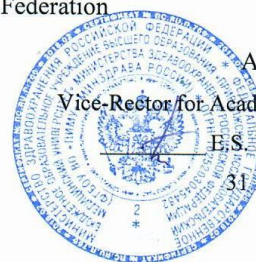


Federal State Budgetary Educational Institution of Higher Education  
"Privolzhsky Research Medical University"  
Ministry of Health of the Russian Federation



APPROVED

Vice-Rector for Academic Affairs

E.S. Bogomolova

31 August 2021

## WORKING PROGRAM

Name of the academic discipline: **PHARMACEUTICAL LOGISTICS**

Specialty: **33.05.01 PHARMACY**

Qualification: **PHARMACIST**

Department: **MANAGEMENT AND ECONOMICS OF PHARMACY AND  
PHARMACEUTICAL TECHNOLOGY**

Mode of study: **FULL-TIME**

Labor intensity of the academic discipline: **36 academic hours**

Nizhny Novgorod  
2021

The working program has been developed in accordance with the Federal State Educational Standard for the specialty 33.05.01 PHARMACY, approved by Order by Order of the Ministry of Science and Higher Education of the Russian Federation No. 219 of March 27, 2018.

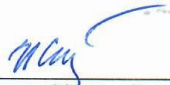
**Developers of the working program:**

Maxim Alekseevich Mishchenko, PhD in pharmaceutical sciences, associate professor of the Department of management and economics of pharmacy and pharmaceutical technology.

The program was reviewed and approved at the department meeting (protocol No. 9 of 29.04.2021).

Acting head of the Department,  
PhD in pharmaceutical sciences


29.04.2021

  
\_\_\_\_\_  
(signature) I.V. Spitskaya

AGREED

Deputy Head of EMA ph.d. of biology \_\_\_\_\_ Lovtsova L.V.

29.04.2021

  
(signature)

## **1. The purpose and objectives of mastering the academic discipline PHARMACEUTICAL LOGISTICS (hereinafter – the discipline):**

1.1. The purpose of mastering the discipline – participation in forming the following competencies:

- universal competencies (UC-9 (9.1-9.2));
- professional competencies (PC-5 (5.1-5.3)).

1.2. Tasks of the discipline:

1. Study of the basics of pharmaceutical logistics, basic concepts, tasks, functional subsystems, formation of channels of commodity distribution in the Russian pharmaceutical market.

2. Study of the principles of procurement logistics in the activities of a pharmaceutical organization, the procedure for selecting a supplier and documenting the relationship between the supplier and the buyer.

3. Familiarization with the production logistics of a pharmaceutical organization, pre-sale preparation of pharmaceutical goods, warehousing logistics.

4. Study of sales logistics, parameters of competitiveness of pharmaceutical organizations.

5. Study of transport logistics in the activities of pharmaceutical organizations.

5. Formation of competencies in systemic knowledge, skills and abilities of pharmaceutical logistics.

1.3. Requirements to the deliverables of mastering the discipline

As a result of completing the discipline, the student should

### **Know:**

- basic concepts of logistics, principles, functions and methods of logistics management
- features of organization and management of logistics systems of various types
- the main provisions of modern concepts of pharmaceutical logistics
- modern approaches to the management of material flows
- commodity distribution system in the pharmaceutical market
- supply chain of pharmaceutical organizations

### **Be able to:**

- apply theoretical knowledge in practice in the field of improving the efficiency of logistics systems
- analyze the problems of material flow management at pharmaceutical enterprises and find possible solutions to them in relation to a specific situation
- analyze the factors affecting the work of an economic entity and determine the prospects for development
- carry out the selection of premises for operation and their equipment, taking into account the type, volume of pharmaceutical activity and hygienic standards; supply pharmaceutical organizations with medicines allowed for release from pharmacy organizations;
- use the methods and principles of logistics in the promotion of goods in the pharmaceutical market

### **Possess:**

- skills in identifying problems in the field of organization and management of material flows of pharmaceutical organizations
- skills in the formation of a reliable supply chain, identifying ways to improve the efficiency of the functioning of pharmaceutical micrologistic systems
- the ability to determine the strategy and tactics of the development of a pharmaceutical organization, taking into account the influence of external factors
- methods of forming logistics channels, managing channels of commodity distribution,

for supplying medical and pharmaceutical organizations with medicines, medical devices and other goods allowed for release from pharmacy organizations

## **2. Position of the academic discipline in the structure of the General Educational Program of Higher Education (GEP HE) of the organization.**

**2.1.** The discipline refers to the part formed by the participants of educational relations of Block 1 of GEP HE (B1.PER.E.3).

The discipline is taught in the 8 semester/4 year of study.

### **2.2. The following knowledge, skills and abilities formed by previous academic disciplines are required for mastering the discipline:**

- introduction to the specialty;
- economic theory;
- mathematics;
- informatics;
- information support of the life cycle of medicines;
- information technologies in pharmacy;
- management and economics of pharmacy;
- medical and pharmaceutical commodity science;
- pharmaceutical propaedeutic practice.

### **2.3. Mastering the discipline is required for forming the following knowledge, skills and abilities for subsequent academic disciplines:**

- management and economics of pharmacy;
- legal basis of the pharmacist's activities;
- promotion of goods in the pharmaceutical market;
- organization of drug provision to the population;
- management and economics of pharmacies (production practice).

## **3. Deliverables of mastering the academic discipline and metrics of competence acquisition**

Mastering the discipline aims at acquiring the following universal (UC) and professional (PC) competencies:

№	Competence code	The content of the competence (or its part)	Code and name of the competence acquisition metric	As a result of mastering the discipline, the students should:		
				know	be able to	possess
1.	UC-9	Able to make informed economic decisions in various areas of life	UC-9.1. Knows the main points and methods of economic science and management, their legal reflection and provision in the Russian legislation; the current state of the world economy and the peculiarities of the functioning of Russian	<ul style="list-style-type: none"> <li>– basic concepts of logistics, principles, functions and methods of logistics management</li> <li>– features of organization and management of</li> </ul>	<ul style="list-style-type: none"> <li>– apply theoretical knowledge in practice in the field of improving the efficiency of logistics systems</li> <li>– analyze the problems of</li> </ul>	<ul style="list-style-type: none"> <li>– skills in identifying problems in the field of organization and management of material flows of pharmaceutical organizations</li> <li>– skills in the</li> </ul>

			<p>markets; the role of the state in coordinating long-term and short-term economic interests of societies.</p> <p>UC-9.2. Uses economic knowledge to understand the driving forces and patterns of the historical process, to analyze socially significant problems and solve social and professional tasks.</p>	<p>logistics systems of various types</p> <ul style="list-style-type: none"> <li>– the main provisions of modern concepts of pharmaceutical logistics</li> <li>– modern approaches to the management of material flows</li> <li>– commodity distribution system in the pharmaceutical market</li> <li>– supply chain of pharmaceutical organizations</li> </ul>	<p>material flow management at pharmaceutical enterprises and find possible solutions to them in relation to a specific situation</p> <ul style="list-style-type: none"> <li>– analyze the factors affecting the work of an economic entity and determine the prospects for development</li> <li>– carry out the selection of premises for operation and their equipment, taking into account the type, volume of pharmaceutical activity and hygienic standards; supply pharmaceutical organizations with medicines allowed for release from pharmacy organizations;</li> <li>– use the methods and principles of logistics in the promotion of goods in the pharmaceutical market</li> </ul>	<p>formation of a reliable supply chain, identifying ways to improve the efficiency of the functioning of pharmaceutical micrologistic systems</p> <ul style="list-style-type: none"> <li>– the ability to determine the strategy and tactics of the development of a pharmaceutical organization, taking into account the influence of external factors</li> <li>– methods of forming logistics channels, managing channels of commodity distribution, for supplying medical and pharmaceutical organizations with medicines, medical devices and other goods allowed for release from pharmacy organizations</li> </ul>
2.	PC-5	<p>Able to take part in planning and organizing the resource provision of a pharmaceutical organization</p>	<p>PC-5.1. Determines the economic indicators of inventories of medicines and other pharmacy products</p> <p>PC-5.2. Selects optimal suppliers and organizes purchasing processes based on the results of market research of suppliers of medicines for medical use and other pharmacy products</p> <p>PC-5.3. Controls the</p>	<ul style="list-style-type: none"> <li>– basic concepts of logistics, principles, functions and methods of logistics management</li> <li>– features of organization and management of logistics systems of various types</li> <li>– the main provisions of modern concepts</li> </ul>	<ul style="list-style-type: none"> <li>– apply theoretical knowledge in practice in the field of improving the efficiency of logistics systems</li> <li>– analyze the problems of material flow management at pharmaceutical enterprises and find possible</li> </ul>	<ul style="list-style-type: none"> <li>– skills in identifying problems in the field of organization and management of material flows of pharmaceutical organizations</li> <li>– skills in the formation of a reliable supply chain, identifying ways to improve the</li> </ul>

			<p>execution of contracts for the supply of medicines for medical use and other goods of pharmacy assortment</p>	<p>of pharmaceutical logistics</p> <ul style="list-style-type: none"> <li>– modern approaches to the management of material flows</li> <li>– commodity distribution system in the pharmaceutical market</li> <li>– supply chain of pharmaceutical organizations</li> </ul>	<p>solutions to them in relation to a specific situation</p> <ul style="list-style-type: none"> <li>– analyze the factors affecting the work of an economic entity and determine the prospects for development</li> <li>– carry out the selection of premises for operation and their equipment, taking into account the type, volume of pharmaceutical activity and hygienic standards; supply pharmaceutical organizations with medicines allowed for release from pharmacy organizations;</li> <li>– use the methods and principles of logistics in the promotion of goods in the pharmaceutical market</li> </ul>	<p>efficiency of the functioning of pharmaceutical micrologistic systems</p> <ul style="list-style-type: none"> <li>– the ability to determine the strategy and tactics of the development of a pharmaceutical organization, taking into account the influence of external factors</li> <li>– methods of forming logistics channels, managing channels of commodity distribution, for supplying medical and pharmaceutical organizations with medicines, medical devices and other goods allowed for release from pharmacy organizations</li> </ul>
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**4. Sections of the academic discipline and competencies that are formed when mastering them**

№	Competence code	Section name of the discipline	The content of the section in teaching units
1	UC-9 PC-5	Pharmaceutical Logistics	<p>Theoretical foundations of logistics. Evolution of logistics and the relevance of logistics management in the modern economy. Basic concepts of logistics. Business logistics. Pharmaceutical logistics. Objects of logistics management: material, information, financial, service and other flows. Logistics system, link of logistics system, logistics channel, logistics chain, logistics network. Properties of logistic systems. Logistics rule "7R". Procurement logistics. Transport logistics. Warehousing logistics. Production logistics. Inventory logistics. Distribution (sales) logistics. Development of a logistics strategy.</p>

## 5. Volume of the academic discipline and types of academic work

Type of educational work	Labor intensity		Labor intensity (AH) in semesters
	volume in credit units (CU)	volume in academic hours (AH)	
Classroom work, including	0,61	22	22
Lectures (L)	0,17	6	6
Laboratory practicum (LP)*	Laboratory practicums are not stipulated		
Practicals (P)	0,5	18	18
Seminars (S)	Seminars are not stipulated		
Student's individual work (SIW)	0,33	12	12
Mid-term assessment			
credit/exam ( <i>specify the type</i> )			credit
<b>TOTAL LABOR INTENSITY</b>	<b>1</b>	<b>36</b>	<b>1</b>

## 6. Content of the academic discipline

### 6.1. Sections of the discipline and types of academic work

№	Name of the section of the academic discipline	Types of academic work* (in AH)					
		L	LP	P	S	SIW	total
1	Pharmaceutical Logistics	6		18		12	36
	<b>TOTAL</b>	<b>6</b>		<b>18</b>		<b>12</b>	<b>36</b>

\* - L – lectures; LP – laboratory practicum; P – practicals; S – seminars; SIW – student's individual work.

### 6.2. Thematic schedule of educational work types:

#### 6.2.1 Thematic schedule of lectures

No	Name of lecture topics	Volume in AH
		8
1.	Theoretical foundations of logistics	2
2.	The main types of pharmaceutical logistics	4
	<b>TOTAL (total – 6 AH)</b>	<b>6</b>

#### 6.2.2. The thematic plan of laboratory practicums

Laboratory practicums are not stipulated.

#### 6.2.3. Thematic plan of practicals

No	Name of the topics of practicals	Volume in AH
		8
1.	Theoretical foundations of logistics	4
2.	The concept and properties of logistics systems	2
3.	Procurement logistics	2
4	Transport logistics	2
5.	Warehousing logistics. Production logistics	2
6.	Inventory Logistics	2
7.	Distribution (sales) logistics	2
8	<b>CREDIT</b>	<b>2</b>
	<b>TOTAL (total – 18 AH)</b>	<b>18</b>

6.2.4. Thematic plan of seminars  
Seminars are not stipulated.

6.2.5. Types and topics of student's individual work (SIW)

No	Types and topics of SIW	Volume in AH
		8
1.	Working with literature and other sources of information on the studied section	4
2.	Assignments in the form of reports and speeches	4
3.	Working with electronic educational resources	4
4.	TOTAL (total – 12 AH)	12

**7. Types of assessment formats for ongoing monitoring and mid-term assessment**

№	Semester No.	Types of control	Name of section of academic discipline	Assessment formats		
				types	number of test questions	number of test task options
1	2	3	4	5	6	7
1.	8	Current monitoring: Control of mastering the topic Monitoring the student's individual work	Pharmaceutical Logistics	Tests	20	10
				Security questions	2	10
				Situational tasks	1	10
				Security questions	2	10
				Situational tasks	1	10
2.	8	Intermediate attestation: offset		Tests	20	10
				Security questions	2	10
				Situational tasks	1	10

**8. Educational, methodological and informational support for mastering the academic discipline (printed, electronic publications, the Internet and other network resources)**

8.1. Key literature references

№	Name according to bibliographic requirements	Number of copies	
		at the department	in the library
1	The system of legislative regulation of circulation of medicines: Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 77 p.	electronic resource	
2	Fundamentals of state legislation on manufacturing of medicines: Textbook / M M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 56 p.	electronic resource	
3	Fundamentals of state legislation on pharmaceutical	electronic resource	



	activities: Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 50 p.	
4	The concept of good practices in the pharmaceutical regulatory system: Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 57 p.	electronic resource
5	Fundamentals of pharmaceutical economics: Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 125 p.	electronic resource
6	Prices and pricing in the pharmaceutical market: Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 77 p.	electronic resource
7	Product policy of a pharmaceutical organization: Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 90 p.	electronic resource
8	Fundamentals of planning economic indicators: Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 78 p.	electronic resource
9	Planning of trade turnover of a pharmaceutical organization: Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 78 p.	electronic resource
10	Planning of distribution costs of a pharmaceutical organization: Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 60 p.	electronic resource
11	Income and profit planning of a pharmaceutical organization: Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 70 p.	electronic resource
12	Accounting of financial and economic activities of a pharmacy organization: Textbook / M.A. Mishchenko, S.V. Kononova, N.N. Chesnokova, A.A. Ponomareva, E.V. Shalenkova. – Nizhny Novgorod, 2022. – 74 p.	electronic resource
13	Specific issues of accounting for the property of a pharmacy organization: Textbook / M.A. Mishchenko. – Nizhny Novgorod, 2022. – 50 p.	electronic resource
14	Basic principles of accounting of settlements with the personnel of a pharmacy organization: Textbook / M.A. Mishchenko. – Nizhny Novgorod, 2022. – 50 p.	electronic resource
15	The tax concept and tax management of pharmaceutical organizations: Textbook / M.A. Mishchenko. – Nizhny Novgorod, 2022. – 52 p.	electronic resource

## 8.2. Further reading

№	Name according to bibliographic requirements	Number of copies	
		at the department	in the library
1	The medicine lifecycle concept: Textbook / M.A. Mishchenko, S.V. Kononova, A.A Ponomareva. – Nizhny Novgorod, 2020. – 80 p.	electronic resource	
2	Information technologies in the medicine lifecycle management: Textbook / M.A. Mishchenko, S.V. Kononova, A.A Ponomareva. – Nizhny Novgorod, 2020. – 99 p.	electronic resource	
3	Evaluating the quality of pharmaceutical information: Textbook / M.A. Mishchenko, S.V. Kononova, A.A Ponomareva. – Nizhny Novgorod, 2020. – 98 p.	electronic resource	
4	Analysis and processing of pharmaceutical information: Textbook / M.A. Mishchenko, S.V. Kononova, A.A Ponomareva. – Nizhny Novgorod, 2020. – 95 p.	electronic resource	
5	Post-marketing evaluation of medicinal products – pharmacoepidemiology: Textbook / M.A. Mishchenko, S.V. Kononova, A.A Ponomareva. – Nizhny Novgorod, 2020. – 53 p.	electronic resource	
6	Post-marketing evaluation of the medicinal products – pharmacoeconomics: Textbook / M.A. Mishchenko, S.V. Kononova, A.A Ponomareva. – Nizhny Novgorod, 2020. – 107 p.	electronic resource	
7	Post-marketing evaluation of medicinal products – pharmacovigilance: Textbook / M.A. Mishchenko, S.V. Kononova, A.A Ponomareva. – Nizhny Novgorod, 2020. – 70 p.	electronic resource	
8	Fundamentals of the state regulation of pharmaceutical information that is advertising: Textbook / M.A. Mishchenko, S.V. Kononova, A.A Ponomareva. – Nizhny Novgorod, 2020. – 109 p.	electronic resource	

### 8.3. Electronic educational resources for teaching academic subjects

#### 8.3.1. Internal Electronic Library System of the University (IELSU)

№	Name of the electronic resource	Brief description (content)	Access conditions	Number of users
1	Internal electronic library system (IELS) <a href="http://nbk.pimunn.net/MegaPro/Web">http://nbk.pimunn.net/MegaPro/Web</a>	Works of university teaching staff: textbooks, manuals, collections of tasks, teaching aids, laboratory works, monographs, collections of scientific works, scientific articles, dissertations, abstracts of dissertations, patents	From any computer and mobile device with individual login and password. Access mode: <a href="http://nbk.pimunn.net/MegaPro/Web">http://nbk.pimunn.net/MegaPro/Web</a>	Not limited

#### 8.3.2. Electronic educational resources acquired by the University

<i>№</i>	<i>Name of the electronic resource</i>	<i>Brief description (content)</i>	<i>Access conditions</i>	<i>Number of users</i>
1	Electronic legal reference system "Consultant Plus" (contract for free) <a href="http://www.consultant.ru">http://www.consultant.ru</a>	Regulatory documents regulating the activities of medical and pharmaceutical institutions From the scientific library computers	Access mode: <a href="http://www.consultant.ru/">http://www.consultant.ru/</a>	Not limited Term of validity: Unlimited

### 8.3.3 Open access resources

<i>№</i>	<i>Name of the electronic resource</i>	<i>Brief description (content)</i>	<i>Access conditions</i>
1	PubMed <a href="https://www.ncbi.nlm.nih.gov/pubmed">https://www.ncbi.nlm.nih.gov/pubmed</a>	US National Library of Medicine search engine for Medline, PreMedline databases	From any computer and mobile device. Access mode: <a href="https://www.ncbi.nlm.nih.gov/pubmed">https://www.ncbi.nlm.nih.gov/pubmed</a> Not limited
2	Scopus database <a href="http://www.scopus.com">www.scopus.com</a>	International abstract database of scientific citation From university computers, from any computer by individual login and password	Access mode: <a href="http://www.scopus.com">www.scopus.com</a> Not limited
3	Web of Science Core Collection <a href="https://www.webofscience.com">https://www.webofscience.com</a>	International abstract database of scientific citation. From university computers, from any computer by individual login and password.	Access mode: <a href="https://www.webofscience.com">https://www.webofscience.com</a> Not limited

## 9. Material and technical support for mastering an academic discipline

### 9.1. List of premises for classroom activities for the discipline

1. Classes for lectures and practical classes, equipped with multimedia and other means of training, allowing the use of simulation technologies, with standard sets of professional models (sets of protocols of clinical trials, formulary lists of LPU, price lists of distribution companies, sets of quality of life questionnaires), allowing students to master the skills and abilities, provided by professional activity, individually.

2. Simulation center "Educational pharmacy", equipped with simulation technics, which imitates the activity of pharmacy and its subdivisions (acceptance of goods, storage of goods, dispensing, pharmaceutical expertise of receipt) in the amount that allows students to master skills, provided by professional activity individually.

3. Rooms for students' independent work, equipped with computers with the ability to connect to the Internet and access to the electronic information and educational environment of the University.

### 9.2. List of equipment for classroom activities for the discipline

1. Multimedia complex (laptop, projector, screen, TV)

2. Computer class (15 computers) with installed applications and Internet access.

### 9.3. List of software

1. Online event platform "Webinar"
2. Yandex Browser
3. Reference system "Consultant Plus"

### 9.3. A set of licensed and freely distributed software, including domestic production

Item no.	Software	number of licenses	Type of software	Manufacturer	Number in the unified register of Russian software	Contract No. and date
1	Wtware	100	Thin Client Operating System	Kovalev Andrey Alexandrovich	1960	2471/05-18 from 28.05.2018
2	MyOffice is Standard. A corporate user license for educational organizations, with no expiration date, with the right to receive updates for 1 year.	220	Office Application	LLC "NEW CLOUD TECHNOLOGIES"	283	without limitation, with the right to receive updates for 1 year.
3	LibreOffice		Office Application	The Document Foundation	Freely distributed software	
4	Windows 10 Education	700	Operating systems	Microsoft	Azure Dev Tools for Teaching Subscription	
5	Yandex. Browser		Browser	«Yandex»	3722	
6	Subscription to MS Office Pro for 170 PCs for FGBOU VO "PIMU" of the Ministry of Health of Russia	170	Office Application	Microsoft		23618/HN10030 LLC "Softline Trade" from 04.12.2020

**10. List of changes to the working program (to be filled out by the template)**

Federal State Budgetary Educational Institution of Higher Education  
"Privolzhsky Research Medical University"  
Ministry of Health of the Russian Federation  
(FSBEI HE "PRMU" of the Ministry of Health of Russia)

Department of  
*Name of the department*

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**CHANGE REGISTRATION SHEET**

working program for the academic discipline  
***NAME OF THE ACADEMIC DISCIPLINE***

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Field of study / specialty / scientific specialty: \_\_\_\_\_ (code, name)

Training profile: \_\_\_\_\_  
(name) - for master's degree programs

Mode of study: \_\_\_\_\_  
*full-time/mixed attendance mode/extramural*

Position	Number and name of the program section	Contents of the changes made	Effective date of the changes	Contributor's signature
1				

Approved at the department meeting  
Protocol No. \_\_\_\_\_ of \_\_\_\_\_ 20\_\_

Head of the Department

\_\_\_\_\_  
department name, academic title

\_\_\_\_\_  
signature

\_\_\_\_\_  
print name