mark	Score
5 - perfectly	27-30
4 - good	23-26
3 - satisfactory	18-22
2 - unsatisfactory	1-17

Maximum quantity of points, given to students for mastering the module is 100, including 60 points for current educational activity (for each semantic module– 30 points), 40 points – by results of modular control.

Modular control of student progress

Traditional marks	Score
5 - perfectly	36-40
4 - good	31-35
3 - satisfactory	25-30
2 - unsatisfactory	0-24

11. Distribution of points that students get Module 1

Current testing and self-study										Final test	Sum
Submodule № 1				Submodule № 2							
T. 1-3	T. 4	T. 5-6	T. 7-8	T. 9-11	T.12-14	T.15-16	T.17	T.18	T.19-21	40	100
7,5	7,5	7,5	7,5	5	5	5	5	5	5		
30				30							

T1, T2 ... T9 – topics of submodules.

Module 2

Current testing and self-study							Final test	Test
Submodule № 3				Submodule № 4				
T.22-23	T.24-25			T. 26-27	T.28-30	T.31-32	40	100
15	15			10	10	10		
30				30				

Scale of evaluation: national and ECTS

Score for all types of educational process	ECTS	Mark according to national score	
		For exam, course project (work), practice	For credit
90 – 100	A	perfectly	passed
82-89	B	good	
74-81	C		
64-73	D		
60-63	E	satisfactory	Not passed with the possible re-passing of discipline
35-59	FX	unsatisfactory with the possible re-passing of discipline	
0-34	F	unsatisfactory with the obligatory re-passing of discipline	

12. Methodological support

1. Normative documentation: standards (ДСТУ, ДСТУ ISO, ГОСТ, ГСТУ, СТП), ТУ У, АRD, ДФУ, Catalogs, Classificators, Guides.
2. Assortment of retail containers for different devices for medical purpose, materials for packing.
3. Assortment of tools for common use.
4. Assortment of suture materials and piercing needles.
5. Assortment of tools and devices for punctures, injections, transfusions and aspiration and other devices for pharmaceutical and medical use.

13. LIST of TRAINING-METHODICAL LITERATURE

The basic literature:

1. Батутіна А.П., Ємченко І.В. Експертиза товарів: Навчальний посібник. – К.: ЦУЛ, 2003. – 278 с.
2. Биологически активные перевязочные и хирургические шовные материалы /П.И.Толстых, В.К.Гостинцев, А.Д.Вирник, Б.Н.Арутюнян //Хирургия. – 1988. – №4.– С. 3–8.
3. Васнецова О.А. Медицинское и фармацевтическое товароведение: Практикум, М.: ГЭОТАР-Медиа, 2005. – 704 с.
4. Васнецова О.А. Медицинское и фармацевтическое товароведение: Учебник для вузов, М.: ГЭОТАР-Медиа, 2005. – 605 с.
5. Возможности использования субстерилизующих доз ионизирующего излучения для получения стерильной продукции медицинского назначения /В.В. Бочкарев, Е.П. Павлов, В.Г. Хрущев и др. //Хим.-фармац. журн. – 1986. – Т. 20, №10. – С. 1260–1262.
6. ГОСТ 17768-90. Средства лекарственные. Упаковка, маркировка, транспортирование и хранение.
7. Державна Фармакопея України. – 1-е вид. – Харків: Рирег, 2001. – 531 с.
8. Державний класифікатор продукції та послуг (ДКПП) – ДК 016:2010, введеного с 01.01.2012г. – К. : ДП «Укрметртестстандарт» , 2012. – 1833с.
9. Дремова Н.Б. Медицинское и фармацевтическое товароведение: Учебное пособие. – Курск: КГМУ, 2005. – 520с.
10. ДСТУ 3993-2000. Товарознавство. Терміни та визначення.
11. Дурнев, В. Д. Экспертиза и управление качеством промышленных товаров / В. Д. Дурнев, С. В. Сапунов, В. К. Федюкин. – СПб. : Питер, 2004.- 253с.
12. Жиряева, Е.В. Товароведение / Е. В. Жиряева, – СПб. : Питер, 2003. – 416с.
13. Коди та кодування інформації. Штрихове кодування. Маркування об'єктів ідентифікації. Штрихові позначки EAN.: ДСТУ 3146-95. – [Чинний від 1996-01-01]. – К.: Держстандарт України, 1995. – 18с.
14. Медицинское и фармацевтическое товароведение : практикум / В. Г. Демьяненко, В. А. Афанасьева, А. В. Проскочило, С. В. Бреусова; под ред. проф. В. Г. Демьяненко. – К. : ВСИ “Медицина”, 2010. – 296 с.

15. Медицинское и фармацевтическое товароведение: пособие в 2 частях. Часть 1 / В. Г. Демьяненко, Д. В. Демьяненко, А. В. Проскочило, С. В. Бреусова; под ред. проф. В. Г. Демьяненко. - Х.: НФаУ, 2012. -168 с.
16. Медицинское и фармацевтическое товароведение: пособие в 2 частях. Часть 2 / В. Г. Демьяненко, Д. В. Демьяненко, А. В. Проскочило, С. В. Бреусова; под ред. проф. В. Г. Демьяненко. - Х.: НФаУ, 2012. -141 с.
17. Національна стандартизація / Національні стандарти України. – К. : Держспоживстандарт України, 2003. – 199с.
18. Николаева, М. А. Теоретические основы товароведения : учеб. для вузов / М. А. Николаева. – М. : Норма, 2007. – 448с.
19. Про затвердження Інструкції про порядок контролю якості лікарських засобів під час оптової та роздрібної торгівлі : наказ МОЗ України № 436 від 30.10.2001. [Електронний ресурс]. – Режим доступу <http://zakon.rada.gov.ua/laws/show/z0107-02> – К. : Державна служба України з лікарських засобів, 2001.
20. Средства лекарственные. Упаковка, маркировка, транспортирование и хранение: ГОСТ 17768-90 – [Дата введения 01.01.92]. – М. : Издательство стандартов, 1991. – 16с.
21. Сырье лекарственное растительное. Упаковка, маркировка, транспортирование и хранение.: ГОСТ 6077-80. – [Дата введения 01.07.80] – Минск : Межгосударственный Совет по стандартизации, метрологии и сертификации, 1980. – 4с.
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Additional literature:

1. Алексеева Н.С., Ганцов Ш.К., Кутянин Г.И. Теоретические основы товароведения непродовольственных товаров. – М.: Экономика, 1988. – 403 с.
2. Андриенко В.Н., Литвиненко Ю.П. Материаловедение товаров народного потребления. Учеб. Пособие – К.: Київ. торг.-екон. ін-т., 1990. – 95 с.
3. Асептика и антисептика: Справочник / Под ред. О.Кудинова. – Ростов н/Д:
4. Бублевский И.М., Ускова Е.А. Использование полимерного сырья для изготовления транспортной тары. – Кишинев, 1989. –297 с.
5. Бурова М. Товароведение непродовольственных товаров. – М.: «Издательство ПРИОР», 1991. –160 с.
6. Варченко В.Г. Візуальні методи для виявлення підроблених або субстандартних лікарських засобів./ В.Г.Варченко, С.В.Сур. - К.: Моріан, 2001. – 16 с.
7. Гильмутуннов Н.Г. Промышленный метод рациональной стерилизации кетгута с атравматическими иглами в полимерной упаковке //Хим.-фармац. журн., 1985.– Т.19. –№5. –С. 618–620.

8. Гончарук Т. «Фальсификаты и субстандарты» – две стороны одной монеты //Провизор. – 2002. - № 7. – С. 3.
9. Гризодуб А.И., Георгиевский В.П. К проблеме создания национальной системы стандартизации лекарственных средств //Фармаком. –1995. –№7. – С. 5–6.
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11. Закон Украины «О защите прав потребителей» от 12 мая 1991 г. № 1023 – XII.
12. Кучерук О. Фальсифікація ліків: як їй запобігти // Еженедельник “Аптека”. – 2003. - № 46. – С. 81.
13. Медицинское и фармацевтическое товароведение : практикум в 2 частях. Часть 1. / Под редакцией профессора Демьяненко В.Г. - Х. : СПД ФО Бровін О.В., 2009. - 330с.
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17. Принципы товароведческого анализа аппаратов для изменения артериального давления и фармацевтической опеки при их реализации / Б. П. Громовик, Н. Б. Ярко, Н. В. Галайко, О.В. Садовник, А. А. Кухар и Ю. В. Иваськевич // Провизор. – №.15. – 2005. –С. 7–11.
18. Справочник товароведа. Непродовольственные товары: в 3-х томах. – М.: Экономика, 1998.
19. Тара и упаковка. – 1995. – №2. – С. 52–53.
20. Тара из полимерных материалов /Соломенко М.Г., Шредер В.Л. –М.: Химия, 1990. –398 с.
21. Фармацевтические технологии и упаковка. – 2011. – №1-6. – 90 - 100 с.
22. Фармацевтические технологии и упаковка. – 2012. – №1-6. – 90 - 100 с.
23. Фармацевтические технологии и упаковка. – 2013. – №1. – 85 с.
24. Фармацевтические технологии и упаковка. – 2013. – №2. – 95 с.
25. Фармацевтические технологии и упаковка. – 2013. – №3. – 100 с.
26. Медтехника. Лекарства. Изделия медицинского назначения. Дезсредства. – 2013. - № 1-6.

13. Information resources

1. <http://vsegost.com/Catalog/19/19282.shtml>
2. <http://www.norm-load.ru/SNiP/Data1/7/7389/index.htm>
3. www.eurolab.ua › Словари медицинских терминов › Общая медицина
4. Информационный портал об упаковке [Электронный ресурс]. www.upakovano.ru/materials/.../glass/1479.php

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