

## Catalog of elective disciplines

1. **The department of Pharmacognosy**
2. **Level of training (bachelor degree)**
3. **Educational program: 6B10106 «Pharmacy»**
4. **Course: 2**
5. **Name of elective discipline: «Fundamentals of pharmacognosy»**
6. **Amount of credits: 4 credits (120 hours)**
7. **Purpose: acquaintance of students with history of development of a pharmacognosy, the organization of preparations of medicinal plant raw materials, the chemical composition and classification of herbs, bases of rational environmental management, methods of procuring process of medicinal plant raw materials and its standardization and also with the main directions of scientific research in the field of studying of herbs.**
8. **Discipline content: Preparation of medicinal plant raw materials, rational and careful attitude to resources of medicinal plants, sources of raw materials of mineral and animal origin, processing of plant raw materials, etc.**

Macroscopic, microscopic, histochemical and microchemical studies of medicinal plant raw materials. Chemical composition of medicinal plants. Determination of benign drug raw materials.

### 9. **Tasks:**

- orientation in properties and the chemical composition of herbs according to constantly growing demand in quality phytoproducts and medicinal plant raw materials;
- orientation in properties and the chemical composition of the products of animal and mineral origin which are widely used in a modern arsenal the pparmacotherapy of medicines;
- carrying out phytochemical and merchandising analysis of raw materials of natural origin.

### 10. **Justification of the choice of discipline:**

Pharmacognosy (from Greek pharmakon – medicine, poison and gnosis – studying, knowledge) – one of pharmaceutical sciences studying herbs, medicinal plant raw materials and some products of primary processing of floral and animal origin.

Considering the increased requirements of practical pharmacy and medicine to use of medicinal raw materials of plant, animal and mineral origin, the subject "Fundamentals of pharmacognosy" considers a circle of the questions connected with preparation of medicinal plant raw materials, rational and careful attitude to resources of herbs, sources of raw materials of mineral and animal origin, processing of plant raw materials, etc.

### 11. **Results of training (competence):**

<b>Knowledge (cognitive sphere)</b>	<b>Skills (psychomotor sphere)</b>	<b>Personal and professional competences (relations)</b>
1. To know history of development of a pharmacognosy and the main stages of its formation; 2. To know the nomenclature and the chemical composition of medicinal raw materials of natural origin; 3. To know bases of preparation of medicinal raw materials of plant, animal and mineral origin.	1. To be able to use standard documentation, reference and scientific books; 2. To be able to provide advice to patients of drugstores and to the population in questions of application, collecting, drying and storage of medicinal plant raw materials;	1. To carry out macro - and the microscopic analysis of medicinal plant raw materials; 2. To determine herbs by anatomic and morphological features; 3. To carry out the merchandising analysis of raw materials of natural origin; 4. To store medicinal raw materials taking into account features of its chemical composition and content of biologically active agents.

	3. To be able to carry out rational preparation, drying and storage of medicinal plant raw materials and to define its stocks on concrete sites.	
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12. **Prerequisites:** botany, Latin, organic chemistry, analytical chemistry, biological chemistry, ecology

13. **Postrequisites:** pharmacognosy, Drug technology, pharmaceutical chemistry.

#### 14. Literature

##### The main:

1. Тоқсанбаева, Ж. С. Фармакогнозия. Т.1: оқулық / Ж. С. Тоқсанбаева, Т. С. Серікбаева, К. К. Патсаева. – Алматы : ЭСПИ, 2021. – 252 бет.
2. Тоқсанбаева, Ж. С. Фармакогнозия. Т.2 [Мәтін] : оқулық / Ж. С. Тоқсанбаева, Т. С. Серікбаева, К. К. Патсаева. – Алматы : ЭСПИ, 2021. – 264 бет.
3. Орынбасарова К. К. Дәрілік өсімдік шикізаттарын фармакогно-стикалық талдау : оқу құралы. – Алматы : ЭСПИ, 2021. – 308 бет.
4. Дәрілік өсімдік шикізаттарын фармакогностикалық талдау. Оқу құралы/ Орынбасарова К.К.-Шымкент, 2016
5. Фармакогнозия тестовые задания и ситуационные задачи: учеб. Пособие / под ред. И. А. Самылиной. - ; Мин-во образования и науки РФ. Рек. ГОУ ВПО «Мос. Мед. Акад. Им. И. М. Сеченова». –М. : ГЭОТАР – Медиа, 2015. – 288 с.
6. Дәрілік өсімдік шикізатының атласы : оқу құралы / К. К. Орынбасарова, Т. С. Ибрагимов, З. Е. Ибрагимова. – Алматы : New book, 2022. – 232 бет
7. Дәрілік өсімдіктер және дәрілік өсімдік шикізаттары: оқу құралы / Джангозина Д. М. [ж. б.]. – Алматы : Эверо, 2014. – 240 бет. С.

##### Additional:

1. Келімханова, С. Е. Фармакогнозия: практикум / ҚР ДСМ; С. Ж. Асфендияров атындағы ҚазҰМУ. –Қарағанды : ЖК «Ақнұр», 2014. – 180 бет.
2. Фармакогнозия пәнінің зертханалық-тәжірибелік сабақтарына арналған қолданба: оқу құралы / Б. Қ. Махатов [ж. б.] ; ҚР денсаулық сақтау министрлігі; ОҚМФА. –Шымкент : Б. ж., 2013. – 328 бет.
3. Фармакогнозия. Рабочая тетрадь к практическим занятиям:И. В. Гравель [и др.]; под ред. И. А. Самылиной ; М-во образования и науки РФ. – 2-е изд., испр. Идоп ; Рек. ГОУ ВПО Московская мед. Акад. Им. И. М. Сеченова. –М. : ГЭОТАР – Медиа, 2013. – 264 с
4. Орынбасарова К. К. Дәрілік өсімдік шикізаттарын фармакогностикалық талдау : оқу құралы / К. К. Орынбасарова. – Алматы : ЭСПИ, 2021. – 308 бет.с.

##### Electronic resources:

1. Мырзағали-ұлы Ә., Дүйсембаева Б. Фармакогнозия: оқуқұралы. 2018 Мырзағали-ұлы Ә., Дүйсембаева Б. Фармакогнозия: оқуқұралы. 2018 <https://aknurpress.kz/reader/web/1858>
2. Махатов Б.Қ.Фармакогнозия: оқулық/Махатов Б.Қ., Патсаев Ә.Қ., ОрынбасароваК.К., Қадишаева Ж.А. – Алматы Эверо, 2020.[https://www.elib.kz/ru/search/read\\_book/795/](https://www.elib.kz/ru/search/read_book/795/)
3. Махатов Б.Қ., Патсаев Ә.Қ., Қадишаева Ж.А., Т.С. Серікбаева.,
4. Е.К. Оразбеков Фармакогнозия пәнінен оқуқолданбасы. Оқу-әдістемелік құрал — Алматы, ЖШС «Эверо», 2020,[https://www.elib.kz/ru/search/read\\_book/807/](https://www.elib.kz/ru/search/read_book/807/)
5. Джангозина Д.М. м.ғ.д. Дәрілік өсімдіктер және дәрілік өсімдік шикізаты. Фармакогнозия бойынша оқу құралы – Алматы: «Эверо»баспасы, 2020. – 240 б.[https://www.elib.kz/ru/search/read\\_book/742/](https://www.elib.kz/ru/search/read_book/742/)

6. Төменгі және жоғарғы сатыдағы өсімдіктер: оқулық / Б.Қ. Махатов,Ә.Қ. Патсаев, Қ.Қ. Орынбасарова, Ж.С. Тоқсанбаева, Ж.А. Қадішаева. –Алматы: Эверо, 2020 — 144 б.[https://www.elib.kz/ru/search/read\\_book/794/](https://www.elib.kz/ru/search/read_book/794/)
7. Джангозина Д.М., Лосева И.В., Ивлева Л.П., Дербуш С.Н.Лекарственные растения, лекарственное растительное сырье и некоторые продукты переработки сырья животного происхождения. Учебное пособие по фармакогнозии. Издание второе, доп. Часть I: Лекарственные растения и лекарственное растительное сырье, содержащие углеводы, жиры и жироподобные вещества, витамины, терпеноиды. – Алматы: издательство «Эверо», 2018. – 206 с.[https://www.elib.kz/ru/search/read\\_book/744/](https://www.elib.kz/ru/search/read_book/744/)
8. Джангозина Д.М., Лосева И.В., Ивлева Л.П., Дербуш С.Н.
9. Лекарственные растения, лекарственное растительное сырье и некоторые продукты переработки сырья животного происхождения. Учебное пособие по фармакогнозии. Издание второе, доп. Часть II: Лекарственные растения и лекарственное растительное сырье, содержащие сердечные гликозиды, сапонины, алкалоиды. – Алматы: издательство «Эверо», 2020.– 194 [https://www.elib.kz/ru/search/read\\_book/746/](https://www.elib.kz/ru/search/read_book/746/)

**1. Department: Pharmaceutical and Toxicological Chemistry**

**2. Specialty: 6B10106 "Pharmacy"**

**3. Course: 3**

**4. Level of preparation: undergraduate**

**5. The name of the elective discipline: " Bioanalytical chemistry and toxicology"**

**6. Number of credits: 5 credits**

**7. The objectives of the curriculum:** developing theoretical knowledge of the mechanisms of action of xenobiotics, the features of their clinical and toxicological analysis, interpretation of results, the acquisition of practical skills for analyzing xenobiotics using modern physicochemical methods: spectral, electrochemical, chromatographic, immune, etc. The study of the subject is aimed at achieving professional competencies of the future specialist (toxicologist chemist) in the field of clinical and toxicological analysis of xenobiotics in modern laboratories.

**8. Tasks of the curriculum:**

- to give students knowledge of the basic principles, procedure for organizing, conducting analytical diagnostics of acute poisoning, in accordance with current legislation;
- provide students with knowledge of the properties (physical, chemical), toxicodynamics and toxicokinetics of xenobiotics and their metabolites;
- teach students how to conduct chemical toxicological analysis of toxicologically important substances at the stages of clinical toxicological examination and analytical diagnosis of acute poisoning.

**9. Discipline content :** Analysis of certain groups of toxicologically important substances and prohibited substances WADA using GC-MS, HPLC-MS-NMR, HPLC-ICP-MS, GC-IR-FTIR, GDS, CE-ICP-MS etc. Conducting research on the requirements of international organizations for standardization and quality (ISO. OECD, EU).

**10. Justification of the choice of discipline:**

The problem of chemical safety has acquired global importance in our time. It is known that society is able to successfully counter such threats, if it is possible to quickly and reliably diagnose new toxic agents, as well as monitor and prevent the state of existing problems. The main factor determining the rates and volumes of toxicological studies in the world is a huge number of chemicals that come into circulation every year, the diversity of their structures and properties, as well as the associated risks.

In recent years, the requirements for the ability of institutions to perform at the modern level of development of analytical techniques and methodology, large volumes of specialized

studies, different in nature substances within the framework of judicial chemical, clinical toxicological, anti-doping, environmental, forensic examinations, as well as in the field of occupational pathology, clinical pharmacology, etc. At the same time methods of detection, identification and quantification of toxicants are constantly being improved and complicated. Much attention at the lessons on this elective will be given to the methodology of chemical-toxicological analysis, the interpretation of its results, as well as ensuring the quality of analysis, proper laboratory practice (GLP principles in a modern laboratory), implementation of the validation system and qualifications in the laboratory. The modern state of analytical studies of toxicants in biological objects will be fully reflected in the classes, new methods of sample preparation of biological samples, methods for the determination of toxicants in biological media by various analytical systems (gas chromatography, high performance liquid chromatography, FTIR, etc.) will be presented.

In an elective course, students will study the issues of chemical-toxicological analysis for the diagnosis of professional and environmentally dependent diseases, doping agents, as well as substances that can be used in biological terrorism.

#### 11. Learning outcomes (competencies):

Knowledge (cognitive sphere)	Skills and skills (psychomotor sphere)	Personal and professional competencies (relationships)
<ul style="list-style-type: none"> <li>• know the organizational, legal, legal and methodological basis for conducting chemical-toxicological examination and analytical diagnostics in case of acute poisoning with poisonous, potent, narcotic and drug-addictive substances;</li> <li>• know the methodology of the systemic chemical-toxicological analysis of toxic and highly active substances.</li> </ul>	<ul style="list-style-type: none"> <li>• be able to conduct chemical-toxicological studies of material evidence on various toxic substances (biological, physico-chemical and chemical);</li> <li>• be able to interpret the results of chemical-toxicological analysis;</li> <li>• possess the skills of conducting chemical and toxicological research;</li> <li>• possess the skills to document the conduct of laboratory and expert research (drawing up the opinion and chemical toxicological research report).</li> </ul>	<ul style="list-style-type: none"> <li>• to be ready for independent work and to carry out their activities, taking into account moral and legal norms adopted in the society, to comply with laws and regulations on work with confidential information;</li> <li>• be able to design and implement their own educational trajectory throughout life, ensuring success and competitiveness;</li> <li>• to be able to effectively collaborate with other people: build effective communications, collaborate with colleagues, and establish maximum trusting relationships with partners.</li> </ul>

**12. Prerequisites:** general methods and analysis of medicines

**13. Post requisites:** toxicological chemistry

**14. Literature:**

**основная:**

1. Плетенёва, Т. В. Токсикологическая химия: учебник / Т. В. Плетенёва, А. В. Сыроешкин, Т. В. Максимова; под ред. Т. В. Плетенёвой ; М-во образования и науки РФ. - - М. : ГЭОТАР - Медиа, 2013. - 513 с.
2. Шүкірбекова, А. Б. Токсикологиялық химия: оқулық . - Алматы: Эверо, 2020.-410 б.
3. Серикбаева А.Д. Токсикологиялық маңызды дәрілік заттардың химия-токсикологиялық талдауы. Оқу құралы – Шымкент, 2023. – 144б.

**дополнительная:**

1. Ордабаева С.К., Серикбаева А.Д., Мирсоатова М.А. Мелоксикамның химия-токсикологиялық талдау әдістемелері/ғылыми-методикалық құрал.-2021.-100 б. (утв.Ученым советом ЮКМА, протокол №1, 25.08.2021).
2. Ордабаева С.К., Серикбаева А.Д., Алтынбек Д.Т. «Ацетамиприд: химия-токсикологиялық маңызы және талдауы»/ғылыми-методикалық құрал.-2022.-102 б. (утв. Ученым советом ЮКМА, протокол №13, 29.06.2022).
- 3.Сраубаев, Е. Н. Өндірістік токсикология негізі. Өндірістік улар және уланулар: оқу-әдістемелікқұрал /. - Алматы :Эверо, 2014. - 156 бет.
- 4.Сот-химиялық сараптау және аналитикалық диагностика: оқу-әдістемелік құрал / С. Қ. Ордабаева [ж.б.]. - Алматы :Эверо, 2016. - 280 бет. с.

**электронные ресурсы:**

1. Аналитическая диагностика наркомании и токсикомании. Биоаналитическая химия и токсикология [Электронный ресурс / ЮКГФА; Мед. и фармацевтический факультеты. - Электрон. текстовые дан. ( 25,4 Мб). - Шымкент : Б. и., 2011. - эл. опт. диск (CD-ROM).
2. Токсикологическая химия. Аналитическая токсикология [Электронный ресурс]: учебник / под ред. Р. У. Хабриева. - Электрон. текстовые дан. (43,7 МБ). - М.: Издательская группа "ГЭОТАР- Медиа", 2010. - 752 с. эл. опт. диск (CD-ROM)
3. Химические опасности и токсиканты. Принципы безопасности в химической лаборатории [Электронный ресурс] : учебное пособие / Л. В. Евсеева [и др.]. - Электрон. текстовые дан. (47,2Мб). - М.: "Литтерра", 2017. - эл. опт. диск (CD-ROM).
4. Химиялық қауіптер мен уыттылықтар. Химиялық зертханадағы қауіпсіздік ұстанымдары [Электронный ресурс]: оқу құралы = Химические опасности и токсиканты. Принципы безопасности в химической лаборатории: учебное пособие / У. М. Датхаев. - Электрон. текстовые дан. (67.9Мб). - М. : "Литтерра", 2016. - 480б. с

**дополнительная:**

1. Кузьменко, А. Н. Стандартизация лекарственного растительного сырья и растительных сборов методами ионо-эксклюзионной и газо- жидкостной хроматографии : монография. - Алматы : Эверо, 2017. - 120 с.
2. Сраубаев, Е. Н. Өндірістік токсикология негізі. Өндірістік улар және уланулар: оқу-әдістемелік құрал /. - Алматы : Эверо, 2014. - 156 бет. с.
3. Сраубаев, Е. Н. Өндірістік токсикология негізі. Өндірістік улар және уланулар: оқу-әдістемелік құрал /. - Алматы : Эверо, 2014. - 156 бет. с.

**1. Department of Organizations and management of pharmaceutical business**

**2. Bachelor course**

**3. Educational program 6B10106 - "Pharmacy"**

**4. Course 4**

**5. Name of the elective discipline Pharmaceutical management and marketing with the basics of pharmaceutical consulting**

**6. Number of credits 5**

**7. Objectives:** The purpose of studying pharmaceutical management and marketing with the basics of pharmaceutical consulting is to form students' knowledge about the main activities of pharmacy institutions, providing the opportunity to find the most effective, economical, resource-saving, environmentally friendly methods and techniques for providing pharmaceutical care and counseling to the population and medical professionals.

**8. Justification of the choice of discipline:**

Fundamentals of pharmaceutical marketing. Commodity policy of pharmaceutical organizations. Development of the theoretical foundations of management. Methodological foundations of pharmaceutical management. Organization as an object of pharmaceutical management. Fundamentals of personnel management of pharmaceutical organizations. The role of a pharmacy worker as a consultant on the rational, effective and safe use of medicines. Patient counseling is

an important component of pharmacists' communication skills. State regulation of pharmaceutical activity. Intercultural communication skills when consulting pharmacy patients. State control of pharmaceutical activity.

### **9. Tasks:**

- give an idea of the content and essence of marketing;
- to form an idea about the product, product nomenclature and assortment in pharmaceutical marketing;
- to familiarize with the pricing policy of the pharmaceutical company;
- teach to promote pharmaceutical products;
- give an idea of the main types of market, market capacity, market potential;
- to familiarize with the role and place of sales in the structure of marketing tasks;
- to form a systematic knowledge of marketing research;
- familiarize with marketing planning and the procedure for developing a marketing plan;
- to form a provision about the technology of managerial decision-making;
- to familiarize with the principles of delegation of authority;
- give the concept of motivation of activities and people;
- to familiarize with the personnel policy of pharmaceutical enterprises;
- to give an idea of the management styles of the workforce.
- possess intercultural communication skills when consulting pharmacy patients.

### **10. Justification of the choice of discipline:**

The results of the activities of pharmaceutical enterprises in a market economy are largely determined by the level of use of the fundamentals of management and marketing.

Management, on the one hand, is a type of activity for the management of people in a variety of organizations, including pharmacies. On the other hand, management is accumulated common sense and positive practical experience based on the ability not to repeat previously committed mistakes.

The management of pharmacy organizations in market conditions is much more complicated. This is due to the expansion of the rights and responsibilities of pharmacy organizations, as well as the need for more flexible adaptation to environmental changes.

As a concept, marketing is a set of scientifically based ideas about enterprise management in a competitive economy.

As a mode of action of the manufacturer, marketing is a system of measures to increase the competitiveness of the enterprise by maximizing the adaptation of all activities and products to the requirements of the market and the consumer.

.Competent pharmaceutical consulting is a recipe for success for a pharmaceutical organization

### **11. Learning outcomes (competencies)**

Demonstrates knowledge and understanding of the subject matter and objectives of pharmaceutical management and marketing; functions and methods of management, fundamentals of personnel management; workforce management styles, product policies, methods for analyzing the range of pharmaceutical products, principles of pricing in pharmacy; marketing research, objectives and basic principles, subject of pharmaceutical consulting.

Determines market capacity, market potential; conducts pricing and assortment policies; carries out sales promotion. Applies acquired knowledge when solving HR management problems; to advise doctors, pharmacists, and the public on the use and storage of drugs and medical devices, motivate work activities, work in a team and in conditions of uncertainty.

Applies the acquired knowledge when choosing marketing research methods, developing a marketing plan for promoting pharmaceutical products and forming the pricing policy of a pharmaceutical company, when making management decisions and delegating powers based on facts, phenomena, theories and complex dependencies between them. Forms social, ethical and scientific conclusions in the form of recommendations for improving pharmaceutical consulting and pharmaceutical law in the professional activities of a pharmacist.

Collects, processes and interprets marketing information, conducts marketing research, and gives recommendations on the promotion of pharmaceutical products. Consults doctors, pharmacists, and the public on the use and storage of drugs and medical devices.

Draws conclusions, presents his own judgments on issues of pharmaceutical marketing and management, chooses the optimal management solution.

Demonstrates multiculturalism and openness in work. Interacts with colleagues, partners, government and non-government bodies in the process of product positioning in the pharmaceutical market. Provides advisory assistance to consumers in the process of promoting pharmaceutical products.

Systematizes acquired knowledge in the field of pharmaceutical sciences using IT technologies and adapts them to practical activities based on interindustry communication at the intersection of disciplines. Searches for information on medical and pharmaceutical products in regulatory and technical documentation, regulatory legal acts of the Republic of Kazakhstan, and the evidence-based medicine database.

**12.Prerequisites:** pharmacology, organization of pharmaceutical activity, management and economics of pharmacy and history of pharmacy.

**13.Post-requirements:** pharmaceutical logistics with the basics of entrepreneurship, organizational foundations of good practices in pharmacy, practical professional activity.

#### **14. Literature**

1. Arystanov, J. M. Management and marketing in pharmacy: a textbook / J. M. Arystanov, A. T. Tokseitova. - Almaty: Evero, 2016. – 532 p.

2. Blinova, O. V. Pharmaceutical management: textbook / O. V. Blinova; Ministry of Healthcare of the Republic of Kazakhstan; YUKGFA. - Shymkent: Zhasulan, 2013. - 165 p.

3. Shertaeva, K. D. Pharmaceutical marketing: textbook / K. D. Shertaeva; Ministry of Health of the Republic of Kazakhstan; Rep. Center for Innovative Technologies of Medical Education; UCGFA. - Shymkent: B. I., 2012. - 152 p.

4. The manual "Medicines. Good Distribution Practice" (ST-N MOZ 42-5.0:2008).

5. Guidelines on Good Storage Practices for Pharmaceutical Products ("Guidetogoodstoragepracticesforpharmaceuticals"). World Health Organization. Cycle of WHO technical reports, No. 908, 2013.

6. Shubenkova E.V. Total quality management: textbook / E.V. Shubenkova. - M.: EXAM, 2015. - 256 p

. 7. Salimova, T.A. History of quality management: textbook / T.A. Salimova, N.S. Vatolkina. – Moscow : KNORUS, 2015. – 256 p.

8. Abutidze Z.S. Quality management and reengineering of the organization: studies.manual / Z.S. Abutidze, L.N. Alexandrovskaya, V.N. Bas, etc. - M.: Logos, 2013. - 328 p.

Additional:

1. Management and economics of pharmacy: textbook/ edited by I.A. Narkevich. – M.: GEOTAR-Media, 2017. – 928 p.

2. Arystanov, Zh. M. History of pharmacy: textbook / Zh. M.- Almaty :Evero, 2016. - 184 p.

3. Arystanov, J. M. Organization of pharmaceutical activity: studies. stipend. - Almaty : Evero, 2015. - 608 p.

4. Management and economics of pharmacy: textbook/ edited by I.A. Narkevich. – M.: GEOTAR-Media, 2017. – 928 p.

**1. Department: Pharmacology, Pharmacotherapy and Clinical Pharmacology**

**2. Level of preparation: baccalaureate**

**3. OP: "Pharmacy"**

**4. Course: 4**

**5. Number of credits: 3**

**6. Name of elective discipline: Pharmaceutical guardianship**

**7. Purpose: to teach the principles of providing counseling to patients within the framework of OTS - a list of prescription drugs.**

**8. Tasks:**

- learn the methodology of rational prescription of drugs within the framework of OTS - a list of prescription drugs;
- learn how to consult patients about possible side effects of drugs;
- learn to evaluate the possible interactions of drugs.

9. Content of disciplines: OTS - principles of consulting patients on the number of non-prescription drugs in a list of drugs within the effective prescription of the drug; to advise patients on possible side effects of the drug and to evaluate possible drug interactions. Questions of compatibility and incompatibility of drugs with each other and the composition of food, intolerance of drugs to the body, questions of substitutes for drugs that are not in pharmacies, on pharmacological analogues.

10. The basis of the choice of disciplines: Pharmaceutical guardianship - this is a comprehensive program of interaction between the pharmacist and the patient during the entire period of drug therapy, starting from the moment of release of the drug until its end.

On this day, the role of the pharmacist is transformed, he should not take care of increasing the number of drugs in the world pharmaceutical market, not only to dispense the drug, the main purpose of the drug is the main purpose of the drug. In this case, of course, the speech does not go about the leveling of the role of the doctor, "substitute" his pharmacist. Self-medication is possible only in cases that are not dangerous for life symptoms and syndromes, reduce those and call OTS-drugs of different groups (antacids, laxatives, analgesics-antipyretics, antispasmodics, etc.).

**11. Learning Outcomes (Competence):**

<b>Knowledge (cognitive sphere)</b>	<b>Skills and abilities (psychomotor sphere)</b>	<b>Personality and professional competencies (relationships)</b>
<p>Knows the definition of applicable pharmacy practice; methods of assessing the quality of life; basic principles of dosing of drugs; OTS - list of drugs; the main symptoms and syndromes of the most frequently encountered pathological conditions; norms of medical and deontological ethics</p>	<p>Able to choose the most effective and safe drugs used to treat the main symptom complexes; determine the optimal dosing mode; predict the risk of development of side effects of drugs; provide informational and advisory assistance to patients in choosing the drug form, dose, frequency and duration of drug administration. conducting pharmaceutical counseling (pharmaceutical guardianship) of patients; use of educational, scientific, normative, reference literature and computer databases on clinical pharmacology and evidence-based medicine.</p>	<p>To be competent in the issues of deontology indication of the required qualified volume of assistance within the framework of a prescription drug.</p>



**12. Prerequisites:** Pathological physiology, microbiology, biochemistry, pharmacology and pharmacotherapy, organization of pharmaceutical activity.

**13. Postrequisites:** professional development

**14. Recommended literature:**

**Primary:**

1. Pharmaceutical support: textbook - N.Zh. Ormanov, SKSPhA.-Shymkent: «RISO», 2013-304 pages 115 copies
2. Pharmaceutical support: textbook - Shymkent: "RISO", 2013.-85 copies
3. Pharmaceutical guardianship textbook-methodical manual - Shymkent UKGFA, 2013-70 copies.
4. Basic and Clinical Pharmacology/ Katzung B.G.[ed.by]; Mc Graw- Hill 2012
5. Clinical Pharmacology/ Bennet P.N., Brown M.J.; Churchill Livingstone, 2012
6. Goodman & Gilman' the Pharmacology Basis of Therapeutics/ Brunton L.L.,Charbner B.A.; McGraw- Hill Professional 2011

**Additional:**

1. Ormanov N.Zh. Pharmacotherapy of digestive organs: Textbook. allowance -Shymkent :, 2013. - 200 s- 70ex.
2. Ormanov N. J. Pharmacology. Book 1: textbook - Almaty: Evero, 2013. - 656 pages-100 copies.
3. Ormanov N. J. Pharmacology. Book 2: textbook - Almaty: Evero, 2013. - 512 pages - 100 copies.
4. Ormanov N. J. Pharmacotherapy. Book 1: textbook - Shymkent: UKGFA, 2012. - 500 pages - 300 copies.
5. Орманов, Н. Ж. Pharmacotherapy. Book 2: textbook - Shymkent: SKSPhA, 2012. - 416 pages - 300 copies.
6. Pharmacology (: manual-Pharmacology: handbook / GM Pichhadze "Litterra", 2017.-640 pages p.1ex
7. Hematological pharmacotherapy: textbook / N.Zh. Ormanov - Ministry of Health and Social Development of the Republic of Kazakhstan. SKSPhA.- Shymkent: UKGFA, 2015.-160p.-40 copies
8. Cardiological pharmacotherapy: textbook / N.Zh. Ormanov - Ministry of Health and Social Development of the Republic of Kazakhstan. SKSPhA.- Shymkent: UKGFA, 2015.-216 pages.- 40 copies

**1. Department of Organizations and management of pharmaceutical business**

**2. Bachelor course**

**3. Educational program 6B10106 - "Pharmacy"**

**4. Course 4**

**5. Name of the elective discipline Pharmaceutical management and marketing with the basics of pharmaceutical consulting**

**6. Number of credits 5**

**7. Objectives:** The purpose of studying pharmaceutical management and marketing with the basics of pharmaceutical consulting is to form students' knowledge about the main activities of pharmacy institutions, providing the opportunity to find the most effective, economical, resource-saving, environmentally friendly methods and techniques for providing pharmaceutical care and counseling to the population and medical professionals.

**8. Justification of the choice of discipline:**

Fundamentals of pharmaceutical marketing. Commodity policy of pharmaceutical organizations. Development of the theoretical foundations of management. Methodological foundations of pharmaceutical management. Organization as an object of pharmaceutical management. Fundamentals of personnel management of pharmaceutical organizations. The role of a pharmacy worker as a consultant on the rational, effective and safe use of medicines. Patient counseling is an important component of pharmacists' communication skills. State regulation of pharmaceutical activity. Intercultural communication skills when consulting pharmacy patients. State control of pharmaceutical activity.

## **9. Tasks:**

- give an idea of the content and essence of marketing;
- to form an idea about the product, product nomenclature and assortment in pharmaceutical marketing;
- to familiarize with the pricing policy of the pharmaceutical company;
- teach to promote pharmaceutical products;
- give an idea of the main types of market, market capacity, market potential;
- to familiarize with the role and place of sales in the structure of marketing tasks;
- to form a systematic knowledge of marketing research;
- familiarize with marketing planning and the procedure for developing a marketing plan;
- to form a provision about the technology of managerial decision-making;
- to familiarize with the principles of delegation of authority;
- give the concept of motivation of activities and people;
- to familiarize with the personnel policy of pharmaceutical enterprises;
- to give an idea of the management styles of the workforce.
- possess intercultural communication skills when consulting pharmacy patients.

## **10. Justification of the choice of discipline:**

The results of the activities of pharmaceutical enterprises in a market economy are largely determined by the level of use of the fundamentals of management and marketing.

Management, on the one hand, is a type of activity for the management of people in a variety of organizations, including pharmacies. On the other hand, management is accumulated common sense and positive practical experience based on the ability not to repeat previously committed mistakes.

The management of pharmacy organizations in market conditions is much more complicated. This is due to the expansion of the rights and responsibilities of pharmacy organizations, as well as the need for more flexible adaptation to environmental changes.

As a concept, marketing is a set of scientifically based ideas about enterprise management in a competitive economy.

As a mode of action of the manufacturer, marketing is a system of measures to increase the competitiveness of the enterprise by maximizing the adaptation of all activities and products to the requirements of the market and the consumer.

.Competent pharmaceutical consulting is a recipe for success for a pharmaceutical organization

## **11. Learning outcomes (competencies)**

Demonstrates knowledge and understanding of the subject matter and objectives of pharmaceutical management and marketing; functions and methods of management, fundamentals of personnel management; workforce management styles, product policies, methods for analyzing the range of pharmaceutical products, principles of pricing in pharmacy; marketing research, objectives and basic principles, subject of pharmaceutical consulting.

Determines market capacity, market potential; conducts pricing and assortment policies; carries out sales promotion. Applies acquired knowledge when solving HR management problems; to advise doctors, pharmacists, and the public on the use and storage of drugs and medical devices, motivate work activities, work in a team and in conditions of uncertainty.

Applies the acquired knowledge when choosing marketing research methods, developing a marketing plan for promoting pharmaceutical products and forming the pricing policy of a pharmaceutical company, when making management decisions and delegating powers based on facts, phenomena, theories and complex dependencies between them. Forms social, ethical and scientific conclusions in the form of recommendations for improving pharmaceutical consulting and pharmaceutical law in the professional activities of a pharmacist.

Collects, processes and interprets marketing information, conducts marketing research, and gives recommendations on the promotion of pharmaceutical products. Consults doctors, pharmacists, and the public on the use and storage of drugs and medical devices.

Draws conclusions, presents his own judgments on issues of pharmaceutical marketing and management, chooses the optimal management solution.

Demonstrates multiculturalism and openness in work. Interacts with colleagues, partners, government and non-government bodies in the process of product positioning in the pharmaceutical market. Provides advisory assistance to consumers in the process of promoting pharmaceutical products.

Systematizes acquired knowledge in the field of pharmaceutical sciences using IT technologies and adapts them to practical activities based on interindustry communication at the intersection of disciplines. Searches for information on medical and pharmaceutical products in regulatory and technical documentation, regulatory legal acts of the Republic of Kazakhstan, and the evidence-based medicine database.

**12. Prerequisites:** pharmacology, organization of pharmaceutical activity, management and economics of pharmacy and history of pharmacy.

**13. Post-requirements:** pharmaceutical logistics with the basics of entrepreneurship, organizational foundations of good practices in pharmacy, practical professional activity.

#### **14. Literature**

1. Arystanov, J. M. Management and marketing in pharmacy: a textbook / J. M. Arystanov, A. T. Tokseitova. - Almaty: Evero, 2016. – 532 p.

2. Blinova, O. V. Pharmaceutical management: textbook / O. V. Blinova; Ministry of Healthcare of the Republic of Kazakhstan; YUKGFA. - Shymkent: Zhasulan, 2013. - 165 p.

3. Shertaeva, K. D. Pharmaceutical marketing: textbook / K. D. Shertaeva; Ministry of Health of the Republic of Kazakhstan; Rep. Center for Innovative Technologies of Medical Education; UCGFA. - Shymkent: B. I., 2012. - 152 p.

4. The manual "Medicines. Good Distribution Practice" (ST-N MOZ 42-5.0:2008).

5. Guidelines on Good Storage Practices for Pharmaceutical Products ("Guidetogoodstoragepracticesforpharmaceuticals"). World Health Organization. Cycle of WHO technical reports, No. 908, 2013.

6. Shubenkova E.V. Total quality management: textbook / E.V. Shubenkova. - M.: EXAM, 2015. - 256 p

7. Salimova, T.A. History of quality management: textbook / T.A. Salimova, N.S. Vatolkina. – Moscow : KNORUS, 2015. – 256 p.

8. Abutidze Z.S. Quality management and reengineering of the organization: studies.manual / Z.S. Abutidze, L.N. Alexandrovskaya, V.N. Bas, etc. - M.: Logos, 2013. - 328 p.

Additional:

1. Management and economics of pharmacy: textbook/ edited by I.A. Narkevich. – M.: GEOTAR-Media, 2017. – 928 p.

2. Arystanov, Zh. M. History of pharmacy: textbook / Zh. M.- Almaty :Evero, 2016. - 184 p.

3. Arystanov, J. M. Organization of pharmaceutical activity: studies. stipend. - Almaty : Evero, 2015. - 608 p.

4. Management and economics of pharmacy: textbook/ edited by I.A. Narkevich. – M.: GEOTAR-Media, 2017. – 928 p.

#### **1. Department: Pharmacology, Pharmacotherapy and Clinical Pharmacology**

#### **2. Level of preparation: baccalaureate**

#### **3. OP: "Pharmacy"**

#### **4. Course: 4**

#### **5. Number of credits: 5**

#### **6. The name of the elective discipline: Rational use of medicines**

#### **7. Purpose: to teach methodologies for the rational use of medicines of various diseases**

#### **8. Tasks:**

- teach methodologies for rational prescribing of medicines;
- teach to predict and evaluate side effects of drugs;

- teach to evaluate possible drug interactions;

9. The content of the discipline: The rational use of medicines implies the correct, appropriate and appropriate use of medicines. To teach methodologies for the rational use of medicines with the basics of evidence-based medicine of various diseases.

Prediction of the risk of side effects of drugs, methods of prevention and correction of side effects, the use of clinical protocols for diagnosis and treatment.

10. Justification of the choice of discipline: To date, there are many gaps in our knowledge of the most effective policies and strategies for improving the use of drugs.

11. Learning outcomes (competency):

<b>Knowledge (cognitive sphere)</b>	<b>Skills and abilities (psychomotor sphere)</b>	<b>Personality and professional competencies (relationships)</b>
<ul style="list-style-type: none"> <li>- risk factors and clinical manifestations of the main adverse reactions of drugs;</li> <li>-methods for assessing the quality of life;</li> <li>-basic principles of dosage of drugs depending on the pathological and physiological parameters of the human body;</li> <li>-main types of drug interactions;</li> <li>-methods for assessing the clinical efficacy and safety of drugs</li> </ul>	<ul style="list-style-type: none"> <li>-to make the choice of the most effective and safe medicines used for treatment</li> <li>-main symptom complexes; determine the optimal dosage regimen;</li> <li>-select methods for monitoring the safety of treatment and predict the risk of side effects of drugs;</li> <li>-to compile a formulary list of analogue replacement, a form of a medical institution;</li> <li>- provide informational and advisory assistance to doctors in choosing a dosage form of the drug, dose, frequency and duration of administration of the drug.</li> <li>-conducting pharmaceutical counseling for doctors and patients;</li> <li>- the use of educational, scientific, regulatory, reference books and computer databases on clinical pharmacology and evidence-based medicine.</li> </ul>	<p>Able to be competent: in matters of common types of irrational use of medicines</p>

**12. Prerequisites: pharmacology, pharmacotherapy**

**13. Post requisites: professional development**

**14. Recommended reading:**

**Main literature:**

1. Kalieva, S. S. Clinical pharmacology and rational pharmacotherapy. Volume 1: textbook / Sh. S. Kaliev., N. A. Minakova. - Almaty: Evero, 2016 .-- 460
2. Kalieva, C. S. Clinical pharmacology and rational pharmacotherapy. Volume 2: textbook / S. S. Kaliev, N. A. Simokhin. - Almaty: Evero, 2016 .-- 288 p.
3. Grinhalh T. Basics of evidence-based medicine: textbook: translation from English / ed. G.S. Kemelova; into the Kazakh language aud. TK Sagatova. –M .: GEOTAR- Media, 2014

4. Kulmagambetov, I. R. Clinical pharmacology. Part 1: textbook / I. R. Kulmagambetov. - Almaty: Evero, 2014. - 320 pages. c.
5. Kulmagambetov, I. R. Clinical pharmacology. Part II: textbook / I. R. Kulmagambetov. - Almaty: Evero, 2014. - 392 pages. c.

**Additional literature:**

1. Rational pharmacotherapy in oncology: hands, for medical practitioners / ed. M.I. Davydova, V.A. Gorbunova. - M.: GEOTAR-Media, 2015. -844s.
2. Petrov V.I. Clinical pharmacology and pharmacotherapy in real medical practice: master class: textbook / V.I. Petrov.-; Rec. GOU DPO "Russian honey. Acad. postgraduate education. " - M.: GEOTAR-Media, 2011 .-- 880 p.: Ill.
3. Lecture complex - on the subject of effective use of drugs: lecture complex / Department of Pharmacology, Pharmacotherapy and Clinical Pharmacology. - Shymkent: SKSPhA, 2016. - 65 pages. c.

**Electronic editions:**

1. Petrov, V. I. Clinical pharmacology and pharmacotherapy in real medical practice, master class [Electronic resource]: textbook / V. I. Petrov. - The electron. text data (63.5 MB). - M.: Publishing Group "GEOTAR-Media", 2015. - 880 p. email opt. disk (CD-ROM).
2. Doctor's consultant. Clinical Pharmacology. Version 1.1 [Electronic resource]: manual. - The electron. text data (132 Mb). - M.: Publishing Group "GEOTAR-Media", 2015. - Email. opt. disk (CD-ROM).

**1. Department Organization and Management of Pharmaceutical Business**

**2. Undergraduate**

**3. Educational program 6B10106 - "Pharmacy"**

**4. Course 5**

**5. Name of the elective discipline Personnel management**

**6. Number of credits 5**

**7. Objectives:** Formation of a student's holistic system of knowledge about the patterns of formation and development of the organization's human resource management subsystem as an essential element of the organization's management system as a whole, as well as the student's mastering the skills and abilities of personnel management of pharmaceutical organizations.

**8. The content of the discipline:**

Personnel management is a purposeful activity of the management team of the organization, as well as managers and specialists of the departments of the personnel management system, which includes the development of the concept and strategy of personnel policy and personnel management methods.

This activity consists in the formation of a personnel management system, personnel work planning, personnel marketing, determination of personnel potential and the organization's needs for personnel. The organization's personnel management technology covers a wide range of functions from recruitment to dismissal of personnel.

It provides for information, technical, regulatory, methodological, legal and record-keeping support for the personnel management system. The heads and employees of the departments of the organization's personnel management system also solve the issues of assessing the activities of the departments of the organization's management system, assessing the economic and social efficiency of improving personnel management.

**9. Tasks:**

- mastering the essence and content of the organization's personnel management process;
- mastery of the conceptual apparatus of personnel management of the organization;
- assessment of the place and role of personnel management in the overall system of enterprise management;

- study of personnel management methods, formation of the skill of using a situational approach when choosing them;
- formation of the ability to analyze organizational problems through the prism of the human factor;
- development of a management decision to improve the use of human resources of the organization;
- assessment of the economic and social efficiency of projects to improve the system and processes of personnel management.

#### **10. Rationale for the choice of discipline:**

Personnel management is a purposeful activity of the management team of the organization, as well as managers and specialists of the departments of the personnel management system, which includes the development of the concept and strategy of personnel policy and personnel management methods.

This activity consists in the formation of a personnel management system, personnel work planning, personnel marketing, determination of personnel potential and the organization's needs for personnel. The organization's personnel management technology covers a wide range of functions from recruitment to dismissal of personnel.

It provides for information, technical, regulatory, methodological, legal and record-keeping support for the personnel management system. The heads and employees of the departments of the organization's personnel management system also solve the issues of assessing the activities of the departments of the organization's management system, assessing the economic and social efficiency of improving personnel management.

#### **11. Learning outcomes (competencies)**

Demonstrates knowledge and understanding of the subject and tasks of personnel management and owns the methodology of pharmaceutical management and marketing, a system of management methods for carrying out activities in the field of drug circulation and determines the socio-psychological climate in the team and takes into account the organizational process of labor connecting and coordinating all production factors, establishing optimal proportions between basic elements and resources and combining them into a single system.

Determines the needs of personnel and analyzes the psychological climate in the team and has information about medicines and distributes it among the population, specialists of treatment, preventive and pharmaceutical organizations.

Applies knowledge on the organization of management structure and controllability standards and methods for resolving conflicts that arise in the process of pharmaceutical activities.

Collects and interprets information to form judgments based on social, ethical, and scientific considerations.

Forms systematic knowledge and thinking in methods of staff employment and labor productivity and the provision of quality pharmaceutical services to the population, medical and preventive and pharmaceutical organizations.

Takes into account the role of the manager in personnel management and has the skills of effective and conflict-free communication with patients, relatives of patients, and colleagues. Able to work in a team.

Systematizes acquired knowledge in the field of pharmaceutical sciences, using IT technologies, and adapts them to practical activities based on intersectoral communication at the intersection of disciplines: bioethics with the basics of communication skills and pharmaceutical management and marketing.

**12. Prerequisites** bioethics with the basics of communication skills; organization of pharmaceutical activities;

**13. Postrequisites** pharmaceutical management and marketing.

#### **14. Literature**

1. Shertaeva K.D., Mamytbaeva K.Zh., Zhanbyrbaeva A.D., Personnel management - Textbook. - Shymkent. – 2018.-121p.
2. Arystanov, Zh. M. Management and marketing in pharmacy: textbook - Almaty: Evero, 2016.

3. Fundamentals of marketing: textbook. for honey. schools and colleges / ed. I. V. Lipsitsa, M. N. Dymshitsa; - M. : GEOTAR - Media, 2014. - 208 p.
4. Blinova, O. V. Pharmaceutical management: textbook / O. V. Blinova; Ministry of Health of the Republic of Kazakhstan; SKFA. - Shymkent: Zhasulan, 2013. - 165 p.
5. Shertaeva, KD Pharmaceutical consulting: textbook. allowance / K. D. Shertaeva 6 G. Zh. Umurzakova, K. Zh. Mamytbaeva; Ministry of Health of the Republic of Kazakhstan; SKFA. - Shymkent: Zhasulan, 2013. - 81 p.
6. Shertaeva, KD Pharmaceutical marketing: textbook. - Shymkent: B. and., 2012.  
: oku-adistemelik qyral / K. D. Shertaeva, A. D. Zhanbyrbaeva; OKMFA. - 2-bass, tuzet. Zhane tolykt. - Shymkent: B. J., 2012. - 150 bet. With.

## **1. Department of Organizations and management of pharmaceutical business**

### **2. Bachelor course**

### **3. Educational program 6B10106 - "Pharmacy"**

### **4. Course 5**

### **5. The name of the elective discipline Pharmaceutical logistics with the basics of entrepreneurship.**

### **6. Number of credits 5**

**7. Objectives:** formation of students' system knowledge and understanding of the conceptual foundations of pharmaceutical logistics and acquisition of skills in modern methods of managing material and other flows in modern conditions. The purpose of studying the basics of entrepreneurship is to form students' knowledge on the organization of pharmaceutical business and the activities of pharmaceutical enterprises in market conditions.

**8. Tasks:** formation of students' system knowledge and understanding of the conceptual foundations of pharmaceutical logistics and acquisition of skills in modern methods of managing material and other flows in modern conditions. The purpose of studying the basics of entrepreneurship is to form students' knowledge on the organization of pharmaceutical business and the activities of pharmaceutical enterprises in market conditions.

### **9. Tasks:**

- to familiarize students with the definitions, concepts, tasks and functions of logistics;
- to familiarize with the factors and levels of development of pharmaceutical logistics, information logistics systems in pharmacy;
- to give an idea of the tasks and functions of procurement logistics and supplier selection;
- to form an idea of the types and categories of stocks in the system of pharmaceutical organizations and distribution channels of pharmaceutical products;
- to form knowledge about the design of an effective logistics inventory management system, about keeping records of failures in suppliers of pharmaceutical products.
- to give an idea of the content and essence of entrepreneurial activity;
- to familiarize with the main directions and prospects for the development of entrepreneurship in pharmacy;

### **10. Justification of the choice of discipline:**

A necessary condition for the effective operation of a pharmaceutical company is logistics, i.e. the representation of the functioning of the company as the management of economic flows, tracking their movement from the start to the end points - from suppliers to consumers.

### **11. Learning outcomes (competencies)**

Demonstrates knowledge and understanding of the subject matter, objectives and basic principles of pharmaceutical logistics with business fundamentals; legislative and regulatory documents regulating the basics of pharmaceutical consulting and pharmaceutical law in the field of drug circulation in the Republic of Kazakhstan; understands the importance of the ability to "listen and hear", i.e. demonstrates the principles of pharmaceutical ethics and deontology, customer focus.

- applies knowledge to carry out wholesale and retail sales of medicines and medical devices, as well as to ensure the safety of inventory in warehouses and vehicles; knows how to work in a team under conditions of uncertainty; analyzes information based on IT technology in the field of professional activity.

- applies the acquired knowledge in organizing prescription and over-the-counter dispensing of medicines and medical devices, their storage, taking into account physicochemical properties, toxicological groups, expiration dates, dosage form based on facts, phenomena, theories and complex dependencies between them.

- knows and understands the set of values and principles that express the student's integrity in learning when performing written work, answering exams, in research, expressing one's position, in relationships with academic staff, teachers and other students, as well as assessment.

Forms systems thinking in the field of pharmaceutical logistics with the basics of entrepreneurial activity; systematizes the results of scientific research in the field of pharmaceutical logistics with the basics of entrepreneurial activity.

Forms social, ethical and scientific conclusions in the form of recommendations for improving pharmaceutical logistics with the basics of entrepreneurial activity.

Informs pharmacists about the rules for: carrying out wholesale and retail sales of medicines and medical devices, as well as ensuring the safety of inventory in warehouses and vehicles; informs medical workers and pharmacists about new legislative and regulatory acts regulating the scope of drug circulation in the Republic of Kazakhstan, as well as additions and changes to them; demonstrates multiculturalism and openness with a conscious approach to work.

The learning skills necessary for independent continuation of further studies organizes all types of activities in the field of pharmaceutical logistics with the basics of entrepreneurship. Possesses intersectoral communication at the intersection of four disciplines: pharmaceutical logistics, business fundamentals, pharmaceutical law, pharmaceutical management and marketing, applies information based on IT technology in the field of professional activity.

**12. Prerequisites:** Pharmacy management and Economics

**13. Post-requirements:** practical professional activity

#### **14. Literature**

1. Мэрфи, П. Р. Заманауи логистика: оқулық / П. Р. Мэрфи, А. М. Кнемейер ; ағылшын тіл. ауд. И. Баймұратова, Қ. М. Төреханова. - 11-бас. - Алматы: Дәуір, 2017. - 176 б. с.
  2. Дәріс кешені "Фармацевтикалық логистика" пәні бойынша [Мәтін] : дәріс кешені = Лекционный комплекс по дисциплине -"Фармацевтическая логистика" : лекционный комплекс / Фармация ісін ұйымдастыру және басқару кафедрасы. - Шымкент: ОҚМФА, 2015. - 82 бет.
  3. Кәсіпкерлікті ұйымдастыру: оқу құралы / К. Н. Оразбаева [ж. б.]. - ; ҚР БҒМ Атырау мұнай және газ ин-ның ғыл. кеңесі ұсынған. - Алматы : Эверо, 2010. - 204 бет. с.
  4. Кәсіпкерлік қызмет негіздері : оқулық / К. Д. Шертаева, О. В. Блинова , Ж. К. Шмирова. - Шымкент : ОҚМА, 2019. - 151 бет
  5. Основы предпринимательской деятельности : учебник / К. Д. Шертаева, О. В. Блинова , Ж. К. Шмирова. - Шымкент: ЮКМА, 2019. - 152 с.
- Дополнительная:
1. Мэрфи, П. Р. Заманауи логистика: оқулық / П. Р. Мэрфи, А. М. Кнемейер ; ағылшын тіл. ауд. И. Баймұратова, Қ. М. Төреханова. - 11-бас. - Алматы: Дәуір, 2017. - 176 б. с
  2. Кәсіпкерлікті ұйымдастыру: оқу құралы / К. Н. Оразбаева [ж. б.]. - ; ҚР БҒМ Атырау мұнай және газ ин-ның ғыл. кеңесі ұсынған. - Алматы: Эверо, 2010. - 204 бет. с

**1. Department of Organization and Management of Pharmaceutical Business**

**2. Bachelor's degree**

**3. Educational program 6B10106 - "Pharmacy"**

**4. Course 5**



## **5. Name of the elective discipline Organizational foundations of Good Practices (GXP)**

### **6. Number of credits 3**

**7. Objectives:** The purpose of studying this discipline is to form a complex of knowledge among future specialists regarding the basic principles, categories, methods and tools of quality management in modern pharmaceutical organizations, generalized main achievements of theory and practice in the field of quality management, ideas about the system organization of management processes.

### **8. Content of the discipline:**

The concept of Proper Pharmaceutical (GXP) and their role in quality assurance at all stages of the drug life cycle. The basic principles of Good practices in the field of drug treatment (GMP, GDP, GDP, GPP) in Kazakhstan. International standardization. Organizational and methodological foundations of modern quality management systems. Quality management systems for organizations and their implementation at enterprises. The state system of standardization in Kazakhstan. Certification of the quality system. The concept of quality assurance and basic management systems in the pharmaceutical industry

### **9. Tasks:**

- to familiarize with the concept of proper pharmaceutical (GXP) and their role in quality assurance at all stages of the life cycle of medicines;
- to familiarize with the sequence of stages of creating a quality system at the enterprise, based on a process approach, and ensuring its effective functioning based on the concept of continuous improvement;
- to familiarize students with the procedure for applying international standards in the process of creating and certifying a quality system at the enterprise and conducting internal and external audits of the quality management system.
- to reveal the essence of the basic concepts and principles of quality management of pharmaceutical products and services;
- to provide a methodology for creating quality management systems at pharmaceutical enterprises;
- to outline the methods of using various tools for implementing the quality management function.
- teach to apply statistical methods of quality management in operational activities in the process of ensuring the quality of technological operations;

### **10. Justification of the choice of discipline:**

It is necessary to form a complex of knowledge among future specialists regarding methods and tools of proper quality management in modern pharmaceutical organizations, ideas about the systematic organization of quality management processes at the enterprise that meets the requirements of international standards and the acquisition by future specialists of skills for successful work in market conditions.

### **11. Learning outcomes (competencies)**

Demonstrates professional knowledge and understanding of current trends in the development of the pharmaceutical industry in accordance with the requirements of the current legislation of the Republic of Kazakhstan and Good Pharmaceutical Practices (GXP).

Classifies quality indicators of pharmaceutical products, applies statistical methods of quality management in performing technological operations.

Has the skills to monitor compliance with GXP standards.

Formulates own conclusions in the form of recommendations for the quality system; argues for his own choice of quality management method and tools.

Develops documentation of the organization's quality management system in accordance with the requirements of ISO 9000 standards when building the system and preparing the enterprise for certification; forms systems thinking in the field of providing pharmaceutical care to the population.

Provides scientific and advisory services to medical personnel and citizens on the selection, rules for taking and storing the most effective and safe medicines and pharmaceutical products,

methods of their storage, use, and purchasing procedures. Presents information about medical and pharmaceutical products to specialists and non-specialists.

Systematizes acquired knowledge in the field of pharmaceutical sciences, using IT technologies, and adapts them to practical activities based on intersectoral communication at the intersection of disciplines: drug technology, pharmaceutical chemistry, management and economics of pharmacy, pharmacognosy. Searches for information on medical and pharmaceutical products in regulatory and technical documentation, regulatory legal acts of the Republic of Kazakhstan, and the evidence-based medicine database.

**12. Prerequisites** of the discipline: organization of pharmaceutical activity and history of pharmacy, management and economics of pharmacy.

**13. Post-requirements** of the discipline: practical professional activity

#### **14. Literature**

На русском языке:

Основная:

1. Приказ и.о. Министра здравоохранения Республики Казахстан от 4 февраля 2021 года № ҚР ДСМ-15. «Об утверждении Надлежащих фармацевтических практик»:
2. УМКД размещен на образовательном портале ukma.kz
1. Электронная библиотека «Консультант студента». Ссылка для доступа: <http://www.studmedlib.ru>, ЛОГИН ibragim123, ПАРОЛЬ Libukma123
2. Сайт библиотечно-информационного центра академии lib.ukma.kz
3. Медиатека ЮКМА <https://media.skma.edu.kz/>
4. Цифровая библиотека «Aknurpress» [www.aknurpress.kz](http://www.aknurpress.kz) пройдите регистрацию и укажите промокод SDH-28
5. ОҚМА Репозиторийі <http://lib.ukma.kz/repository/>
6. Республикалық жоғары оқу орындары аралық электрондық кітапхана <http://rmebrk.kz/>
7. «Зан» нормативтік-құқықтықәктілербазасы <https://zan.kz/ru>
8. «Параграф Медицина» ақпараттықжүйесі<https://online.zakon.kz/Medicine/>
9. Кодекс Республики Казахстан от 7 июля 2020 года № 360-VI «О здоровье народа и системе здравоохранения» (с изменениями и дополнениями). Гл. 2, ст. 10; гл. 5, параграф 3; гл. 27,28; [https://online.zakon.kz/document/?doc\\_id=34464437](https://online.zakon.kz/document/?doc_id=34464437)
10. Приказ Министра здравоохранения Республики Казахстан № ҚР ДСМ-305/2020 от 21 декабря 2020 года «Об утверждении номенклатуры специальностей и специализаций в области здравоохранения, номенклатуры и квалификационных характеристик должностей работников здравоохранения». <https://adilet.zan.kz/rus/docs/V2000021856>
11. Приказ Министра здравоохранения Республики Казахстан от 17 сентября 2020 года № ҚР ДСМ-104/2020 Об утверждении Правил оптовой и розничной реализации лекарственных средств и медицинских изделий. <https://adilet.zan.kz/rus/docs/V2000021229#z129>
1. Руководство «Лекарственные средства. Надлежащая практика дистрибьюции» (СТ-Н МОЗУ 42-5.0:2008).
2. Руководства по Надлежащей практике хранения фармацевтической продукции («Guidetogoodstoragepracticesforpharmaceuticals»). Всемирная организация здравоохранения. Цикл технических отчетов ВОЗ, № 908, 2013.
3. Шубенкова Е.В. Тотальное управление качеством: учебное пособие / Е.В. Шубенкова. - М.: ЭКЗАМЕН, 2015. - 256 с.
4. Салимова, Т.А. История управления качеством: учебное пособие / Т.А. Салимова, Н.Ш. Ватолкина. – М. : КНОРУС, 2015. – 256 с.
5. Абутидзе З.С. Управление качеством и реинжиниринг организации: учеб.пособие / З.С. Абутидзе, Л.Н. Александровская, В.Н. Бас и др. - М.: Логос, 2013. - 328 с.

Дополнительная:

1. Арыстанов, Ж. М. История фармации: учебное пособие / Ж. М.- Алматы :Эверо, 2016. - 184 с.
2. Арыстанов, Ж. М. Организация фармацевтической деятельности: учеб. пособие . - Алматы : Эверо, 2015. - 608 с.
3. Управление и экономика фармации: учебник/под ред. И.А. Наркевича. – М.: ГЭОТАР-Медиа, 2017. – 928 с.

**1. Department of Organization and Management of Pharmaceutical Business**

**2. Undergraduate**

**3. Educational program 6B10106 - "Pharmacy"**

**4. Course 5**

**5. Name of the elective discipline:** Legal foundations of pharmaceutical activity and paperwork.

**6.Number of credits 5**

**7. Objectives:** the formation of students' systemic knowledge and understanding of the legal foundations of pharmaceutical activities, record keeping and the acquisition of skills in applying the basic legal norms of constitutional, civil, labor, administrative and criminal law, in the field of circulation of medicines, for their future professional activities.

**8. Content of the discipline**

Being an interdisciplinary science, the legal basis of pharmaceutical activity and office work is a set of legal norms of various branches of law:

- constitutional - the norms of which establish the main guarantees of the state in the field of protecting the health of citizens, engaging in pharmaceutical activities;
- civil - regulating property and personal non-property relations in the field of healthcare and drug supply;
- labor - determining the specifics of labor relations of pharmaceutical workers;
- administrative and criminal - establishing legal liability for violations of regulations protected by this industry in the field of circulation of medicines in the pharmaceutical market.

**9. Tasks:**

- to form knowledge on the state regulation of pharmaceutical activities.
- to form knowledge on the organization and workflow of all types of activities in the field of pharmaceutical activity (licensing, registration, certification of medicines, etc.)
- to form knowledge on the organizational and legal forms of entrepreneurial activity in pharmacy.
- to form knowledge of regulatory legal acts in the activities of pharmaceutical organizations.

**10. Rationale for the choice of discipline:**

The norms of pharmaceutical law are obligatory for all pharmaceutical workers and are backed up by the coercive power of the state - legal measures for their failure to comply. Therefore, knowledge of this discipline is necessary for a future specialist for high-quality pharmaceutical services to the population within the framework of legal regulation and organization of office work in accordance with the requirements of good practice standards.

**11. Learning outcomes (competencies)**

Objectives and basic principles of the subject are the legal foundations of pharmaceutical activities and office work, legislative and regulatory documents regulating the fundamentals of pharmaceutical law in the sphere of drug circulation in the Republic of Kazakhstan, principles of office work in pharmaceutical organizations.

Applies knowledge to advise pharmacists on the fundamentals of legal regulation of pharmaceutical activities in the Republic of Kazakhstan in accordance with the standards of Good Practices in Pharmacy Organizations, works in a team and in conditions of uncertainty.

Forms systematic thinking in the field of pharmaceutical law and the basics of office work, forms social, ethical and scientific conclusions in the form of recommendations for improving the legal foundations of pharmaceutical activities and office work in the professional activities of a pharmacist.

Consults doctors, pharmacists, the public on the use and storage of drugs and medical devices, informs medical workers and pharmacists about new legislative and regulatory acts regulating the sphere of drug circulation in the Republic of Kazakhstan, demonstrates multiculturalism and openness with a conscious approach to work.

Systematizes the basic legal norms of constitutional, civil, labor, administrative and criminal law in the field of circulation of medicines.

Applies knowledge and understanding of facts, phenomena, theories and complex dependencies between them in the field of legal regulation of relations between consumers and specialists of pharmaceutical services, depending on specific situations.

Systematizes acquired knowledge in the field of pharmaceutical sciences, using IT technologies, and adapts them to practical activities based on interindustry communication at the intersection of disciplines: legal foundations of pharmaceutical activity, office work, pharmaceutical management and marketing, basics of pharmaceutical consulting, basics of entrepreneurship, personnel management.

**12. Prerequisites:** management and economics of pharmacy

**13. Postrequisites:** Organizational Framework for GXP Good Pharmaceutical Practices

#### **14. Literatures**

##### **Main:**

1. Shertaeva K.D. Utegenova G.I. Fundamentals of pharmaceutical law. Shymkent 2018. 232s
2. Utegenova G.I. Pharmaceutical industry Shymkent 2018. 232b
3. .Kazakhstan Respublikasyndagy pharmaceuticals kyzmetti retteitin Zanamalyk zhane normative -қықықтық aktiler zhinaғы: zhinaқ / қыраст. B. Қ. Makhatov [t/b.]. - Shymkent: Zhasulan, 2017. - 327 bet.s.150 copies
4. Collection of Legislative and regulatory legal acts regulating pharmaceutical activities in the Republic of Kazakhstan: collection / comp. B.K. Makhatov [i dr.]. - Shymkent: Zhasulan, 2017. - 380 p. 40 copies
- 3.Kazakhstan Republicsyndagy pharmaceutikalyk kyzmetti retteitin Zanamalyk zhane normativtik- қықықтық aktiler zhinagy: zhinaқ / B. Қ. Makhatov [t/b.]. - Shymkent: Zhasulan, 2016. - 316 bet. p.2 ind.

##### **Additional:**

1. Lecture complex on the discipline - Fundamentals of Pharmaceutical Law: lectures / department. organization and management of the pharmaceutical business. - Shymkent: SKFA, 2016. - 33 p. - 22 copies
2. "Pharmaceutical kenés" pani boyinsha daris kesheni. Mamandyk: 5B110300-"Pharmacy" = Abstracts of lectures on the discipline "Pharmaceutical consulting". Specialty: 5B110300-"Pharmacy": lecturer theses / KRDSM SHZhK RMK; OKMFA; Pharmacy - Shymkent: B. Zh., 2013. - 50 bet.s.10 copies.

##### **Electronic resources:**

1. Pharmaceuticals. Mamandyk: 5V110300-"Pharmacy" [Electronic resource] = Abstracts of lectures on the discipline "Pharmaceutical consulting". Specialty: 5B110300-"Pharmacy": lecturer theses / KRDSM SHZhK RMK; OKMFA;
2. Pharmacy isinuyimdastyruzhanebaskaru department. - Electronic text data (126 Mb). - Shymkent: B. Zh., 2013. - 50 bet.el. opt. disc 1 copy
3. Deryagin, G. B. Medical law [Electronic resource]: electronic textbook / G. B. Deryagin, D. I. Kicha, O. E. Konovalov. - Electronic text data ( 1.54 Mb). - M. : UNITI-DANA, 2011. - 237 p. email optical disk (CD-ROM). 5 copies

**1. Department:** Pharmaceutical and Toxicological Chemistry

**2. Level of preparation:** undergraduate

**3. Educational program:** 6B10106 - «Pharmacy»

**4. Course:** 5

**5. The name of the elective discipline:** "The standardization of medicines "

**6. Number of credits:** 5 credits

**7. The objectives of the curriculum:** to teach the student to conduct quality control of medicines at the stages of development, production, storage and use in accordance with the regulatory documentation of the RK and with the quality standards GxP.

**8. Tasks of the curriculum:**

- to give students a methodology for pharmaceutical analysis of medicines at the stages of development, production, storage and use;
- to create in the students the skills and skills of conducting pharmaceutical analysis in accordance with the requirements of regulatory and technical documents to control the quality and safety of medicines.
- to provide students with knowledge of the basic principles, procedures for organizing and conducting standardization and certification of medicines;
- to consolidate the skills in the field of quality control and standardization of medicines in the conditions of the current testing laboratory;

**9. Discipline content:**

The current state and ways to improve the standardization of drugs in the Republic of Kazakhstan. Rules for the development of regulatory documents for monitoring the quality and safety of medicines. Pharmacopoeia methods of quality control and standardization of medicinal substances and dosage forms. Appropriate quality standards to ensure the efficacy and safety of drugs.

**10. Justification of the choice of discipline:**

Currently, a pressing health issue in Kazakhstan is to ensure the quality, efficacy and safety of medicines (drugs). Medicinal products are a special product, the quality of which is directly related to health. The issues of quality control and standardization of medicines increase their relevance due to the general increase in the number of medicines registered in Kazakhstan, which come, as a rule, from different manufacturers. Highly active substances belonging to new classes of natural and synthetic compounds have entered medical practice, the number of replicated drugs increases annually. Falsified (counterfeit) drugs penetrate the pharmaceutical market.

In modern conditions, pharmaceutical science is rapidly developing, new directions of pharmaceutical research are emerging, new approaches to the analysis of medicines, and science-based technologies are being introduced.

All this is of undoubted interest for students, allows them to improve their knowledge, improve their professional level.

This elective discipline will prepare a graduate pharmacist for professional activities in:

- production area (pharmaceutical institutions, chemical and pharmaceutical enterprises, etc.);
- control and authorization system (licensing, certification, registration, re-registration);
- research area.

**11. Learning outcomes (competencies):**

Knowledge (cognitive sphere)	Skills and skills (psychomotor sphere)	Personal and professional competencies (relationships)
<ul style="list-style-type: none"><li>• know the state system of standardization and certification of drugs;</li></ul>	<ul style="list-style-type: none"><li>• be able to carry out all types of pharmaceutical analysis on the quality control of medicines at the stages of</li></ul>	<ul style="list-style-type: none"><li>• to be ready for independent work and to carry out their activities</li></ul>

<ul style="list-style-type: none"> <li>• know the regulatory documents on the quality of medicines;</li> <li>• know systemic efficiency, safety and quality at all stages of the life cycle of drugs;</li> <li>• know the requirements for the development and preparation of regulatory documents on the control of the quality and safety of drugs;</li> <li>• know the regulatory and legal and organizational bases of metrological assurance of measurement uniformity;</li> <li>• know certification tests and certification procedure for medicinal products</li> </ul>	<p>development, production, storage and use;</p> <ul style="list-style-type: none"> <li>• be able to develop a quality specification based on the study of physical, chemical, pharmacological properties and production methods;</li> <li>• be able to conduct tests of drug quality indicators in accordance with the requirements of regulatory documentation;</li> <li>• be able to predict the period and conditions of storage of medicines on the basis of physical, chemical properties and method of preparation;</li> <li>• be able to determine the validation characteristics of analytical techniques</li> </ul>	<p>taking into account the moral and legal norms adopted in the society, to comply with laws and regulations on work with confidential information;</p> <ul style="list-style-type: none"> <li>• be able to design and carry out their own educational trajectory throughout life, ensuring success and competitiveness;</li> <li>• be able to effectively collaborate with other people: build effective communications, collaborate with colleagues, and establish maximum trusting relationships with partners.</li> </ul>
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**12. Prerequisites:** analytical chemistry, organic chemistry, general research methods and analysis of drugs

**13. Post requisites:** professional activities

**14. Literature:**

**основная:**

**на русском языке:**

1. Арыстанова Т.А. Фармацевтическая химия, учебник, том I: - Алматы: «Эверо», 2015.-572 с.
2. Арыстанова Т.А. Фармацевтическая химия, учебник, том II:- Алматы: «Эверо», 2015.-640с.
3. Государственная фармакопея Республики Казахстан.-Алматы:«Жибек жолы», 2008.-Том 1.- 592с.
4. Государственная фармакопея Республики Казахстан.- Алматы:«Жибек жолы», 2009.-Том 2.- 804с.
5. Государственная фармакопея Республики Казахстан.-Алматы:«Жибек жолы», 2014.-Том 3.-729с.
6. Контроль качества и стандартизация лекарственных средств: методическое пособие / под ред. Раменской Г. В., Ордабаевой С. К.-М: I МГМУ; - Шымкент: ЮКГФА, 2015. - 285 с.
7. Ордабаева С.К. Анализ лекарственных препаратов, производных ароматических соединений: учебное пособие.-Шымкент: «Элем», 2012.-250 с.
8. Раменская Г.В. Фармацевтическая химия: учебник.-М.: БИНОМ. Лаборатория знаний, 2015.-467 с.
9. Руководство к лабораторным занятиям по фармацевтической химии под редакцией Г.В. Раменской.-М.: Пилот, 2016.-352 с.
10. Халиуллин, Ф. А. Инфракрасная спектроскопия в фармацевтическом анализе: учебное пособие / - М.: ГЭОТАР-Медиа, 2017. - 160 с
11. Method validation in pharmaceutical analysis: a guide to best practice / editors dr. Joachim Ermer. - 2nd ed. - Germany: Wiley-VCH, 2015. - 418 p.
12. Watson, David G. Pharmaceutical analysis: a textboor for pharmacy students and pharmaceutical chemists / David G. Watson. - 4th ed. - Philadelphia: Elsevier, 2017. - 459 p.

**на казахском языке:**

1. Арыстанова Т.Ә. Фармацевтикалық химия: оқулық.т.1-Алматы: «Әверо», 2015.-592 б.
2. Арыстанова Т.Ә. Фармацевтикалық химия: оқулық.т.2-Алматы: «Әверо», 2015.-602б.
3. Қазақстан Республикасының Мемлекеттік фармакопеясы.-Алматы: «Жібек жолы», 2008.- 1 Т.-592б.
4. Қазақстан Республикасының Мемлекеттік фармакопеясы.-Алматы: «Жібек жолы», 2009.- 2 Т.-804б.
5. Қазақстан Республикасының Мемлекеттік фармакопеясы.-Алматы: «Жібек жолы», 2014.- 3 Т.-709б.
6. Краснов, Е. А. Фармациялық химия сұрақтар мен жауаптар түрінде : оқу құралы = Фармацевтическая химия в вопросах и ответах: учебное пособие. - М.: ГЭОТАР-Медиа, 2016. - 704 с
7. Ордабаева С.К., Қарақұлова А.Ш. Глицирризин қышқылы тундыларының дәрілік препараттарының бірыңғайланған сапасын бақылау әдістемелерін жасау: ғылыми-әдістемелік нұсқау.-Шымкент: «Әлем».- 2013.-92 б.

#### **электронные ресурсы:**

1. Арзамасцев, А. П. Фармацевтическая химия [Электронный ресурс]: учеб. пособие / А. П. Арзамасцев. - Электрон. текстовые дан. ( 86,7 Мб). - М.: "ГЭОТАР-Медиа", 2011. - 640 с. эл. опт. диск (CD-ROM).
2. Контроль качества и стандартизация лекарственных средств [Электронный ресурс]: методическое пособие / под ред. Раменской Г. В., Ордабаевой С. К.-М: І МГМУ; Шымкент: ЮКГФА.-Электрон. текстовые дан. (4.91Мб). 2015. – 285 с.
3. Ордабаева, С. К. Анализ лекарственных препаратов, производных ароматических соединений Шымкент: «Әлем», 2012. - 300 с.
4. Ордабаева С.К., Каракулова А.Ш. Фармацевтикалық химия. Ароматты қосылыстар. [Электронды ресурс]: Оқулық. / С. К. Ордабаева; А.Ш. Каракулова; ҚР денсаулық сақтау министрлігі. ОҚМФА. - Электронды мәтінді мәлімет (12.5Мб). - Шымкент: ОҚМФА,- Шымкент, 2016.-296 б.
5. Фармацевтическая химия [Электронный ресурс]: учебник / под ред. Т. В. Плетневой. - Электрон. текстовые дан. ( 50,6Мб). - М : ГЭОТАР-Медиа, 2017
6. The British Pharmacopoeia (BP 2016). – London The Stationery Office.-2016.
7. The European Pharmacopoeia 8.4.- EDQM.-2015.
8. The Japanese Pharmacopoeia, 16<sup>th</sup> edition.- 2013.
9. The International Pharmacopoeia, 5<sup>th</sup> ed. – Geneva: WHO.- 2015.
10. The United States Pharmacopoeia, 38 National Formulary 33.-2015.

#### **дополнительная:**

1. Арыстанова Т.А., Арыстанов Ж.М. Инновационные технологии в фармацевтическом образовании: обучение и контроль. Учебно-методическое пособие. – Шымкент, 2012.- 175с.
2. Краснов, Е. А. Фармацевтическая химия в вопросах и ответах: учебное пособие. - М.: "Литтерра", 2016. - 352 с.
3. Ордабаева С.К., Надилова С.Н. Унифицированные методики хроматографического анализа лекарственных форм метронидазола: научно-методические рекомендации.-Шымкент: «Әлем», 2015. – 84 с.
4. Турсубекова, Б. И. Бейорганикалық дәрілік заттарды талдау: оқу құралы.- Алматы: «Әверо», 2016. - 120 бет. С
5. English for the pharmaceutical industry: textbook / M. Bucheler [and etc.]. - New York: Oxford University Press, 2014. - 96 p. +эл. опт. диск (CD-ROM).
6. Cairns, D. Essentials of pharmaceutical chemistry: textbook / D. Cairns. - 4th ed. - London: [s. n.], 2013. - 308 p
7. Georgiyants V.A., Bezugly P.O., Burian G.O., Abu Sharkh A.I., Taran K.A. Pharmaceutical chemistry. Lectures for English-speaking students:Ph24 the study guide for students of higher schools – Kharkiv: NUPh; Original, 2013. – 527 p.

# **1. Department Organization and Management of Pharmaceutical Business**

## **2. Undergraduate**

### **3. Educational program 6B10106 - "Pharmacy"**

#### **4. Course 5**

#### **5. Name of the elective discipline Personnel management**

#### **6. Number of credits 5**

**7. Objectives:** Formation of a student's holistic system of knowledge about the patterns of formation and development of the organization's human resource management subsystem as an essential element of the organization's management system as a whole, as well as the student's mastering the skills and abilities of personnel management of pharmaceutical organizations.

#### **8. The content of the discipline:**

Personnel management is a purposeful activity of the management team of the organization, as well as managers and specialists of the departments of the personnel management system, which includes the development of the concept and strategy of personnel policy and personnel management methods.

This activity consists in the formation of a personnel management system, personnel work planning, personnel marketing, determination of personnel potential and the organization's needs for personnel. The organization's personnel management technology covers a wide range of functions from recruitment to dismissal of personnel.

It provides for information, technical, regulatory, methodological, legal and record-keeping support for the personnel management system. The heads and employees of the departments of the organization's personnel management system also solve the issues of assessing the activities of the departments of the organization's management system, assessing the economic and social efficiency of improving personnel management.

#### **9. Tasks:**

- mastering the essence and content of the organization's personnel management process;
- mastery of the conceptual apparatus of personnel management of the organization;
- assessment of the place and role of personnel management in the overall system of enterprise management;
- study of personnel management methods, formation of the skill of using a situational approach when choosing them;
- formation of the ability to analyze organizational problems through the prism of the human factor;
- development of a management decision to improve the use of human resources of the organization;
- assessment of the economic and social efficiency of projects to improve the system and processes of personnel management.

#### **10. Rationale for the choice of discipline:**

Personnel management is a purposeful activity of the management team of the organization, as well as managers and specialists of the departments of the personnel management system, which includes the development of the concept and strategy of personnel policy and personnel management methods.

This activity consists in the formation of a personnel management system, personnel work planning, personnel marketing, determination of personnel potential and the organization's needs for personnel. The organization's personnel management technology covers a wide range of functions from recruitment to dismissal of personnel.

It provides for information, technical, regulatory, methodological, legal and record-keeping support for the personnel management system. The heads and employees of the departments of the organization's personnel management system also solve the issues of assessing the activities of the departments of the organization's management system, assessing the economic and social efficiency of improving personnel management.

#### **11. Learning outcomes (competencies)**



Demonstrates knowledge and understanding of the subject and tasks of personnel management and owns the methodology of pharmaceutical management and marketing, a system of management methods for carrying out activities in the field of drug circulation and determines the socio-psychological climate in the team and takes into account the organizational process of labor connecting and coordinating all production factors, establishing optimal proportions between basic elements and resources and combining them into a single system.

Determines the needs of personnel and analyzes the psychological climate in the team and has information about medicines and distributes it among the population, specialists of treatment, preventive and pharmaceutical organizations.

Applies knowledge on the organization of management structure and controllability standards and methods for resolving conflicts that arise in the process of pharmaceutical activities.

Collects and interprets information to form judgments based on social, ethical, and scientific considerations.

Forms systematic knowledge and thinking in methods of staff employment and labor productivity and the provision of quality pharmaceutical services to the population, medical and preventive and pharmaceutical organizations.

Takes into account the role of the manager in personnel management and has the skills of effective and conflict-free communication with patients, relatives of patients, and colleagues. Able to work in a team.

Systematizes acquired knowledge in the field of pharmaceutical sciences, using IT technologies, and adapts them to practical activities based on intersectoral communication at the intersection of disciplines: bioethics with the basics of communication skills and pharmaceutical management and marketing.

**12. Prerequisites** bioethics with the basics of communication skills; organization of pharmaceutical activities;

**13. Postrequisites** pharmaceutical management and marketing.

#### **14. Literature**

1. Shertaeva K.D., Mamytbaeva K.Zh., Zhanbyrbaeva A.D., Personnel management - Textbook. - Shymkent. – 2018.-121p.
2. Arystanov, Zh. M. Management and marketing in pharmacy: textbook - Almaty: Evero, 2016.
3. Fundamentals of marketing: textbook. for honey. schools and colleges / ed. I. V. Lipsitsa, M. N. Dymshitsa; - M. : GEOTAR - Media, 2014. - 208 p.
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6. Shertaeva, KD Pharmaceutical marketing: textbook. - Shymkent: B. and., 2012.  
: oku-adistemelik qyral / K. D. Shertaeva, A. D. Zhanbyrbaeva; OKMFA. - 2-bass, tuzet. Zhane tolykt. - Shymkent: B. J., 2012. - 150 bet. With.

### **1. Department of Organizations and management of pharmaceutical business**

#### **2. Bachelor course**

#### **3. Educational program 6B10106 - "Pharmacy"**

#### **4. Course 5**

#### **5. The name of the elective discipline Pharmaceutical logistics with the basics of entrepreneurship.**

#### **6. Number of credits 5**

**7. Objectives:** formation of students' system knowledge and understanding of the conceptual foundations of pharmaceutical logistics and acquisition of skills in modern methods of managing material and other flows in modern conditions. The purpose of studying the basics of

entrepreneurship is to form students' knowledge on the organization of pharmaceutical business and the activities of pharmaceutical enterprises in market conditions.

**8. Tasks:** formation of students' system knowledge and understanding of the conceptual foundations of pharmaceutical logistics and acquisition of skills in modern methods of managing material and other flows in modern conditions. The purpose of studying the basics of entrepreneurship is to form students' knowledge on the organization of pharmaceutical business and the activities of pharmaceutical enterprises in market conditions.

**9. Tasks:**

- to familiarize students with the definitions, concepts, tasks and functions of logistics;
- to familiarize with the factors and levels of development of pharmaceutical logistics, information logistics systems in pharmacy;
- to give an idea of the tasks and functions of procurement logistics and supplier selection;
- to form an idea of the types and categories of stocks in the system of pharmaceutical organizations and distribution channels of pharmaceutical products;
- to form knowledge about the design of an effective logistics inventory management system, about keeping records of failures in suppliers of pharmaceutical products.
- to give an idea of the content and essence of entrepreneurial activity;
- to familiarize with the main directions and prospects for the development of entrepreneurship in pharmacy;

**10. Justification of the choice of discipline:**

A necessary condition for the effective operation of a pharmaceutical company is logistics, i.e. the representation of the functioning of the company as the management of economic flows, tracking their movement from the start to the end points - from suppliers to consumers.

**11. Learning outcomes (competencies)**

Demonstrates knowledge and understanding of the subject matter, objectives and basic principles of pharmaceutical logistics with business fundamentals; legislative and regulatory documents regulating the basics of pharmaceutical consulting and pharmaceutical law in the field of drug circulation in the Republic of Kazakhstan; understands the importance of the ability to "listen and hear", i.e. demonstrates the principles of pharmaceutical ethics and deontology, customer focus.

- applies knowledge to carry out wholesale and retail sales of medicines and medical devices, as well as to ensure the safety of inventory in warehouses and vehicles; knows how to work in a team under conditions of uncertainty; analyzes information based on IT technology in the field of professional activity.

- applies the acquired knowledge in organizing prescription and over-the-counter dispensing of medicines and medical devices, their storage, taking into account physicochemical properties, toxicological groups, expiration dates, dosage form based on facts, phenomena, theories and complex dependencies between them.

- knows and understands the set of values and principles that express the student's integrity in learning when performing written work, answering exams, in research, expressing one's position, in relationships with academic staff, teachers and other students, as well as assessment.

Forms systems thinking in the field of pharmaceutical logistics with the basics of entrepreneurial activity; systematizes the results of scientific research in the field of pharmaceutical logistics with the basics of entrepreneurial activity.

Forms social, ethical and scientific conclusions in the form of recommendations for improving pharmaceutical logistics with the basics of entrepreneurial activity.

Informs pharmacists about the rules for: carrying out wholesale and retail sales of medicines and medical devices, as well as ensuring the safety of inventory in warehouses and vehicles; informs medical workers and pharmacists about new legislative and regulatory acts regulating the scope of drug circulation in the Republic of Kazakhstan, as well as additions and changes to them; demonstrates multiculturalism and openness with a conscious approach to work.

The learning skills necessary for independent continuation of further studies organizes all types of activities in the field of pharmaceutical logistics with the basics of entrepreneurship. Possesses intersectoral communication at the intersection of four disciplines: pharmaceutical logistics, business fundamentals, pharmaceutical law, pharmaceutical management and marketing, applies information based on IT technology in the field of professional activity.

**12. Prerequisites:** Pharmacy management and Economics

**13. Post-requirements:** practical professional activity

#### **14. Literature**

6. Мэрфи, П. Р. Заманауи логистика: оқулық / П. Р. Мэрфи, А. М. Кнемейер ; ағылшын тіл. ауд. И. Баймұратова, Қ. М. Төреханова. - 11-бас. - Алматы: Дәуір, 2017. - 176 б. с.
  7. Дәріс кешені "Фармацевтикалық логистика" пәні бойынша [Мәтін] : дәріс кешені = Лекционный комплекс по дисциплине -"Фармацевтическая логистика" : лекционный комплекс / Фармация ісін ұйымдастыру және басқару кафедрасы. - Шымкент: ОҚМФА, 2015. - 82 бет.
  8. Кәсіпкерлікті ұйымдастыру: оқу құралы / К. Н. Оразбаева [ж. б.]. - ; ҚР БҒМ Атырау мұнай және газ ин-ның ғыл. кеңесі ұсынған. - Алматы : Эверо, 2010. - 204 бет. с.
  9. Кәсіпкерлік қызмет негіздері : оқулық / К. Д. Шертаева, О. В. Блинова , Ж. К. Шмирова. - Шымкент : ОҚМА, 2019. - 151 бет
  10. Основы предпринимательской деятельности : учебник / К. Д. Шертаева, О. В. Блинова , Ж. К. Шмирова. - Шымкент: ЮКМА, 2019. - 152 с.
- Дополнительная:
3. Мэрфи, П. Р. Заманауи логистика: оқулық / П. Р. Мэрфи, А. М. Кнемейер ; ағылшын тіл. ауд. И. Баймұратова, Қ. М. Төреханова. - 11-бас. - Алматы: Дәуір, 2017. - 176 б. с
  4. Кәсіпкерлікті ұйымдастыру: оқу құралы / К. Н. Оразбаева [ж. б.]. - ; ҚР БҒМ Атырау мұнай және газ ин-ның ғыл. кеңесі ұсынған. - Алматы: Эверо, 2010. - 204 бет. с

**1. Department** of Organization and Management of Pharmaceutical Business

**2. Bachelor's degree**

**3. Educational program** 6B10106 - "Pharmacy"

**4. Course** 5

**5. Name of the elective discipline** Organizational foundations of Good Practices (GXP)

**6. Number of credits** 3

**7. Objectives:** The purpose of studying this discipline is to form a complex of knowledge among future specialists regarding the basic principles, categories, methods and tools of quality management in modern pharmaceutical organizations, generalized main achievements of theory and practice in the field of quality management, ideas about the system organization of management processes.

**8. Content of the discipline:**

The concept of Proper Pharmaceutical (GXP) and their role in quality assurance at all stages of the drug life cycle. The basic principles of Good practices in the field of drug treatment (GMP, GDP, GDP, GPP) in Kazakhstan. International standardization. Organizational and methodological foundations of modern quality management systems. Quality management systems for organizations and their implementation at enterprises. The state system of standardization in Kazakhstan. Certification of the quality system. The concept of quality assurance and basic management systems in the pharmaceutical industry

**9. Tasks:**

- to familiarize with the concept of proper pharmaceutical (GXP) and their role in quality assurance at all stages of the life cycle of medicines;
- to familiarize with the sequence of stages of creating a quality system at the enterprise, based on a process approach, and ensuring its effective functioning based on the concept of continuous improvement;

- to familiarize students with the procedure for applying international standards in the process of creating and certifying a quality system at the enterprise and conducting internal and external audits of the quality management system.
- to reveal the essence of the basic concepts and principles of quality management of pharmaceutical products and services;
- to provide a methodology for creating quality management systems at pharmaceutical enterprises;
- to outline the methods of using various tools for implementing the quality management function.
- teach to apply statistical methods of quality management in operational activities in the process of ensuring the quality of technological operations;

#### **10. Justification of the choice of discipline:**

It is necessary to form a complex of knowledge among future specialists regarding methods and tools of proper quality management in modern pharmaceutical organizations, ideas about the systematic organization of quality management processes at the enterprise that meets the requirements of international standards and the acquisition by future specialists of skills for successful work in market conditions.

#### **11. Learning outcomes (competencies)**

Demonstrates professional knowledge and understanding of current trends in the development of the pharmaceutical industry in accordance with the requirements of the current legislation of the Republic of Kazakhstan and Good Pharmaceutical Practices (GXP).

Classifies quality indicators of pharmaceutical products, applies statistical methods of quality management in performing technological operations.

Has the skills to monitor compliance with GXP standards.

Formulates own conclusions in the form of recommendations for the quality system; argues for his own choice of quality management method and tools.

Develops documentation of the organization's quality management system in accordance with the requirements of ISO 9000 standards when building the system and preparing the enterprise for certification; forms systems thinking in the field of providing pharmaceutical care to the population.

Provides scientific and advisory services to medical personnel and citizens on the selection, rules for taking and storing the most effective and safe medicines and pharmaceutical products, methods of their storage, use, and purchasing procedures. Presents information about medical and pharmaceutical products to specialists and non-specialists.

Systematizes acquired knowledge in the field of pharmaceutical sciences, using IT technologies, and adapts them to practical activities based on intersectoral communication at the intersection of disciplines: drug technology, pharmaceutical chemistry, management and economics of pharmacy, pharmacognosy. Searches for information on medical and pharmaceutical products in regulatory and technical documentation, regulatory legal acts of the Republic of Kazakhstan, and the evidence-based medicine database.

**12. Prerequisites** of the discipline: organization of pharmaceutical activity and history of pharmacy, management and economics of pharmacy.

**13. Post-requirements** of the discipline: practical professional activity

#### **14. Literature**

На русском языке:

Основная:

3. Приказ и.о. Министра здравоохранения Республики Казахстан от 4 февраля 2021 года № ҚР ДСМ-15. «Об утверждении Надлежащих фармацевтических практик»:
4. УМКД размещен на образовательном портале ukma.kz
12. Электронная библиотека «Консультант студента». Ссылка для доступа: <http://www.studmedlib.ru>, ЛОГИН ibragim123, ПАРОЛЬ Libukma123
13. Сайт библиотечно-информационного центра академии lib.ukma.kz
14. Медиатека ЮКМА <https://media.skma.edu.kz/>

15. Цифровая библиотека «Аknurpress» [www.aknurpress.kz](http://www.aknurpress.kz) пройдите регистрацию и укажите промокод SDH-28
16. ОҚМА Репозиторий <http://lib.ukma.kz/repository/>
17. Республикалық жоғары оқу орындары аралық электрондық кітапхана <http://rmebrk.kz/>
18. «Заң» нормативтік-құқықтықәктілербазасы <https://zan.kz/ru>
19. «Параграф Медицина» ақпараттықжүйесі <https://online.zakon.kz/Medicine/>
20. Кодекс Республики Казахстан от 7 июля 2020 года № 360-VI «О здоровье народа и системе здравоохранения» (с изменениями и дополнениями). Гл. 2, ст. 10; гл. 5, параграф 3; гл. 27,28;  
[https://online.zakon.kz/document/?doc\\_id=34464437](https://online.zakon.kz/document/?doc_id=34464437)
21. Приказ Министра здравоохранения Республики Казахстан № ҚР ДСМ-305/2020 от 21 декабря 2020 года «Об утверждении номенклатуры специальностей и специализаций в области здравоохранения, номенклатуры и квалификационных характеристик должностей работников здравоохранения».  
<https://adilet.zan.kz/rus/docs/V2000021856>
22. Приказ Министра здравоохранения Республики Казахстан от 17 сентября 2020 года № ҚР ДСМ-104/2020  
Об утверждении Правил оптовой и розничной реализации лекарственных средств и медицинских изделий.  
<https://adilet.zan.kz/rus/docs/V2000021229#z129>
6. Руководство «Лекарственные средства. Надлежащая практика дистрибьюции» (СТ-Н МОЗУ 42-5.0:2008).
7. Руководства по Надлежащей практике хранения фармацевтической продукции («Guidetogoodstoragepracticesforpharmaceuticals»). Всемирная организация здравоохранения. Цикл технических отчетов ВОЗ, № 908, 2013.
8. Шубенкова Е.В. Тотальное управление качеством: учебное пособие / Е.В. Шубенкова. - М.: ЭКЗАМЕН, 2015. - 256 с.
9. Салимова, Т.А. История управления качеством: учебное пособие / Т.А. Салимова, Н.Ш. Ватолкина. – М. : КНОРУС, 2015. – 256 с.
10. Абутидзе З.С. Управление качеством и реинжиниринг организации: учеб.пособие / З.С. Абутидзе, Л.Н. Александровская, В.Н. Бас и др. - М.: Логос, 2013. - 328 с.  
Дополнительная:
4. Арыстанов, Ж. М. История фармации: учебное пособие / Ж. М.- Алматы :Эверо, 2016. - 184 с.
5. Арыстанов, Ж. М. Организация фармацевтической деятельности: учеб. пособие . - Алматы : Эверо, 2015. - 608 с.
6. Управление и экономика фармации: учебник/под ред. И.А. Наркевича. – М.: ГЭОТАР-Медиа, 2017. – 928 с.

**1. Department of Organization and Management of Pharmaceutical Business**

**2. Undergraduate**

**3. Educational program** 6B10106 - "Pharmacy"

**4. Course** 5

**5. Name of the elective discipline:** Legal foundations of pharmaceutical activity and paperwork.

**6. Number of credits** 5

**7. Objectives:** the formation of students' systemic knowledge and understanding of the legal foundations of pharmaceutical activities, record keeping and the acquisition of skills in applying the basic legal norms of constitutional, civil, labor, administrative and criminal law, in the field of circulation of medicines, for their future professional activities.

**8. Content of the discipline**

Being an interdisciplinary science, the legal basis of pharmaceutical activity and office work is a set of legal norms of various branches of law:

- constitutional - the norms of which establish the main guarantees of the state in the field of protecting the health of citizens, engaging in pharmaceutical activities;
- civil - regulating property and personal non-property relations in the field of healthcare and drug supply;
- labor - determining the specifics of labor relations of pharmaceutical workers;
- administrative and criminal - establishing legal liability for violations of regulations protected by this industry in the field of circulation of medicines in the pharmaceutical market.

#### **9. Tasks:**

- to form knowledge on the state regulation of pharmaceutical activities.
- to form knowledge on the organization and workflow of all types of activities in the field of pharmaceutical activity (licensing, registration, certification of medicines, etc.)
- to form knowledge on the organizational and legal forms of entrepreneurial activity in pharmacy.
- to form knowledge of regulatory legal acts in the activities of pharmaceutical organizations.

#### **10. Rationale for the choice of discipline:**

The norms of pharmaceutical law are obligatory for all pharmaceutical workers and are backed up by the coercive power of the state - legal measures for their failure to comply. Therefore, knowledge of this discipline is necessary for a future specialist for high-quality pharmaceutical services to the population within the framework of legal regulation and organization of office work in accordance with the requirements of good practice standards.

#### **11. Learning outcomes (competencies)**

Objectives and basic principles of the subject are the legal foundations of pharmaceutical activities and office work, legislative and regulatory documents regulating the fundamentals of pharmaceutical law in the sphere of drug circulation in the Republic of Kazakhstan, principles of office work in pharmaceutical organizations.

Applies knowledge to advise pharmacists on the fundamentals of legal regulation of pharmaceutical activities in the Republic of Kazakhstan in accordance with the standards of Good Practices in Pharmacy Organizations, works in a team and in conditions of uncertainty.

Forms systematic thinking in the field of pharmaceutical law and the basics of office work, forms social, ethical and scientific conclusions in the form of recommendations for improving the legal foundations of pharmaceutical activities and office work in the professional activities of a pharmacist.

Consults doctors, pharmacists, the public on the use and storage of drugs and medical devices, informs medical workers and pharmacists about new legislative and regulatory acts regulating the sphere of drug circulation in the Republic of Kazakhstan, demonstrates multiculturalism and openness with a conscious approach to work.

Systematizes the basic legal norms of constitutional, civil, labor, administrative and criminal law in the field of circulation of medicines.

Applies knowledge and understanding of facts, phenomena, theories and complex dependencies between them in the field of legal regulation of relations between consumers and specialists of pharmaceutical services, depending on specific situations.

Systematizes acquired knowledge in the field of pharmaceutical sciences, using IT technologies, and adapts them to practical activities based on interindustry communication at the intersection of disciplines: legal foundations of pharmaceutical activity, office work, pharmaceutical management and marketing, basics of pharmaceutical consulting, basics of entrepreneurship, personnel management.

**12. Prerequisites:** management and economics of pharmacy

**13. Postrequisites:** Organizational Framework for GXP Good Pharmaceutical Practices

#### **14. Literatures**

##### **Main:**

1. Shertaeva K.D. Utegenova G.I. Fundamentals of pharmaceutical law. Shymkent 2018. 232s
2. Utegenova G.I. Pharmaceutical industry Shymkent 2018. 232b

3. .Kazakhstan Respublikasyndagy pharmaceuticals kyzmetti retteitin Zanamalyk zhane normative -қықықтық актілер жинағы: zhinaq / қыраст. B. Қ. Makhatov [t/b.]. - Shymkent: Zhasulan, 2017. - 327 bet.s.150 copies

4. Collection of Legislative and regulatory legal acts regulating pharmaceutical activities in the Republic of Kazakhstan: collection / comp. B.K. Makhatov [i dr.]. - Shymkent: Zhasulan, 2017. - 380 p. 40 copies

3.Kazakhstan Republicsyndagy pharmaceutikalyk kyzmetti retteitin Zanamalyk zhane normativtik- қықықтық актілер жинағы: zhinaq / B. Қ. Makhatov [t/b.]. - Shymkent: Zhasulan, 2016. - 316 bet. p.2 ind.

**Additional:**

1. Lecture complex on the discipline - Fundamentals of Pharmaceutical Law: lectures / department. organization and management of the pharmaceutical business. - Shymkent: SKFA, 2016. - 33 p. - 22 copies

2. "Pharmaceutical kenesh" pani boyinsha daris kesheni. Mamandyk: 5B110300-"Pharmacy" = Abstracts of lectures on the discipline "Pharmaceutical consulting". Specialty: 5B110300-"Pharmacy": lecturer theses / KRDSM SHZhK RMK; OKMFA; Pharmacy - Shymkent: B. Zh., 2013. - 50 bet.s.10 copies.

**Electronic resources:**

1. Pharmaceuticals. Mamandyk: 5V110300-"Pharmacy" [Electronic resource] = Abstracts of lectures on the discipline "Pharmaceutical consulting". Specialty: 5B110300-"Pharmacy": lecturer theses / KRDSM SHZhK RMK; OKMFA;

2.Pharmacy isinuyimdastyruzhanebaskaru department. - Electronic text data (126 Mb). - Shymkent: B. Zh., 2013. - 50 bet.el. opt. disc 1 copy

3. Deryagin, G. B. Medical law [Electronic resource]: electronic textbook / G. B. Deryagin, D. I. Kicha, O. E. Konovalov. - Electronic text data ( 1.54 Mb). - M. : UNITI-DANA, 2011. - 237 p. email optical disk (CD-ROM). 5 copies

**1. Department Organization and Management of Pharmaceutical Business**

**2. Undergraduate**

**3. Educational program 6B10106 - "Pharmacy"**

**4. Course 5**

**5. Name of the elective discipline Personnel management**

**6. Number of credits 5**

**7. Objectives:** Formation of a student's holistic system of knowledge about the patterns of formation and development of the organization's human resource management subsystem as an essential element of the organization's management system as a whole, as well as the student's mastering the skills and abilities of personnel management of pharmaceutical organizations.

**8. The content of the discipline:**

Personnel management is a purposeful activity of the management team of the organization, as well as managers and specialists of the departments of the personnel management system, which includes the development of the concept and strategy of personnel policy and personnel management methods.

This activity consists in the formation of a personnel management system, personnel work planning, personnel marketing, determination of personnel potential and the organization's needs for personnel. The organization's personnel management technology covers a wide range of functions from recruitment to dismissal of personnel.

It provides for information, technical, regulatory, methodological, legal and record-keeping support for the personnel management system. The heads and employees of the departments of the organization's personnel management system also solve the issues of assessing the activities of the

departments of the organization's management system, assessing the economic and social efficiency of improving personnel management.

### **9. Tasks:**

- mastering the essence and content of the organization's personnel management process;
- mastery of the conceptual apparatus of personnel management of the organization;
- assessment of the place and role of personnel management in the overall system of enterprise management;
- study of personnel management methods, formation of the skill of using a situational approach when choosing them;
- formation of the ability to analyze organizational problems through the prism of the human factor;
- development of a management decision to improve the use of human resources of the organization;
- assessment of the economic and social efficiency of projects to improve the system and processes of personnel management.

### **10. Rationale for the choice of discipline:**

Personnel management is a purposeful activity of the management team of the organization, as well as managers and specialists of the departments of the personnel management system, which includes the development of the concept and strategy of personnel policy and personnel management methods.

This activity consists in the formation of a personnel management system, personnel work planning, personnel marketing, determination of personnel potential and the organization's needs for personnel. The organization's personnel management technology covers a wide range of functions from recruitment to dismissal of personnel.

It provides for information, technical, regulatory, methodological, legal and record-keeping support for the personnel management system. The heads and employees of the departments of the organization's personnel management system also solve the issues of assessing the activities of the departments of the organization's management system, assessing the economic and social efficiency of improving personnel management.

### **11. Learning outcomes (competencies)**

Demonstrates knowledge and understanding of the subject and tasks of personnel management and owns the methodology of pharmaceutical management and marketing, a system of management methods for carrying out activities in the field of drug circulation and determines the socio-psychological climate in the team and takes into account the organizational process of labor connecting and coordinating all production factors, establishing optimal proportions between basic elements and resources and combining them into a single system.

Determines the needs of personnel and analyzes the psychological climate in the team and has information about medicines and distributes it among the population, specialists of treatment, preventive and pharmaceutical organizations.

Applies knowledge on the organization of management structure and controllability standards and methods for resolving conflicts that arise in the process of pharmaceutical activities.

Collects and interprets information to form judgments based on social, ethical, and scientific considerations.

Forms systematic knowledge and thinking in methods of staff employment and labor productivity and the provision of quality pharmaceutical services to the population, medical and preventive and pharmaceutical organizations.

Takes into account the role of the manager in personnel management and has the skills of effective and conflict-free communication with patients, relatives of patients, and colleagues. Able to work in a team.

Systematizes acquired knowledge in the field of pharmaceutical sciences, using IT technologies, and adapts them to practical activities based on intersectoral communication at the intersection of disciplines: bioethics with the basics of communication skills and pharmaceutical management and marketing.



**12. Prerequisites** bioethics with the basics of communication skills; organization of pharmaceutical activities;

**13. Postrequisites** pharmaceutical management and marketing.

**14. Literature**

1. Shertaeva K.D., Mamytbaeva K.Zh., Zhanbyrbaeva A.D., Personnel management - Textbook. - Shymkent. – 2018.-121p.

2. Arystanov, Zh. M. Management and marketing in pharmacy: textbook - Almaty: Evero, 2016.

3. Fundamentals of marketing: textbook. for honey. schools and colleges / ed. I. V. Lipsitsa, M. N. Dymshitsa; - M. : GEOTAR - Media, 2014. - 208 p.

4. Blinova, O. V. Pharmaceutical management: textbook / O. V. Blinova; Ministry of Health of the Republic of Kazakhstan; SKFA. - Shymkent: Zhasulan, 2013. - 165 p.

5. Shertaeva, KD Pharmaceutical consulting: textbook. allowance / K. D. Shertaeva 6 G. Zh. Umurzakova, K. Zh. Mamytbaeva; Ministry of Health of the Republic of Kazakhstan; SKFA. - Shymkent: Zhasulan, 2013. - 81 p.

6. Shertaeva, KD Pharmaceutical marketing: textbook. - Shymkent: B. and., 2012.

: oku-adistemelik qyral / K. D. Shertaeva, A. D. Zhanbyrbaeva; OKMFA. - 2-bass, tuzet. Zhane tolykt. - Shymkent: B. J., 2012. - 150 bet. With.

**1. Department of Organizations and management of pharmaceutical business**

**2. Bachelor course**

**3. Educational program 6B10106 - "Pharmacy"**

**4. Course 5**

**5. The name of the elective discipline Pharmaceutical logistics with the basics of entrepreneurship.**

**6. Number of credits 5**

**7. Objectives:** formation of students' system knowledge and understanding of the conceptual foundations of pharmaceutical logistics and acquisition of skills in modern methods of managing material and other flows in modern conditions. The purpose of studying the basics of entrepreneurship is to form students' knowledge on the organization of pharmaceutical business and the activities of pharmaceutical enterprises in market conditions.

**8. Tasks:** formation of students' system knowledge and understanding of the conceptual foundations of pharmaceutical logistics and acquisition of skills in modern methods of managing material and other flows in modern conditions. The purpose of studying the basics of entrepreneurship is to form students' knowledge on the organization of pharmaceutical business and the activities of pharmaceutical enterprises in market conditions.

**9. Tasks:**

- to familiarize students with the definitions, concepts, tasks and functions of logistics;
- to familiarize with the factors and levels of development of pharmaceutical logistics, information logistics systems in pharmacy;
- to give an idea of the tasks and functions of procurement logistics and supplier selection;
- to form an idea of the types and categories of stocks in the system of pharmaceutical organizations and distribution channels of pharmaceutical products;
- to form knowledge about the design of an effective logistics inventory management system, about keeping records of failures in suppliers of pharmaceutical products.
- to give an idea of the content and essence of entrepreneurial activity;
- to familiarize with the main directions and prospects for the development of entrepreneurship in pharmacy;

**10. Justification of the choice of discipline:**

A necessary condition for the effective operation of a pharmaceutical company is logistics, i.e. the representation of the functioning of the company as the management of economic flows, tracking their movement from the start to the end points - from suppliers to consumers.

## 11. Learning outcomes (competencies)

Demonstrates knowledge and understanding of the subject matter, objectives and basic principles of pharmaceutical logistics with business fundamentals; legislative and regulatory documents regulating the basics of pharmaceutical consulting and pharmaceutical law in the field of drug circulation in the Republic of Kazakhstan; understands the importance of the ability to "listen and hear", i.e. demonstrates the principles of pharmaceutical ethics and deontology, customer focus.

- applies knowledge to carry out wholesale and retail sales of medicines and medical devices, as well as to ensure the safety of inventory in warehouses and vehicles; knows how to work in a team under conditions of uncertainty; analyzes information based on IT technology in the field of professional activity.

- applies the acquired knowledge in organizing prescription and over-the-counter dispensing of medicines and medical devices, their storage, taking into account physicochemical properties, toxicological groups, expiration dates, dosage form based on facts, phenomena, theories and complex dependencies between them.

- knows and understands the set of values and principles that express the student's integrity in learning when performing written work, answering exams, in research, expressing one's position, in relationships with academic staff, teachers and other students, as well as assessment.

Forms systems thinking in the field of pharmaceutical logistics with the basics of entrepreneurial activity; systematizes the results of scientific research in the field of pharmaceutical logistics with the basics of entrepreneurial activity.

Forms social, ethical and scientific conclusions in the form of recommendations for improving pharmaceutical logistics with the basics of entrepreneurial activity.

Informs pharmacists about the rules for: carrying out wholesale and retail sales of medicines and medical devices, as well as ensuring the safety of inventory in warehouses and vehicles; informs medical workers and pharmacists about new legislative and regulatory acts regulating the scope of drug circulation in the Republic of Kazakhstan, as well as additions and changes to them; demonstrates multiculturalism and openness with a conscious approach to work.

The learning skills necessary for independent continuation of further studies organizes all types of activities in the field of pharmaceutical logistics with the basics of entrepreneurship. Possesses intersectoral communication at the intersection of four disciplines: pharmaceutical logistics, business fundamentals, pharmaceutical law, pharmaceutical management and marketing, applies information based on IT technology in the field of professional activity.

**12. Prerequisites:** Pharmacy management and Economics

**13. Post-requirements:** practical professional activity

## 14. Literature

11. Мэрфи, П. Р. Заманауи логистика: оқулық / П. Р. Мэрфи, А. М. Кнемейер ; ағылшын тіл. ауд. И. Баймұратова, Қ. М. Төреханова. - 11-бас. - Алматы: Дәуір, 2017. - 176 б. с.
  12. Дәріс кешені "Фармацевтикалық логистика" пәні бойынша [Мәтін] : дәріс кешені = Лекционный комплекс по дисциплине -"Фармацевтическая логистика" : лекционный комплекс / Фармация ісін ұйымдастыру және басқару кафедрасы. - Шымкент: ОҚМФА, 2015. - 82 бет.
  13. Кәсіпкерлікті ұйымдастыру: оқу құралы / К. Н. Оразбаева [ж. б.]. - ; ҚР БҒМ Атырау мұнай және газ ин-ның ғыл. кеңесі ұсынған. - Алматы : Эверо, 2010. - 204 бет. с.
  14. Кәсіпкерлік қызмет негіздері : оқулық / К. Д. Шертаева, О. В. Блинова , Ж. К. Шмирова. - Шымкент : ОҚМА, 2019. - 151 бет
  15. Основы предпринимательской деятельности : учебник / К. Д. Шертаева, О. В. Блинова , Ж. К. Шмирова. - Шымкент: ЮКМА, 2019. - 152 с.
- Дополнительная:
5. Мэрфи, П. Р. Заманауи логистика: оқулық / П. Р. Мэрфи, А. М. Кнемейер ; ағылшын тіл. ауд. И. Баймұратова, Қ. М. Төреханова. - 11-бас. - Алматы: Дәуір, 2017. - 176 б. с

6. Кәсіпкерлікті ұйымдастыру: оқу құралы / К. Н. Оразбаева [ж. б.]. - ; ҚР БҒМ Атырау мұнай және газ ин-ның ғыл. кеңесі ұсынған. - Алматы: Эверо, 2010. - 204 бет. с

**1. Department** of Organizations and management of pharmaceutical business

**2. Bachelor course**

**3. Educational program** 6B10106 - "Pharmacy"

**4. Course** 4

**5. Name of the elective discipline** Pharmaceutical management and marketing with the basics of pharmaceutical consulting

**6. Number of credits** 5

**7. Objectives:** The purpose of studying pharmaceutical management and marketing with the basics of pharmaceutical consulting is to form students' knowledge about the main activities of pharmacy institutions, providing the opportunity to find the most effective, economical, resource-saving, environmentally friendly methods and techniques for providing pharmaceutical care and counseling to the population and medical professionals.

**8. Justification of the choice of discipline:**

Fundamentals of pharmaceutical marketing. Commodity policy of pharmaceutical organizations. Development of the theoretical foundations of management. Methodological foundations of pharmaceutical management. Organization as an object of pharmaceutical management. Fundamentals of personnel management of pharmaceutical organizations. The role of a pharmacy worker as a consultant on the rational, effective and safe use of medicines. Patient counseling is an important component of pharmacists' communication skills. State regulation of pharmaceutical activity. Intercultural communication skills when consulting pharmacy patients. State control of pharmaceutical activity.

**9. Tasks:**

- give an idea of the content and essence of marketing;
- to form an idea about the product, product nomenclature and assortment in pharmaceutical marketing;
- to familiarize with the pricing policy of the pharmaceutical company;
- teach to promote pharmaceutical products;
- give an idea of the main types of market, market capacity, market potential;
- to familiarize with the role and place of sales in the structure of marketing tasks;
- to form a systematic knowledge of marketing research;
- familiarize with marketing planning and the procedure for developing a marketing plan;
- to form a provision about the technology of managerial decision-making;
- to familiarize with the principles of delegation of authority;
- give the concept of motivation of activities and people;
- to familiarize with the personnel policy of pharmaceutical enterprises;
- to give an idea of the management styles of the workforce.
- possess intercultural communication skills when consulting pharmacy patients.

**10. Justification of the choice of discipline:**

The results of the activities of pharmaceutical enterprises in a market economy are largely determined by the level of use of the fundamentals of management and marketing.

Management, on the one hand, is a type of activity for the management of people in a variety of organizations, including pharmacies. On the other hand, management is accumulated common sense and positive practical experience based on the ability not to repeat previously committed mistakes.

The management of pharmacy organizations in market conditions is much more complicated. This is due to the expansion of the rights and responsibilities of pharmacy organizations, as well as the need for more flexible adaptation to environmental changes.

As a concept, marketing is a set of scientifically based ideas about enterprise management in a competitive economy.

As a mode of action of the manufacturer, marketing is a system of measures to increase the competitiveness of the enterprise by maximizing the adaptation of all activities and products to the requirements of the market and the consumer.

.Competent pharmaceutical consulting is a recipe for success for a pharmaceutical organization

### **11. Learning outcomes (competencies)**

Demonstrates knowledge and understanding of the subject matter and objectives of pharmaceutical management and marketing; functions and methods of management, fundamentals of personnel management; workforce management styles, product policies, methods for analyzing the range of pharmaceutical products, principles of pricing in pharmacy; marketing research, objectives and basic principles, subject of pharmaceutical consulting.

Determines market capacity, market potential; conducts pricing and assortment policies; carries out sales promotion. Applies acquired knowledge when solving HR management problems; to advise doctors, pharmacists, and the public on the use and storage of drugs and medical devices, motivate work activities, work in a team and in conditions of uncertainty.

Applies the acquired knowledge when choosing marketing research methods, developing a marketing plan for promoting pharmaceutical products and forming the pricing policy of a pharmaceutical company, when making management decisions and delegating powers based on facts, phenomena, theories and complex dependencies between them. Forms social, ethical and scientific conclusions in the form of recommendations for improving pharmaceutical consulting and pharmaceutical law in the professional activities of a pharmacist.

Collects, processes and interprets marketing information, conducts marketing research, and gives recommendations on the promotion of pharmaceutical products. Consults doctors, pharmacists, and the public on the use and storage of drugs and medical devices.

Draws conclusions, presents his own judgments on issues of pharmaceutical marketing and management, chooses the optimal management solution.

Demonstrates multiculturalism and openness in work. Interacts with colleagues, partners, government and non-government bodies in the process of product positioning in the pharmaceutical market. Provides advisory assistance to consumers in the process of promoting pharmaceutical products.

Systematizes acquired knowledge in the field of pharmaceutical sciences using IT technologies and adapts them to practical activities based on interindustry communication at the intersection of disciplines. Searches for information on medical and pharmaceutical products in regulatory and technical documentation, regulatory legal acts of the Republic of Kazakhstan, and the evidence-based medicine database.

**12.Prerequisites:** pharmacology, organization of pharmaceutical activity, management and economics of pharmacy and history of pharmacy.

**13.Post-requirements:** pharmaceutical logistics with the basics of entrepreneurship, organizational foundations of good practices in pharmacy, practical professional activity.

### **14. Literature**

1. Arystanov, J. M. Management and marketing in pharmacy: a textbook / J. M. Arystanov, A. T. Tokseitova. - Almaty: Evero, 2016. – 532 p.
2. Blinova, O. V. Pharmaceutical management: textbook / O. V. Blinova; Ministry of Healthcare of the Republic of Kazakhstan; YUKGFA. - Shymkent: Zhasulan, 2013. - 165 p.
3. Shertaeva, K. D. Pharmaceutical marketing: textbook / K. D. Shertaeva; Ministry of Health of the Republic of Kazakhstan; Rep. Center for Innovative Technologies of Medical Education; UCGFA. - Shymkent: B. I., 2012. - 152 p.
4. The manual "Medicines. Good Distribution Practice" (ST-N MOZ 42-5.0:2008).

5. Guidelines on Good Storage Practices for Pharmaceutical Products ("Guidetogoodstoragepracticesforpharmaceuticals"). World Health Organization. Cycle of WHO technical reports, No. 908, 2013.

6. Shubenkova E.V. Total quality management: textbook / E.V. Shubenkova. - M.: EXAM, 2015. - 256 p

. 7. Salimova, T.A. History of quality management: textbook / T.A. Salimova, N.S. Vatolkina. – Moscow : KNORUS, 2015. – 256 p.

8. Abutidze Z.S. Quality management and reengineering of the organization: studies.manual / Z.S. Abutidze, L.N. Alexandrovskaya, V.N. Bas, etc. - M.: Logos, 2013. - 328 p.

Additional:

1. Management and economics of pharmacy: textbook/ edited by I.A. Narkevich. – M.: GEOTAR-Media, 2017. – 928 p.

2. Arystanov, Zh. M. History of pharmacy: textbook / Zh. M.- Almaty :Evero, 2016. - 184 p.

3. Arystanov, J. M. Organization of pharmaceutical activity: studies. stipend. - Almaty : Evero, 2015. - 608 p.

4. Management and economics of pharmacy: textbook/ edited by I.A. Narkevich. – M.: GEOTAR-Media, 2017. – 928 p.

**1. Department** of Organization and Management of Pharmaceutical Business

**2. Bachelor's degree**

**3. Educational program** 6B10106 - "Pharmacy"

**4. Course** 5

**5. Name of the elective discipline** Organizational foundations of Good Practices (GXP)

**6. Number of credits** 3

**7. Objectives:** The purpose of studying this discipline is to form a complex of knowledge among future specialists regarding the basic principles, categories, methods and tools of quality management in modern pharmaceutical organizations, generalized main achievements of theory and practice in the field of quality management, ideas about the system organization of management processes.

**8. Content of the discipline:**

The concept of Proper Pharmaceutical (GXP) and their role in quality assurance at all stages of the drug life cycle. The basic principles of Good practices in the field of drug treatment (GMP, GDP, GDP, GPP) in Kazakhstan. International standardization. Organizational and methodological foundations of modern quality management systems. Quality management systems for organizations and their implementation at enterprises. The state system of standardization in Kazakhstan. Certification of the quality system. The concept of quality assurance and basic management systems in the pharmaceutical industry

**9. Tasks:**

- to familiarize with the concept of proper pharmaceutical (GXP) and their role in quality assurance at all stages of the life cycle of medicines;

- to familiarize with the sequence of stages of creating a quality system at the enterprise, based on a process approach, and ensuring its effective functioning based on the concept of continuous improvement;

- to familiarize students with the procedure for applying international standards in the process of creating and certifying a quality system at the enterprise and conducting internal and external audits of the quality management system.

- to reveal the essence of the basic concepts and principles of quality management of pharmaceutical products and services;

- to provide a methodology for creating quality management systems at pharmaceutical enterprises;

- to outline the methods of using various tools for implementing the quality management function.

- teach to apply statistical methods of quality management in operational activities in the process of ensuring the quality of technological operations;

#### **10. Justification of the choice of discipline:**

It is necessary to form a complex of knowledge among future specialists regarding methods and tools of proper quality management in modern pharmaceutical organizations, ideas about the systematic organization of quality management processes at the enterprise that meets the requirements of international standards and the acquisition by future specialists of skills for successful work in market conditions.

#### **11. Learning outcomes (competencies)**

Demonstrates professional knowledge and understanding of current trends in the development of the pharmaceutical industry in accordance with the requirements of the current legislation of the Republic of Kazakhstan and Good Pharmaceutical Practices (GXP).

Classifies quality indicators of pharmaceutical products, applies statistical methods of quality management in performing technological operations.

Has the skills to monitor compliance with GXP standards.

Formulates own conclusions in the form of recommendations for the quality system; argues for his own choice of quality management method and tools.

Develops documentation of the organization's quality management system in accordance with the requirements of ISO 9000 standards when building the system and preparing the enterprise for certification; forms systems thinking in the field of providing pharmaceutical care to the population.

Provides scientific and advisory services to medical personnel and citizens on the selection, rules for taking and storing the most effective and safe medicines and pharmaceutical products, methods of their storage, use, and purchasing procedures. Presents information about medical and pharmaceutical products to specialists and non-specialists.

Systematizes acquired knowledge in the field of pharmaceutical sciences, using IT technologies, and adapts them to practical activities based on intersectoral communication at the intersection of disciplines: drug technology, pharmaceutical chemistry, management and economics of pharmacy, pharmacognosy. Searches for information on medical and pharmaceutical products in regulatory and technical documentation, regulatory legal acts of the Republic of Kazakhstan, and the evidence-based medicine database.

**12. Prerequisites** of the discipline: organization of pharmaceutical activity and history of pharmacy, management and economics of pharmacy.

**13. Post-requirements** of the discipline: practical professional activity

#### **14. Literature**

На русском языке:

Основная:

5. Приказ и.о. Министра здравоохранения Республики Казахстан от 4 февраля 2021 года № ҚР ДСМ-15. «Об утверждении Надлежащих фармацевтических практик»:
6. УМКД размещен на образовательном портале ukma.kz
23. Электронная библиотека «Консультант студента». Ссылка для доступа: <http://www.studmedlib.ru>, ЛОГИН ibragim123, ПАРОЛЬ Libukma123
24. Сайт библиотечно-информационного центра академии lib.ukma.kz
25. Медиатека ЮКМА <https://media.skma.edu.kz/>
26. Цифровая библиотека «Акнурпресс» [www.aknurpress.kz](http://www.aknurpress.kz) пройдите регистрацию и укажите промокод SDH-28
27. ОҚМА Репозиторий <http://lib.ukma.kz/repository/>
28. Республикалық жоғары оқу орындары аралық электрондық кітапхана <http://rmebrk.kz/>
29. «Зан» нормативтік-құқықтықәкітілербазасы <https://zan.kz/ru>
30. «Параграф Медицина» ақпараттықжүйесі <https://online.zakon.kz/Medicine/>

31. Кодекс Республики Казахстан от 7 июля 2020 года № 360-VI «О здоровье народа и системе здравоохранения» (с изменениями и дополнениями). Гл. 2, ст. 10; гл. 5, параграф 3; гл. 27,28;  
[https://online.zakon.kz/document/?doc\\_id=34464437](https://online.zakon.kz/document/?doc_id=34464437)
32. Приказ Министра здравоохранения Республики Казахстан № ҚР ДСМ-305/2020 от 21 декабря 2020 года «Об утверждении номенклатуры специальностей и специализаций в области здравоохранения, номенклатуры и квалификационных характеристик должностей работников здравоохранения».  
<https://adilet.zan.kz/rus/docs/V2000021856>
33. Приказ Министра здравоохранения Республики Казахстан от 17 сентября 2020 года № ҚР ДСМ-104/2020  
Об утверждении Правил оптовой и розничной реализации лекарственных средств и медицинских изделий.  
<https://adilet.zan.kz/rus/docs/V2000021229#z129>
11. Руководство «Лекарственные средства. Надлежащая практика дистрибьюции» (СТ-Н МОЗУ 42-5.0:2008).
12. Руководства по Надлежащей практике хранения фармацевтической продукции («Guidetogoodstoragepracticesforpharmaceuticals»). Всемирная организация здравоохранения. Цикл технических отчетов ВОЗ, № 908, 2013.
13. Шубенкова Е.В. Тотальное управление качеством: учебное пособие / Е.В. Шубенкова. - М.: ЭКЗАМЕН, 2015. - 256 с.
14. Салимова, Т.А. История управления качеством: учебное пособие / Т.А. Салимова, Н.Ш. Ватолкина. – М. : КНОРУС, 2015. – 256 с.
15. Абутидзе З.С. Управление качеством и реинжиниринг организации: учеб.пособие / З.С. Абутидзе, Л.Н. Александровская, В.Н. Бас и др. - М.: Логос, 2013. - 328 с.  
Дополнительная:
7. Арыстанов, Ж. М. История фармации: учебное пособие / Ж. М.- Алматы :Эверо, 2016. - 184 с.
8. Арыстанов, Ж. М. Организация фармацевтической деятельности: учеб. пособие . - Алматы : Эверо, 2015. - 608 с.
9. Управление и экономика фармации: учебник/под ред. И.А. Наркевича. – М.: ГЭОТАР-Медиа, 2017. – 928 с.

## **1. Department of Organization and Management of Pharmaceutical Business**

### **2. Undergraduate**

### **3. Educational program 6B10106 - "Pharmacy"**

### **4. Course 5**

### **5. Name of the elective discipline: Legal foundations of pharmaceutical activity and paperwork.**

### **6. Number of credits 5**

**7. Objectives: the formation** of students' systemic knowledge and understanding of the legal foundations of pharmaceutical activities, record keeping and the acquisition of skills in applying the basic legal norms of constitutional, civil, labor, administrative and criminal law, in the field of circulation of medicines, for their future professional activities.

### **8. Content of the discipline**

Being an interdisciplinary science, the legal basis of pharmaceutical activity and office work is a set of legal norms of various branches of law:

- constitutional - the norms of which establish the main guarantees of the state in the field of protecting the health of citizens, engaging in pharmaceutical activities;
- civil - regulating property and personal non-property relations in the field of healthcare and drug supply;
- labor - determining the specifics of labor relations of pharmaceutical workers;

- administrative and criminal - establishing legal liability for violations of regulations protected by this industry in the field of circulation of medicines in the pharmaceutical market.

#### **9. Tasks:**

- to form knowledge on the state regulation of pharmaceutical activities.
- to form knowledge on the organization and workflow of all types of activities in the field of pharmaceutical activity (licensing, registration, certification of medicines, etc.)
- to form knowledge on the organizational and legal forms of entrepreneurial activity in pharmacy.
- to form knowledge of regulatory legal acts in the activities of pharmaceutical organizations.

#### **10. Rationale for the choice of discipline:**

The norms of pharmaceutical law are obligatory for all pharmaceutical workers and are backed up by the coercive power of the state - legal measures for their failure to comply. Therefore, knowledge of this discipline is necessary for a future specialist for high-quality pharmaceutical services to the population within the framework of legal regulation and organization of office work in accordance with the requirements of good practice standards.

#### **11. Learning outcomes (competencies)**

Objectives and basic principles of the subject are the legal foundations of pharmaceutical activities and office work, legislative and regulatory documents regulating the fundamentals of pharmaceutical law in the sphere of drug circulation in the Republic of Kazakhstan, principles of office work in pharmaceutical organizations.

Applies knowledge to advise pharmacists on the fundamentals of legal regulation of pharmaceutical activities in the Republic of Kazakhstan in accordance with the standards of Good Practices in Pharmacy Organizations, works in a team and in conditions of uncertainty.

Forms systematic thinking in the field of pharmaceutical law and the basics of office work, forms social, ethical and scientific conclusions in the form of recommendations for improving the legal foundations of pharmaceutical activities and office work in the professional activities of a pharmacist.

Consults doctors, pharmacists, the public on the use and storage of drugs and medical devices, informs medical workers and pharmacists about new legislative and regulatory acts regulating the sphere of drug circulation in the Republic of Kazakhstan, demonstrates multiculturalism and openness with a conscious approach to work.

Systematizes the basic legal norms of constitutional, civil, labor, administrative and criminal law in the field of circulation of medicines.

Applies knowledge and understanding of facts, phenomena, theories and complex dependencies between them in the field of legal regulation of relations between consumers and specialists of pharmaceutical services, depending on specific situations.

Systematizes acquired knowledge in the field of pharmaceutical sciences, using IT technologies, and adapts them to practical activities based on interindustry communication at the intersection of disciplines: legal foundations of pharmaceutical activity, office work, pharmaceutical management and marketing, basics of pharmaceutical consulting, basics of entrepreneurship, personnel management.

**12. Prerequisites:** management and economics of pharmacy

**13. Postrequisites:** Organizational Framework for GXP Good Pharmaceutical Practices

#### **14. Literatures**

##### **Main:**

1. Shertaeva K.D. Utegenova G.I. Fundamentals of pharmaceutical law. Shymkent 2018. 232s
2. Utegenova G.I. Pharmaceutical industry Shymkent 2018. 232b
3. .Kazakhstan Respublikasyndagy pharmaceuticals kyzmetti retteitin Zanamalyk zhane normative -қықықтық aktiler zhinaғы: zhinaқ / қыраст. B. Қ. Makhatov [t/b.]. - Shymkent: Zhasulan, 2017. - 327 bet.s.150 copies



4. Collection of Legislative and regulatory legal acts regulating pharmaceutical activities in the Republic of Kazakhstan: collection / comp. B.K. Makhatov [i dr.]. - Shymkent: Zhasulan, 2017. - 380 p. 40 copies

3. Kazakhstan Republicsyndagy farmaceutikalık kyzmetti retteitin Zanamalyk zhane normativtik- qyqyqtyk aktiler zhinagy: zhinag / B. Q. Makhatov [t/b.]. - Shymkent: Zhasulan, 2016. - 316 bet. p.2 ind.

**Additional:**

1. Lecture complex on the discipline - Fundamentals of Pharmaceutical Law: lectures / department. organization and management of the pharmaceutical business. - Shymkent: SKFA, 2016. - 33 p. - 22 copies

2. "Pharmaceutical kenes" pani boyinsha daris kesheni. Mamandyk: 5B110300-"Pharmacy" = Abstracts of lectures on the discipline "Pharmaceutical consulting". Specialty: 5B110300-"Pharmacy": lecturer theses / KRDSM SHZhK RMK; OKMFA; Pharmacy - Shymkent: B. Zh., 2013. - 50 bet.s.10 copies.

**Electronic resources:**

1. Pharmaceuticals. Mamandyk: 5V110300-"Pharmacy" [Electronic resource] = Abstracts of lectures on the discipline "Pharmaceutical consulting". Specialty: 5B110300-"Pharmacy": lecturer theses / KRDSM SHZhK RMK; OKMFA;

2. Pharmacy isinuyimdastyruzhanebaskaru department. - Electronic text data (126 Mb). - Shymkent: B. Zh., 2013. - 50 bet.el. opt. disc 1 copy

3. Deryagin, G. B. Medical law [Electronic resource]: electronic textbook / G. B. Deryagin, D. I. Kicha, O. E. Konovalov. - Electronic text data ( 1.54 Mb). - M. : UNITI-DANA, 2011. - 237 p. email optical disk (CD-ROM). 5 copies

**1. Кафедра: фармакологии, фармакотерапии и клинической фармакологии**

**2. Уровень подготовки: бакалавриат**

**3. Образовательная программа: «Фармация»**

**4. Курс: 4**

**5. Количество кредитов: 5**

**6. Наименование элективной дисциплины: Рациональное использование лекарственных средств**

**7. Цель: научить методологии рационального использования лекарственных средств различных заболеваний**

8. Содержание дисциплины: Рациональное использование лекарственных средств подразумевает правильное, соответствующее и надлежащее использование лекарственных средств. Научить методологии рационального использования лекарственных средств с основами доказательной медицины различных заболеваний.

Прогнозирование риска побочных эффектов лекарственных препаратов, методы профилактики и коррекции побочных эффектов, использование клинических протоколов для диагностики и лечения.

9. Задачи:

- научить методологии рационального назначения лекарственных средств;
  - научить прогнозировать и оценивать побочные эффекты лекарственных средств;
  - научить оценивать возможные взаимодействия лекарственных препаратов;
- 10. Обоснование выбора дисциплины: До настоящего времени остается много пробелов в наших знаниях о наиболее эффективной политике и стратегии в отношении улучшения использования лекарств.
- 11. Результаты обучения :

Знания (когнитивная сфера)	Умения и навыки (психомоторная сфера)	Личности и профессиональные компетенции (отношения)
<p>-факторы риска и клинические проявления основных нежелательных реакций лекарственных средств;</p> <p>-методы оценки качества жизни;</p> <p>-основные принципы дозирования лекарственных средств в зависимости от патологических и физиологических параметров организма человека;</p> <p>-основные виды взаимодействия лекарственных средств;</p> <p>-методы проведения оценки клинической эффективности и безопасности препаратов</p>	<p>-осуществлять выбор наиболее эффективных и безопасных лекарственных средств, применяемых для лечения -основных симптомокомплексов; определять оптимальный режим дозирования;</p> <p>-выбирать методы контроля за безопасностью проводимого лечения и предсказать риск развития побочных действий лекарственных средств;</p> <p>-составлять формулярный список аналоговой замены, формуляр лечебного учреждения;</p> <p>-оказывать информационно-консультативную помощь врачам в выборе лекарственной формы препарата, дозы, кратности и длительности введения лекарственного средства.</p> <p>-проведение фармацевтического консультирования врачей и пациентов;</p> <p>- использования учебной, научной, нормативной, справочной литературы и компьютерных баз данных по клинической фармакологии и доказательной медицине.</p>	<p>Умеет быть компетентным: в вопросах распространенным видам нерационального использования лекарственных средств</p>

12. Пререквизиты: фармакология, фармакотерапия

13. Постреквизиты: профессиональное развитие

14. Литература:

**Основная литература:**

1. Калиева, Ш. С. Клиническая фармакология и рациональная фармакотерапия. Том 1: учебник / Ш. С. Калиева., Н. А. Минакова . - Алматы : Эверо, 2016. - 460

2. Калиева, Ш. С. Клиническая фармакология и рациональная фармакотерапия. Том 2: учебник / Ш. С. Калиева, Н. А. Симохина. - Алматы :Эверо, 2016. - 288 с.

3. Гринхальх Т. Дәлелді медицина негіздері: оқулық: аударма ағылшын тілінен/ жауапты ред. Г.С. Кемелова; қазақ тіліне ауд. Т.К.Сағадатова. –М.: ГЭОТАР- Медиа, 2014

4. Құлмағамбетов, И. Р. Клиникалық фармакология. 1-бөлім: оқу құралы / И. Р. Құлмағамбетов. - Алматы : Эверо, 2014. - 320 бет. с.

5. Құлмағамбетов, И. Р. Клиникалық фармакология. II-бөлім: оқу құралы / И. Р. Құлмағамбетов. - Алматы : Эверо, 2014. - 392 бет. с.

### **Дополнительная литература:**

1. Рациональная фармакотерапия в онкологии: рук. для практикующих врачей/ под ред. М.И.Давыдова, В.А.Горбунова. – М.: ГЭОТАР- Медиа, 2015. -844с.
2. Петров В.И. Клиническая фармакология и фармакотерапия в реальной врачебной практике: мастер- класс: учебник/ В.И. Петров.- ; Рек. ГОУ ДПО «Российская мед. акад. последипломного образования». – М.: ГЭОТАР- Медиа, 2011. – 880 с.:ил.
3. Дәріс кешені- Дәрілерді тиімді пайдалану пәні бойынша: дәріс кешені / фармакология, фармакотерапия және клиникалық фармакология кафедрасы. - Шымкент : ОҚМФА, 2016. - 65 бет. с.

### **Электронные издания:**

1. Петров, В. И. Клиническая фармакология и фармакотерапия в реальной врачебной практике мастер- класс [Электронный ресурс] : учебник / В. И. Петров. - Электрон. текстовые дан. (63,5 МБ). - М. : Издательская группа "ГЭОТАР- Медиа", 2015. - 880 с. эл. опт. диск (CD-ROM).
- 2.. Консультант врача. Клиническая фармакология. Версия 1.1 [Электронный ресурс] : руководство. - Электрон. текстовые дан. ( 132 Мб). - М. : Издательская группа "ГЭОТАР- Медиа", 2015. - эл. опт. диск (CD-ROM).

### **1. Кафедра: фармакологии, фармакотерапии и клинической фармакологии**

### **2. Уровень подготовки: бакалавриат**

### **3. Образовательная программа: «Фармация»**

### **4. Курс: 4**

### **5. Количество кредитов:3**

### **6. Наименование элективной дисциплины: Фармацевтическая опека**

7. Цель: научить принципам оказания консультативной помощи пациентам в рамках ОТС – списка безрецептурного отпуска лекарственных средств.

8. Содержание дисциплины: ОТС - принципы консультирования пациентов по количеству безрецептурных препаратов в перечне препаратов в рамках эффективного назначения лекарств; консультировать пациентов о возможных побочных эффектах лекарств и оценить возможные лекарственные взаимодействия. Вопросы совместимости и несовместимости лекарств друг с другом и состава пищи, непереносимости лекарств к организму, вопросы замены лекарств, которых нет в аптеках, на фармакологические аналоги.

#### 9. Задачи:

- научить методологии рационального назначения лекарственных средств в рамках ОТС – списка безрецептурного отпуска лекарственных средств;
- научить консультировать пациентов о возможных побочных эффектах лекарственных средств;
- научить оценивать возможные взаимодействия лекарственных препаратов.

10. Обоснование выбора дисциплины: Фармацевтическая опека – это комплексная программа взаимодействия фармацевта и пациента в течение всего периода лекарственной терапии, начиная от момента отпуска лекарства до полного окончания его действия. На сегодняшний день роль фармацевта преобразовывается, он не должен заботиться об увеличении количества лекарственных препаратов на мировом фармацевтическом рынке, не должен только лишь отпускать препарат, основной целью его профессиональной деятельности становится повышение эффективности и безопасности лекарственной терапии конкретного больного. В данном случае, конечно же, речь не идет о нивелировании роли врача, «подмене» его фармацевтом. Самолечение возможно лишь в случае не опасных для жизни симптомов и синдромов, уменьшить которые и призваны ОТС-препараты

различных групп (антациды, слабительные, анальгетики-антипиретики, спазмолитики и др.).

11. Результаты обучения :

<b>Знания (когнитивная сфера)</b>	<b>Умения и навыки (психомоторная сфера)</b>	<b>Личности и профессиональные компетенции (отношения)</b>
<p>Знает определения надлежащей аптечной практики; методы оценки качества жизни; основные принципы дозирования лекарственных средств; ОТС - список лекарственных средств; основные симптомы и синдромы наиболее часто встречающихся патологических состояний; нормы медицинской и деонтологической этики</p>	<p>Умеет осуществлять выбор наиболее эффективных и безопасных лекарственных средств, применяемых для лечения основных симптомокомплексов; определять оптимальный режим дозирования; предсказать риск развития побочных действий лекарственных средств; оказывать информационно - консультативную помощь пациентам в выборе лекарственной формы препарата, дозы, кратности и длительности введения лекарственного средства. проведения фармацевтического консультирования (фармацевтической опеки) пациентов; использования учебной, научной, нормативной, справочной литературы и компьютерных баз данных по клинической фармакологии и доказательной медицине.</p>	<p>Быть компетентным в вопросах деонтологии оказания необходимого квалифицированного объема помощи в рамках безрецептурного отпуска лекарственных средств.</p>

12. Пререквизиты: Патологическая физиология, микробиология, биохимия, фармакология и фармакотерапия, организация фармацевтической деятельности.

13. Постреквизиты: профессиональное развитие

14. Литература:

**основная:**

7. Фармацевтикалық демеу : оқу құралы –Н.Ж. Орманов, ОҚМФА .-Шымкент: «RISO», 2013-304 бет 115экз
8. Фармацевтикалық демеу : оқу құралы –Шымкент: «RISO», 2013.-85экз
9. Фармацевтическая опека учеб.-методическое пособие –Шымкент ЮКГФА,2013-70экз.
10. Basic and Clinical Pharmacology/ Katzung B.G.[ed.by]; Mc Graw- Hill 2012
11. Clinical Pharmacology/ Bennet P.N., Brown M.J.; Churchill Livingstone, 2012

12. Goodman & Gilman' the Pharmacology Basis of Therapeutics/ Brunton L.L., Charbner B.A.; McGraw- Hill Professional 2011

**дополнительная:**

9. Орманов Н.Ж. Фармакотерапия болезней органов пищеварения: Учеб. пособие - Шымкент:, 2013. - 200 с- 70экз.
10. Орманов Н. Ж. Фармакология. 1-кітап: оқулық - Алматы : Эверо, 2013. - 656 бет-100экз.
11. Орманов Н. Ж. Фармакология. 2-кітап:оқулық -Алматы: Эверо, 2013. - 512 бет-100экз.
12. Орманов Н. Ж. Фармакотерапия. 1-кітап:оқулық -Шымкент:ЮКГФА, 2012. - 500 бет-300экз.
13. Орманов, Н. Ж. Фармакотерапия. 2-кітап: оқулық - Шымкент : ОҚМФА, 2012. – 416 бет-300экз.
14. Фармакология:(нұсқаулық-Фармакология:рукаводство/Г.М.Пичхадзе «Литтерра», 2017.- 640 бет с.1экз
15. Гематологиялық фармакотерапия : оқулық /Н.Ж. Орманов –ҚР Денсаулық сақтау және әлеуметтік даму Министрлігі. ОҚМФА.- Шымкент : ЮКГФА, 2015.-160с.-40экз
16. Кардиологиялық фармакотерапия : оқулық /Н.Ж. Орманов –ҚР Денсаулық сақтау және әлеуметтік даму Министрлігі. ОҚМФА.- Шымкент : ЮКГФА, 2015.-216бет.-40экз

1. **The department of Pharmacognosy**

2. **Level of training (bachelor degree)**

3. **Educational program: 6B10106 «Pharmacy»**

4. **Course: 5**

5. **Name of elective discipline: «Analysis and standardization of medicinal plant raw materials»**

6. **Amount of credits: 6 credits (180 hours)**

7. **Purpose: To develop student knowledge on standardization and quality control of medicinal plant raw materials and phytopreparations; improving student readiness for self-employment; wider knowledge of students on topical issues of standardization of medicinal plant raw materials and phytopreparations.**

8. **Discipline content:** Preparation of medicinal plant raw materials, rational and careful attitude to resources of medicinal plants, sources of raw materials of mineral and animal origin, processing of plant raw materials, etc.

Macroscopic, microscopic, histochemical and microchemical studies of medicinal plant raw materials. Chemical composition of medicinal plants. Determination of benign drug raw materials.

9. Tasks:

- to guide students in the properties and chemical composition of medicinal plant raw materials and phytopreparations in accordance with the constantly growing demand for high-quality phytoproduction and medicinal plant raw materials;

- develop skills and skills necessary for standardization of MPRM and phytopreparations;

- instilling communication skills in students on the professional presentation of the external description of MPRM, reasoned statement, defence of own point of view, formation of logical thinking, ability to participate in discussions, etc.

- development of legal competence through familiarization with regulatory documentation regulating quality, efficiency and safety of phytopreparations from MPRM (SPh RK, etc.)

- motivated training of students for continuous improvement and development of abilities for independent and creative development of materials for standardization of medicinal plant raw materials and phytopreparations.

**10. Justification of the choice of discipline:**

Pharmacognosia (from Greek rharmsion - medicine, poison and gnosis - study, knowledge) is one of the pharmaceutical sciences studying medicinal plants, medicinal plant raw materials and some products of primary processing of plant and animal origin.

Taking into account the increased requirements of practical pharmacy and medicine for the use of medicinal raw materials of plant, animal and mineral origin, the subject "Standardization of medicinal plant raw materials and phytopreparations" considers the range of issues related to the efficiency of quality control at all stages of preparatory development.

Ensuring proper quality of medicinal plant raw materials depends to a large extent on proper organization of control, its efficiency and efficiency, as well as on the level of requirements laid down in normative documents (SPh, AND, TAND) and the methods of analysis used. The study of the system of standards of quality of medicinal plant raw materials, their products, testing methods, etc., established in the national order and mandatory for producers and consumers is currently a pressing problem in the Republic of Kazakhstan.

#### 11. Results of training (competence):

<b>Knowledge (cognitive sphere)</b>	<b>Skills (psychomotor sphere)</b>	<b>Personal and professional competences (relations)</b>
1. Know the legislative regulatory documents regulating the rules of registration, re-registration and certification of medicinal plant raw materials in the Republic. 2. To know the system of standardization of MPRM and phytopreparations, numerical indicators that regulate the benign nature of MPRM, and their methods of determination, improvement of existing methods of analysis, development of business plans, the main directions of scientific research in the field of standardization of medicinal plant raw materials and phytopreparations.	1. Be able to perform acceptance of MPRM and phytopreparations, selection for analysis in accordance with MP, carry out static processing and registration of results of commodity analysis. 2. To be able to carry out quality control of medicinal plant raw materials, develops business plans for carrying out research works in the field of phytochemical and pharmacognostic study of medicinal plant raw materials and phytopreparations.	1. Collects and interposes the legislation of Kazakhstan in the field of health care, international standards, their structure and other regulatory documentation regulating the quality of medicinal plant raw materials and phytopreparations. 2. Collects information on new methods of quality control of medicinal plant raw materials, certification and standardization, improvement of existing methods of analysis.

**12.Prerequisites:** Botany, latin, organic chemistry, analytical chemistry, biological chemistry, pharmacognosy

**13.Post-details:** standardization of medicines and metrology, resource science and ecology of medicinal plants

**14. Literature**

**The main:**

1. Контроль качества и стандартизация лекарственных средств [Текст] : учебное пособие / под ред. Г. В. Раменской. - ; М-во образования и науки РФ. Рек. ФГАУ "Фед. ин-т развития образования". - М. : ГЭОТАР - Медиа, 2018. - 352 с.

2. Газалиев, А. М. Система обеспечения безопасности и качества лекарственных веществ [Текст] : учебник / А. М. Газалиев, С. К. Кабиева, Л. М. Власова. - Алматы : ЭСПИ, 2021. - 372 бет.

3. Табиғи дәрілік қосылыстардың химиясы пәнінің зертханалық сабақтарына арналған қолданба : оқу құралы / К. К. Орынбасарова, Г. С. Рахманова. – Алматы : New book, 2022.- 300 б.

4. Тоқсанбаева, Ж. С. Фармакогнозия. Т.1 [Мәтін] : оқулық / Ж. С. Тоқсанбаева, Т. С. Серікбаева, К. К. Патсаева. - Алматы : ЭСПИ, 2021. - 252 бет.

5. Тоқсанбаева, Ж. С. Фармакогнозия. Т.2 [Мәтін] : оқулық / Ж. С. Тоқсанбаева, Т. С. Серікбаева, К. К. Патсаева. - Алматы : ЭСПИ, 2021. - 264 бет. с

6. Мырзағали-ұлы, Ө. Фармакогнозия. Б.1: оқулық / Ө. Мырзағали-ұлы, Б. Дүйсембаева. - Алматы : ЭСПИ, 2021. - 352 бет.
7. Мырзағали-ұлы, Ө. Фармакогнозия/ Ө. Мырзағали-ұлы, Б. Дүйсембаева. - 2-ші бас. - Қарағанды : Medet Group, 2018. - 278 б.
8. Дәрілік өсімдік шикізаттарын фармакогностикалық талдау. Оқу құралы/ Орынбасарова К.К.-Шымкент, 2016
9. Фармакогнозия тестовые задания и ситуационные задачи [Текст] : учеб. пособие / под ред. И. А. Самылиной. - ; Мин-во образования и науки РФ. Рек. ГОУ ВПО "Мос. мед. акад. им. И. М. Сеченова". - М. : ГЭОТАР - Медиа, 2015. - 288 с.
10. Саякова, Г. М. Фармакогнозия [Текст] : учебник / Г. М. Саякова, У. М. Датхаев, В.С. Кисличенко. - М. : "Литтерра", 2019. - 352 с.
11. Келімханова, С. Е. Фармакогнозия: практикум / С. Е. Келімханова ; ҚР денсаулық сақтау министрлігі; С. Ж. Асфендияров атындағы ҚазҰМУ. - Қарағанды : ЖК "Ақнұр", 2014. - 180 бет. с.
12. Орынбасарова К. К. Дәрілік өсімдік шикізаттарын фармакогно-стикалық талдау : оқу құралы / К. К. Орынбасарова. - Алматы : ЭСПИ, 2021. - 308 бет.с.
13. Дәрілік өсімдік шикізатының атласы : оқу құралы / К. К. Орынбасарова, Т. С. Ибрагимов, З. Е. Ибрагимова. - Алматы : New book, 2022. - 232 бет
14. Рахманова, Ж. С. Метрология негіздері : оқулық /; ҚР БҒМ. - Алматы : Эверо, 2013. - 164 бет. С

#### **Additional:**

1. Дәрілік өсімдіктер және дәрілік өсімдік шикізаттары: фармакогнозия пәні бойынша оқу құралы / Джангозина Д. М. [ж. б.]. –Алматы :Эверо, 2014. – 240 бет. С.
2. Орынбасарова К. К. Дәрілік өсімдік шикізатының атласы: оқу құралы / К. К. Орынбасарова, Т. С. Ибрагимов, З. Е. Ибрагимова. - Алматы : Newbook, 2022. - 232 бет.
3. Кузьменко, А. Н. Стандартизация лекарственного растительного сырья и растительных сборов методами ионо- эксклюзионной и газо- жидкостной хроматографии: монография / А. Н. Кузьменко, В. Ю. Решетняк. - Алматы : Эверо, 2017. - 120 с.
4. Фармакогнозия. Рабочая тетрадь к практическим занятиям:/ И. В. Гравель [и др.]; под ред. И. А. Самылиной ; М-во образования и науки РФ. – 2-е изд., испр. И доп ; Рек. ГОУ ВПО Московская мед. Акад. Им. И. М. Сеченова. –М. : ГЭОТАР – Медиа, 2013-264
5. Орынбасарова К. К. Табиғи дәрілік қосылыстардың химиясы пәнінің зертханалық сабақтарына арналған қолданба : оқу құралы / К. К. Орынбасарова, Г. С. Рахманова. - Алматы : Newbook, 2022. - 300 бет.

#### **Electronic resources:**

1. Мырзағали-ұлы Ө., Дүйсембаева Б. Фармакогнозия: оқуқұралы. 2018 <https://aknurpress.kz/reader/web/1858>
2. Джангозина Д.М. м.ғ.д. Дәрілік өсімдіктер және дәрілік өсімдік шикізаты. Фармакогнозия бойынша оқу құралы – Алматы: «Эверо»баспасы, 2020. – 240б. [https://www.elib.kz/ru/search/read\\_book/742/](https://www.elib.kz/ru/search/read_book/742/)
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Лекарственные растения и лекарственное растительное сырье, содержащие фенольные соединения и их гликозиды; кумарины, хромоны, лигнаны, антраценпроизводные, флавоноиды, дубильные вещества, биологически активные вещества малоизученного состава и лекарственное сырье животного происхождения. – Алматы: издательство «Эверо», 2020. – 220 с. [https://www.elib.kz/ru/search/read\\_book/748/](https://www.elib.kz/ru/search/read_book/748/)

1. **The department of Pharmacognosy**
2. **Level of training (bachelor degree)**
3. **Educational program:** 6B10106 «Pharmacy»
4. **Course:** 5
5. **Name of elective discipline:** «Resource study and ecology of medicinal plants»
6. **Amount of credits:** 5 credits (150 hours)
7. **Purposes:** formation at students of knowledge when studying a resource study of herbs consists in mobilization of resources of flora for needs of medicine, studying by students of concrete species of herbs giving raw materials used in Kazakh the Republics
8. **Content of discipline:** Resource science and ecology of medicinal plants. Resource zones and prospects of resource research in the Republic of Kazakhstan. Uniform method of determining the reserves of medicinal plants. Ecology of herbs. Impact of environmental factors on the quality of medicinal plant raw materials. Rational methods of collecting medicinal plant raw materials of different morphological groups.
9. **Tasks:**
  - orientation in properties and the chemical composition of herbs according to constantly growing demand in quality phytoproducts and medicinal plant raw materials;
  - orientation in properties and the chemical composition of the products of animal and mineral origin which are widely used in a modern arsenal the pharmacotherapy of medicines;
  - carrying out phytochemical and merchandising analysis of raw materials of natural origin

**10. Justification of the choice of discipline:**

Pharmacognosy (from Greek *pharmakon* – medicine, poison and *gnosis* – studying, knowledge) – one of pharmaceutical sciences studying herbs, medicinal plant raw materials and some products of primary processing of floral and animal origin.

Considering the increased requirements of practical pharmacy and medicine to use of medicinal raw materials of plant, animal and mineral origin, the subject "Fundamentals of Pharmacognosy" considers a circle of the questions connected with preparation of medicinal plant raw materials, rational and careful attitude to resources of herbs, sources of raw materials of mineral and animal origin, processing of plant raw materials, etc.

**11. Results of training (competence):**

<b>Knowledge (cognitive sphere)</b>	<b>Skills (psychomotor sphere)</b>	<b>Personal and professional competences (relations)</b>
To know history of development of a pharmacognosy and the main stages of its formation; To know the nomenclature and the chemical composition of medicinal raw materials of natural origin;	To be able to use standard documentation, reference and scientific books; To be able to provide advice to patients of drugstores and to the population in questions of application, collecting, drying and storage of medicinal plant raw materials;	To carry out macro - and the microscopic analysis of medicinal plant raw materials; To determine herbs by anatomic and morphological features; To carry out the merchandising analysis of raw materials of natural origin; To store medicinal raw materials taking into account features of its



To know bases of preparation of medicinal raw materials of plant, animal and mineral origin.	To be able to carry out rational preparation, drying and storage of medicinal plant raw materials and to define its stocks on concrete sites.	chemical composition and content of biologically active agents.
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12. **Prerequisites:** botany, latin, pharmacognosy

13. **Post-details:** innovative pharmaceutical technology

14. **Literature**

**The main:**

1. Токсанбаева, Ж. С. Дәрілік ресурстану: оқу құралы / Ж. С. Токсанбаева, Ә. Қ. Патсаев, Т. С. Серікбаева. - Алматы : Эверо, 2015. - 112 бет с.
2. Токсанбаева, Ж. С. Лекарственное ресурсведение [Текст] : учеб. пособие / Ж. С. Токсанбаева, А. К. Патсаев, С. К. Сейдалиева ; М-во здравоохранения РК; ЮКГФА. -; Утв. и разрешено в печать Методич. Совета ЮКГФА. - Шымкент : "RISO", 2014. - 104 с.
3. Токсанбаева, Ж. С. Лекарственное ресурсведение: учебное пособие - Алматы :Эверо, 2015. - 116 с
4. Токсанбаева, Ж. С. Лекарственное ресурсведение [Текст] : учебное пособие / Ж. С. Токсанбаева, А. К. Патсаев, С. К. Сейдалиева. - Алматы :Эверо, 2018. - 116 с.
5. Орынбасарова, К. К. Дәрілік өсімдік шикізаттарын фармакогно-стикалық талдау: оқу құралы. - Алматы : ЭСПИ, 2021. - 308 бет. с.
6. Фармакогнозия. Экотоксиканты в лекарственном растительном сырье и фитопрепаратах: учеб. пособие / И. В. Гравель [и др.] ; М-во образования и науки РФ. - ; Рек. ГОУ ВПО Первый Московский гос. мед. ун-т им. И. М. Сеченова. - М. : ГЭОТАР - Медиа, 2013. - 304 с.
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2. Тулемисов, С. К. Жоңғара оқулақөсімдігінфармакогностикалық зерттеу] : фармация маманығы бойынша мед. ғыл. магистрі ... дис.: 6М110400 / ОҚМФА. - Шымкент : Б. ж., 2013.
3. Дәрілік өсімдіктер және дәрілік өсімдік шикізаттары фармакогнозия пәні бойынша оқу құралы Джангозина Д. М. - Алматы : Эверо, 2014
4. Саякова, Г. М. Фармакогнозия: учебник / Г. М. Саякова, У. М. Датхаев, В.С. Кисличенко. - М. : "Литтерра", 2019. - 352 с. ил.

**Electronic resources**

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**The department of Pharmacognosy**

**Level of training (bachelor degree)**

**Educational program: 6B10106 «Pharmacy»**

**Course: 5**

**Name of elective discipline: «phytocosmetology»**

**Amount of credits: 5 credits (150 hours)**

**Purposes:** To introduce students to the history of phytocosmetology, phytocosmetology involves skin care using natural herbs that are not part of the cosmetic formula. Phytocosmetology and its tools - a new direction in cosmetics

**Content of discipline:** General characteristics of cosmetics based on vegetable raw materials, methods of studying their quality, effectiveness and safety. Development of perfumery and cosmetic products based on plant raw materials containing various biologically active substances, their general characteristics, application in cosmetology.

**Tasks:**

- to identify the advantages and disadvantages of medicinal phytocosmetics;
- study of medicinal plants used in phytocosmetics;
- study of pharmacological properties of biologically active substances of medicinal plants used in phytocosmetology;

overview of medicinal plants used in medicinal phytocosmetics, with specific examples.

#### **10. Justification of the choice of discipline:**

In cosmetic practice, preparations of natural compounds, which are individual substances or mixtures thereof obtained from plant raw materials, are increasingly widely used. This is due to the wide range of pharmacological activity and low toxicity of most phytopreparations.

Despite the widespread development of the production of synthetic medicines, biologically active compounds and herbal medicines continue to occupy a significant place in modern medicine and cosmetology. The purpose of the course is to describe the features of the use of medicinal plants in phytocosmetology.

#### **11. Results of training (competence):**

<b>Knowledge (cognitive sphere)</b>	<b>Skills (psychomotor sphere)</b>	<b>Personal and professional competences (relations)</b>
Understands the essence and social significance of his future profession, shows a steady interest in it; Independently solves practical tasks of the basic category of complexity in the field of pharmaceutical activity within the competence, analyzes the working situation and its predictable changes, performs current and final control, assessment and correction.	Uses information and communication technologies in professional activities, searches for and uses information necessary for the effective performance of professional tasks, navigates in conditions of frequent technology changes in professional activities. Knows and uses knowledge in the field of pharmaceutical activity. Sets goals, motivates the activities of subordinates, organizes their work.	Independently determines the tasks of professional and personal development, is engaged in self-education, consciously plans to improve their qualifications. – Organizes the reception, storage of medicines, medicinal plant raw materials in accordance with the requirements. Effective preparation of medicinal plant raw materials in cosmetology. Substantiates the botanical, pharmacognostic characteristics of plants by diagnostic signs. Represents personal judgments on rational harvesting, drying and storage of medicinal plant raw materials and on macroscopic and microscopic analysis of LRS

12. **Prerequisites:** botany, pharmacognosy technology of dosage forms

13. **Post-details:** innovative pharmaceutical technology

#### 14. Literature

##### **The main:**

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2. Байзолданов, Т. Косметикалық препараттар және оларды дайындауда қолданылатын белсенді және көмекші заттар: оқу құралы. - Алматы : Эверо, 2016. - 212 б.

##### **Additional:**

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3. Дрибноход, Ю.Ю. Косметология. : Среднее медицинское образование - Изд. 3-е - Ростов н/Д: Феникс, 2019. - 828 с. <http://rmebrk.kz/book/1177774>
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