

The catalog of elective disciplines for 2023-2024 academic year

1. **The department of Pharmacognosy**
2. **Level of training (magistracy)**
3. **Specialty:** 6M110400 «Pharmacy»
4. **Course:** 1 (profile)
5. **Name of elective discipline:** «Standardization of medicinal plant raw materials and phytopreparations»
6. **Amount of credits:** 3
7. **Purposes:**
 - Formation of theoretical knowledge (cognitive component)
 - Mastering practical skills in conducting microscopy of medicinal plant raw materials and conducting a complete analysis of finished medicines used in phytotherapy
 - Instilling communication skills to students on the professional presentation of the external description of LR and LRS, reasoned statement, defending their own point of view, the formation of logical thinking, the ability to participate in discussions, etc.
 - Mastering legal competence by familiarizing regulatory documentation regulating the quality, effectiveness and safety of LR and LRS (GF RK, etc.)
 - Motivated training of undergraduates for continuous improvement and development of abilities for independent and creative development of materials on medicinal plant raw materials

8. Tasks:

- to give a general idea to undergraduates about medicines used in standardization in phytotherapy and listed in the Register of the Republic of Kazakhstan
- mastering and familiarization with practical, communicative and legal skills of students with the basic provisions on medicinal plant raw materials and medicinal plants and prepared from them, dosage forms used in standardization in the Republic of Kazakhstan.
- formation of a holistic view of medicines from LRS used in standardization in the Republic of Kazakhstan.
- legal familiarization of undergraduates with the problems of medicinal plants used in standardization in the form of ready-made dosage forms in traditional medicine, disclosure of scientific approaches to their solution.
- familiarization with modern promising areas of application of medicinal plants and medicinal plant and factory-prepared ready-made dosage forms (tinctures, extracts, tablets, etc.) used in modern phytotherapy.
- to form the ability to independently understand medicinal plants and medicinal plant raw materials and finished medicines used in standardization in phytotherapy.

9. Justification of the choice of discipline:

Ensuring the proper quality of medicinal plant raw materials largely depends on the correct organization of control, its effectiveness and efficiency, as well as on the level of requirements laid down in regulatory documents (GF, AND, VAND) and the methods of analysis used. The study of the system of quality standards of medicinal plant raw materials, their products, testing methods, etc., established in a nationwide manner and mandatory for producers and consumers is currently a very urgent problem in the Republic of Kazakhstan.

10. Results of training (competence):

Knowledge (cognitive sphere)	Skills (psychomotor sphere)	Personal and professional competences (relations)

<p>-general concept of work safety in chemical testing laboratories, standardization, standards, laws used in standardization, medicinal plants, medicinal plant raw materials, the concept of biologically active substances, familiarity with the State Budget of the Republic of Kazakhstan, the Register of the Republic of Kazakhstan;</p> <p>-the general importance of medicinal plants and medicinal plant raw materials as a source of biologically active compounds used in standardization in modern phytotherapy;</p> <p>- to get acquainted with the general nomenclature of medicinal plants, medicinal plant raw materials and phytopreparations in finished form used in standardization and quality control in testing laboratories of the Republic of Kazakhstan;</p> <p>-to study, familiarize and master the necessary quality indicators used in the standardization of various ready-made dosage forms (tinctures, tablets, extracts, ointments, etc.) containing medicinal plant raw materials</p> <p>-recognize medicinal plants and medicinal plant raw materials used in standardization;</p> <p>- to carry out quality control according to the required indicators and analysis of medicinal products from medicinal plants and medicinal plant raw materials used in standardization;</p>	<p>- be able to correctly give a general description of medicinal preparations from medicinal plants and medicinal plant raw materials according to a common external feature, the main features characteristic of the LRS family, the main chemical composition and use in phytotherapy;</p> <p>- search and selection of material for the disclosure of the topic standardization of medicinal plants used in herbal medicine;</p> <p>-be able to use the necessary scientific, educational and professional literature for a future specialist, suitable for working with medicinal plants used in phytotherapy;</p> <p>- Be able to use regulatory documents (the Law on Medicines, the State Budget of the Republic of Kazakhstan, the Register of the Republic of Kazakhstan, standardization orders, standardization regulations, codes, etc.) on standardization of finished dosage forms used in herbal medicine;</p> <p>- Be able to state registration and re-registration of medicinal raw materials, plant and animal origin. The concept of registration, re-registration and certification of pharmaceutical products from raw materials of animal and vegetable origin in the Republic of Kazakhstan.</p>	<p>- To carry out work with safety procedures of work in a chemical laboratory with medicinal plant raw materials and medicinal plants used in phytotherapy;</p> <p>- to carry out standardization and quality control of medicinal plant raw materials;</p> <p>- State registration and re-registration of some ready-made medicines: "Hawthorn tincture", "Motherwort Tincture", "Lily of the Valley Tincture" used in herbal medicine. General study of medicinal plant raw materials used in settings. Study of the general article on the GF of the Republic of Kazakhstan;</p> <p>- State registration and re-registration of some medicines: "Salvin – solution for external use", "Chlorophyllipt - alcohol 1% solution", "Infusion, tincture of birch buds", "Infusion of melissa herb" are derivatives of essential oils used in phytotherapy. Study of quality indicators for finished dosage forms.</p>
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11. Prerequisites: bachelor degree

12.Post-details: doctorate

13.Literature

The main:

1.Лекарственное сырье растительного и животного происхождения. Фармакогнозия / Под. ред. Г.П. Яковлева. – СПб.: СпецЛит, 2006. – 845 с.: ил.

2. Муравьева Д.А., Самылина И.А., Яковлев Г.П. Фармакогнозия. Учебник. – 4-е изд., перераб. и доп. – М.: ОАО Издательство «Медицина», 2007. – 656 с.: ил.

3. Руководство к практическим занятиям по фармакогнозии: Учебное пособие / Под ред. И.А. Самылиной, А.А. Сорокиной. – М.: ООО «Мед. информационное агентство», 2007. – 672 с.

4. Самылина И.А., Аносова О.Г. Фармакогнозия: учебное пособие: Атлас в 2 т. – М., 2007. – Т.1. – 192 с.; Т.2. – 384 с.

5. Самылина И.А., Ермакова В.А., Бобкова Н.В., Потанина О.Г. Фармакогнозия: учебное пособие: Атлас. – Т.3. – М., 2009. – 488 с.

Additional:

1. Головкин Б.Н., Руденская Р.Н., Трофимова И.А., Шретер А.И. Биологически активные вещества растительного происхождения. – М.: Наука, 2001. – 240 с.

2. Государственная фармакопея Республики Казахстан. Т.1. – Алматы: Издательский дом «Жибек жолы», 2008. – 592 с.

3. Машковский М.Д. Лекарственные средства. – 15-е изд., перераб., испр. и доп. – М.: РИА «Новая волна»: Издатель Умеренков, 2008. – 1206 с.: ил.

1. **The department of Pharmacognosy**

2. **Level of training (magistracy)**

3. **Specialty: 6M110400 «Pharmacy»**

4. **Course: 1 (profile)**

5. **Name of elective discipline: «Features of the phytochemical analysis of medicinal raw materials of plant and animal origin»**

6. **Amount of credits: 2**

7. **Purposes:**

Acquaintance of undergraduates with topical issues of a pharmakognoziya, 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.Tasks: - ability to define humidity, ash-content, characteristic numerical indicators of medicinal plant raw materials (in fats — acid number, iodine number, etc.);

- studying high-quality and quantitative definition of active ingredients of medicinal raw materials of plant and animal origin;

- carrying out phytochemical analysis of medicinal raw materials of plant and animal origin;

- to create the skills necessary for implementation of professional activity of the undergraduate;

- to give a general idea to undergraduates about the medicines applied at standardization in phytotherapy and entered in the Register of the Republic of Kazakhstan

- development and acquaintance by practical, communicative and legal skills of students with basic provisions about medicinal plant raw materials and herbs and ready of them, the dosage forms applied at standardization in the Republic of Kazakhstan.

- formation of complete idea of medicines from MPRM applied at standardization in the Republic of Kazakhstan.

- legal acquaintance of students with problems of the herbs applied at standardization in the form of ready dosage forms at traditional medicine, disclosure of scientific approaches in their decision.

9. Justification of the choice of discipline:

"Features of the phytochemical analysis of medicinal raw materials of plant and animal origin" – one of pharmaceutical sciences studying herbs, medicinal plant raw materials and some products of primary processing of plant and animal origin. It is considered features of the phytochemical analysis of medicinal raw materials of plant and animal origin a special subject for studying of a pharmakognoziya as the main subject. Pharmakognoziya (from Greek pharmakon – medicine, poison and gnosis - knowledge) – the science which is comprehensively studying herbs, medicinal raw materials plant is more rare than animal origin.

10. Results of training (competence):

Knowledge (cognitive sphere)	Skills (psychomotor sphere)	Personal and professional competences (relations)
<ul style="list-style-type: none"> - "Features of the phytochemical analysis of medicinal raw materials of plant and animal origin" as science and as subject matter and main stages of development. - a general meaning of herbs and medicinal plant raw materials, as source of biologically active connections applied at standardization in modern phytotherapy; - to study the general nomenclature of herbs, medicinal plant raw materials and the phytomedicines in a ready form used at standardization and quality control in testing laboratories of the Republic of Kazakhstan; - to study, examine and master necessary indicators of quality, various ready dosage forms applied at standardization (tinctures, tablets, extracts, ointments, etc.), containing medicinal plant raw materials; - Acquaintance with safety measures of work in chemical laboratory with medicinal plant raw materials and herbs, applied in phytotherapy; - Defines distinctive features of standardization and quality control of the crushed MPRM in comparison with other areas of standardization and quality control; - Explains the parameters used in standardization and quality control of the crushed MPRM; - Explains essence of quality control of the crushed MPRM, its purpose and tasks as sciences; - to distinguish herbs and medicinal plant raw materials, applied at standardization in phytotherapy. 	<ul style="list-style-type: none"> - ability to define humidity, ash-content, characteristic numerical indicators of medicinal plant raw materials (in fats — acid number, iodic number, etc.); - Knows zhiropodobny substances. Wax: beeswax, spermatst also lanolin; - studying high-quality and quantitative definition of active ingredients of medicinal raw materials of plant and animal origin; - is able systematizes knowledge of a subject and problems of standardization and quality control of the crushed medicinal plant raw materials of the packed-up products; - Owns metodolgiy standardization and quality control of the crushed MPRM; - Is able defines distinctive features of standardization and quality control of the crushed MPRM in comparison with other areas of standardization and quality control; - Explains the parameters used in standardization and quality control of the crushed MPRM; - Explains essence of quality control of the crushed MPRM, its purpose and tasks as sciences; - Is able to compare evaluation stages of standardization and quality control of MPRM; - Is able to characterize quality control investigation phases; - knows ways of use and application in medicine of medicinal plant raw materials 	<ul style="list-style-type: none"> - carrying out phytochemical analysis of medicinal raw materials of plant and animal origin; - to define humidity, ash-content, characteristic numerical indicators of medicinal plant raw materials (in fats — acid number, iodic number, etc.); - to carry out analyses on zhiropodobny substances. Wax: beeswax, spermatst also lanolin; - to carry out high-quality and quantitative definition of active ingredients of medicinal raw materials of plant and animal origin; - Ability to apply standard and technical documentation, knowledge in the field of standard and legal bases of protection of intellectual property and a transfer of technologies, knowledge in the field of ISO Free possession of professional knowledge in the field of standardization and quality control; - To Vladeet to provide stability of indicators~ productions and qualities of the products which are turned out~; - To carry out the touch assessment of finished goods; - To carry out the analysis and to generalize the received results for use in production and technological activity; - to predict emergence of possible problems, crisis or unusual situations, to find possibilities of their

		monitoring, permission or prevention; - To carry out environmental control
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