

The catalog of elective disciplines

1. **The department of Pharmacognosy**
2. **Level of training (magistracy)**
3. **Educational program: 7M10142 «Pharmacy»**
4. **Course: 1 (scientifically-pedagogical direction)**
5. **Name of elective discipline:** «Features of the phytochemical analysis of medicinal raw materials of plant and animal origin»
6. **Amount of credits: 3**
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, iodic 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)
- "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;	- 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	- 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.

<ul style="list-style-type: none"> - 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. 	<p>medicinal raw materials of plant and animal origin;</p> <ul style="list-style-type: none"> - 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 	<p>Wax: beeswax, spermatst also lanolin;</p> <ul style="list-style-type: none"> - 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 <p>Free possession of professional knowledge in the field of standardization and quality control;</p> <ul style="list-style-type: none"> - 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
--	--	--

11. Prerequisites: bachelor degree

12. Post-details: doctorate

13. Literature

The main:

1. Рахимов, Қ. Д. Фитофармакология. Фармакология - Тезаурус. [Мәтін] : оқу құралы = Фитофармакология. Фармакология -Тезаурус : учеб. пособие / Қ. Д. Рахимов. - 2-бас. толықт., өңд.. - Алматы : ЖШС "Жания-Полиграф", 2015. - 528 с.
2. Токсанбаева, Ж. С. Лекарственное ресурсоведение [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. Рахимов, Қ. Д. Фитохимия, фитофармакология, фитотерапия [Мәтін] : оқу құралы / ҚР Ұлттық ғыл. акад.; "Фитохимия" халықаралық ғыл.-өндірістік холдингі.; Фармакология ин-ты. - Алматы ; Караганда : ЖШС "Жания-Полиграф", 2015. - 538 бет
4. Қазақстан Республикасының Мемлекеттік фармакопееясы. Т. 1. – Алматы: «Жібек жолы» баспа үйі, 2015. – 720 бет
5. Қазақстан Республикасының Мемлекеттік фармакопееясы. Т. 2. – Алматы: «Жібек жолы» баспа үйі, 2009. – 792 бет.

6. Қазақстан Республикасының Мемлекеттік фармакопеясы. Т. 3. – Алматы: «Жібек жолы» баспа үйі, 2014. – 864 бет
7. Государственная Фармакопея Республики Казахстан. Т.1. – Алматы: Издательский дом «Жибек жолы», 2015. – 720 с. –
8. Государственная Фармакопея Республики Казахстан. Т.2. – Алматы: Издательский дом «Жибек жолы», 2009 – 804 с. –
9. Государственная Фармакопея Республики Казахстан. Т.3. – Алматы: Издательский дом «Жибек жолы», 2014. – 872 с. –
10. Фармакопея США: USP 29. Национальный формуляр: NF 24. В 2 т. Т. 1 [Текст] : сб. стандартов: пер. с англ. - ; С разрешения Фармакопейной Конвенции США. - М. : ГЭОТАР - Медиа, 2009. - 1720 +эл. опт. диск (CD-ROM)
11. Фармакопея США: USP 29. Национальный формуляр NF 24. В 2 т. Т. 2 [Текст] : сб. стандартов: пер. с англ. - ; С разрешения Фармакопейной Конвенции США. - М. : ГЭОТАР - Медиа, 2009. - 1800 +эл. опт. диск (CD-ROM)
12. Фармакопея США. Национальный формуляр: избранные обновления и все новые материалы с USP 29 - NF 24 по USP 33 - NF28 включительно: пер. с англ. - М.: ГЭОТАР - Медиа, 2012.-888с

Additional:

1. Лекарственные растения, растительное сырье и некоторые продукты переработки сырья животного происхождения. Ч. 1. Лекарственные растения и лекарственное растительное сырье содержащие углеводы, жиры и жироподобные вещества, витамины, терпеноиды [Текст] : учеб.-методическое пособие по фармакогнозии / Д. М. Джангозина [др.]. - 2-е изд., доп. - Алматы : Эверо, 2014. - 208 с.
2. Лекарственные растения, лекарственное растительное сырье и некоторые продукты переработки сырья животного происхождения. Ч. 2. Лекарственные растения и лекарственное растительное сырье, содержащие сердечные гликозиды, сапонины, алколоиды [Текст] : учеб. - методическое пособие по фармакогнозии / Д. М. Джангозина [и др.]. - 2-е изд., доп. - Алматы : Эверо, 2014. - 194 с.
3. Лекарственные растения, лекарственное растительное сырье и некоторые продукты переработки сырья животного происхождения. Часть 3. 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 лекарственные сырье животного происхождения [Текст] : учеб.-методическое пособие по фармакогнозии / Д. М. Джангозина [и др.]. - 2-е изд., доп. - Алматы : Эверо, 2014. - 220 с.
4. Горянов, В. И. Лекарственные растения Южно-Казахстанской области [Текст] : справочник / В. И. Горянов. - Шымкент : Алем, 2017. - 152 с

Electronic resources:

1. Медициналық-биологиялық деректерді статистикалық талдауда excel және spss statistics бағдарламаларын қолдану.
2. Чудиновских В.Р., Каипова А.Ш., Алтаева А.У., Абдикадыр Ж.Н. , 2016 ЦБ Акнурпресс <https://aknurpress.kz/reader/web/1341>
3. Абиев С.А.Фитопатология: оқу құралы/ І-ші бөлім. С.А. Абиев.- Алматы: Эверо, 2020.– 204 б https://www.elib.kz/ru/search/read_book/642/
4. Абиев С. Фитопатология. ІІ-ші бөлім. Алматы: Эверо. 2020. – 228 б https://www.elib.kz/ru/search/read_book/643
5. Өсімдіктердің алуан түрлілігі және оларды тиімді пайдалану
6. Айдарбаева Д.Қ., Шолпанқұлова Г.А. , 2019 <https://www.aknurpress.kz/reader/web/2241>
7. Контроль качества и стандартизация лекарственных средств [Электронный ресурс] : методическое пособие / под ред. Раменской Г. В., Ордабаевой С. К. - ; ГБОУ ВПО "Первый МГМУ им И. М. Сеченова". РГП на ПХВ "ЮКГФА". - Электрон. текстовые дан. (4.91Мб). - Шымкент : ЮКГФА, 2015. -эл. опт. диск (CD-ROM).
8. 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 III: Лекарственные растения и лекарственное растительное сырье, содержащие фенольные соединения и их гликозиды; кумарины, хромоны, лигнаны, антраценпроиз-водные, флавоноиды, дубильные вещества, биологически активные вещества малоизученного состава и лекарственное сырье животного происхождения. –Алматы: издательство «Эверо», 2020. –https://www.elib.kz/ru/search/read_book/748/

1. **The department of Pharmacognosy**

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

3. **Specialty:** 7M10143 «Pharmaceutical ecology»

4. **Course:** 1 (scientifically-pedagogical direction)

5. **Name of elective discipline:** «Standardization of medicines of natural origin»

6. **Amount of credits:** 3

7. **Purposes:**

- Formation of theoretical knowledge (cognitive component)
- Mastering practical skills in conducting microscopy of medicines of natural origin 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 medicines of natural origin 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</p> <p>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>
--	---	---

11. Prerequisites: bachelor degree

12.Post-details: doctorate

13.Literature

The main:

1. Рахимов, Қ. Д. Фитофармакология. Фармакология - Тезаурус. [Мәтін] :оқуқұралы = Фитофармакология. Фармакология -Тезаурус : учеб. пособие / Қ. Д. Рахимов ; ҚР ұлттықғылым акад. Фармакология ин-ты; ҚР денсаулықсақтаужәнеәлеуметтік даму Министрлігі; Қазақ мед. үздіксізбілім беру ун-ті АҚ. - 2-бас. толықт., өңд. жәнетүзет. ; Алматы мемл. дәрігерлербілімінжетіл. ин-ты ғыл. кеңесі бас. ұсынған. - Алматы : ЖШС "Жания-Полиграф", 2015. - 528 с.
2. Токсанбаева, Ж. С. Лекарственное ресурсоведение [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. Қазақстан Республикасының Мемлекеттік фармакопеясы. Т.1. – Алматы: «Жібек жолы» баспа үйі, 2008. – 592 б.
4. Қазақстан Республикасының Мемлекеттік фармакопеясы. Т.2. – Алматы: «Жібек жолы» баспа үйі, 2009. –792 б.
5. Қазақстан Республикасының мемлекеттікфармакопеясы. Т. 3 [Мәтін] : монография / ҚР денсаулық сақтау министрлігі. - 1-бас. ; ҚР Денсаулық сақтау министрінің бұйрығымен бекіт. - Алматы : Жібек жолы, 2014. - 864 бет. С
6. Государственная фармакопея Республики Казахстан. Т. 3 [Текст] : монография / М-во здравоохранения РК. - 3-е изд. ; Утв. приказом М-ва здравоохранения РК. - Алматы : Изд. дом "Жибекжолы", 2014. - 872 с
7. Фармакогнозия. Атлас. В 3 т. Т. 3. Лекарственное растительное сырье, сборы. Растительные порошки. Лекарственные средства на основе измельченного растительного сырья [Текст] : учеб. пособие / И. А. Самылина [и др.]. - ; Рек. УМО по мед. и фарм. образованию вузов России. - М. : ГЭОТАР - Медиа, 2010. - 488 с. : ил.

Additional:

1. Самылина, И. А. Фармакогнозия. Атлас. В 3 т. Т. 2. Лекарственное растительное сырье. Анатомо-диагностические признаки фармакопейного и нефармакопейного лекарственного растительного сырья [Текст] : учеб. пособие / И. А. Самылина, О. Г. Аносова. - ; Рек. УМО по мед. и фарм. образованию вузов России. - М. : ГЭОТАР - Медиа, 2010. - 384 с. : ил
2. Фармакопея США. Национальныйформуляр [Текст] : избранные обновления и все новые материалы с USP 29 - NF 24 по USP 33 - NF28 включительно: пер. с англ. - М. : ГЭОТАР - Медиа, 2012. - 888 с
3. 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
4. Фармакогнозияпәнінің зертханалық-тәжірибелік сабақтарына арналған қолданба [Мәтін] : оқу құралы / Ә. Қ. Патсаев. - Алматы : Эверо, 2018. - 392 бет
5. Келімханова, С. Е. Фармакогнозия [Мәтін] : практикум / С. Е. Келімханова ; ҚР денсаулық сақтау министрлігі; С. Ж. Асфендияров атындағы ҚазҰМУ. - Қарағанды : ЖК "Ақнұр", 2014. - 180 бет.

1. **The department of Pharmacognosy**
2. **Level of training (magistracy)**
3. **Specialty:** 7M10143 «Pharmaceutical ecology»
4. **Course:** 1 (scientifically-pedagogical direction)
5. **Name of elective discipline:** «Standardization of medicinal plant materials»
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)
-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; -the general importance of medicinal plants and medicinal plant raw materials as a source of	- 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; - search and selection of material for the disclosure of the topic standardization of medicinal plants used in herbal medicine; -be able to use the necessary scientific, educational and	- To carry out work with safety procedures of work in a chemical laboratory with medicinal plant raw materials and medicinal plants used in phytotherapy; - to carry out standardization and quality control of medicinal plant raw materials; - 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

<p>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>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</p> <p>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>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>
---	--	--

11. 11. Prerequisites: bachelor degree

12.Post-details: doctorate

13.Literature

The main:

1. Рахимов, Қ. Д. Фитофармакология. Фармакология - Тезаурус. [Мәтін] :оқуқұралы = Фитофармакология. Фармакология -Тезаурус : учеб. пособие / Қ. Д. Рахимов ; ҚР ҰЛТТЫҚҒЫЛЫМ АКАД. Фармакология ин-ты; ҚР денсаулықсақтау және әлеуметтік даму Министрлігі; Қазақ мед. үздіксіз білім беру ун-ті АҚ. - 2-бас. толықт., өңд. және түзет. ; Алматы мемл. дәрігерлер білімін жетіл. ин-ты ғыл. кеңесі бас. ұсынған. - Алматы : ЖШС "Жания-Полиграф", 2015. - 528 с.
2. Токсанбаева, Ж. С. Лекарственное ресурсоведение [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. Қазақстан Республикасының Мемлекеттік фармакопеясы. Т.1. – Алматы: «Жібек жолы» баспа үйі, 2008. – 592 б.
4. Қазақстан Республикасының Мемлекеттік фармакопеясы. Т.2. – Алматы: «Жібек жолы» баспа үйі, 2009. – 792 б.

5. Қазақстан Республикасының мемлекеттік фармакопеясы. Т. 3 [Мәтін] : монография / ҚР денсаулық сақтау министрлігі. - 1-бас. ; ҚР Денсаулық сақтау министрінің бұйрығымен бекіт. - Алматы : Жібек жолы, 2014. - 864 бет. С
6. Государственная фармакопея Республики Казахстан. Т. 3 [Текст] : монография / М-во здравоохранения РК. - 3-е изд. ; Утв. приказом М-ва здравоохранения РК. - Алматы : Изд. дом "Жибекжолы", 2014. - 872 с
7. Фармакогнозия. Атлас. В 3 т. Т. 3. Лекарственное растительное сырье, сборы. Растительные порошки. Лекарственные средства на основе измельченного растительного сырья [Текст] : учеб. пособие / И. А. Самылина [и др.]. - ; Рек. УМО по мед. и фарм. образованию вузов России. - М. : ГЭОТАР - Медиа, 2010. - 488 с. : ил.

Additional:

1. Самылина, И. А. Фармакогнозия. Атлас. В 3 т. Т. 2. Лекарственное растительное сырье. Анатомо-диагностические признаки фармакопейного и нефармакопейного лекарственного растительного сырья [Текст] : учеб. пособие / И. А. Самылина, О. Г. Аносова. - ; Рек. УМО по мед. и фарм. образованию вузов России. - М. : ГЭОТАР - Медиа, 2010. - 384 с. : ил
2. Фармакопея США. Национальный формуляр [Текст] : избранные обновления и все новые материалы с USP 29 - NF 24 по USP 33 - NF28 включительно: пер. с англ. - М. : ГЭОТАР - Медиа, 2012. - 888 с
3. 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
4. Фармакогнозия пәнінің зертханалық-тәжірибелік сабақтарына арналған қолданба [Мәтін] : оқу құралы / Ә. Қ. Патсаев. - Алматы : Эверо, 2018. - 392 бет
5. Келімханова, С. Е. Фармакогнозия [Мәтін] : практикум / С. Е. Келімханова ; ҚР денсаулық сақтау министрлігі; С. Ж. Асфендияров атындағы ҚазҰМУ. - Қарағанды : ЖК "Ақнұр", 2014. - 180 бет.

1. **The department of Pharmacognosy**

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

3. **Specialty:** 7M10143 «Pharmaceutical ecology»

4. **Course:** 1 (scientifically-pedagogical direction)

5. **Name of elective discipline:** «Medicinal resource studies»

6. **Amount of credits:** 3

7. **Purposes:**

- Formation of theoretical knowledge (cognitive component)
- formation 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.
- 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. 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):

Knowledge (cognitive sphere)	Skills (psychomotor sphere)	Personal and professional competences (relations)
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 know bases of preparation of medicinal raw materials of plant, animal and mineral 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 be able to carry out rational preparation, drying and storage of medicinal plant raw materials and to define its stocks on concrete sites.	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 chemical composition and content of biologically active agents.

11. Prerequisites: bachelor degree

12. Post-details: doctorate

13. Literature

The main:

1. Рахимов, Қ. Д. Фитофармакология. Фармакология - Тезаурус. [Мәтін] :оқу құралы = Фитофармакология. Фармакология -Тезаурус : учеб. пособие / Қ. Д. Рахимов ; ҚР Ұлттық ғылым акад. Фармакология ин-ты; ҚР денсаулық сақтау және әлеуметтік даму Министрлігі; Қазақ мед. үздіксіз білім беру ун-ті АҚ. - 2-бас. толықт., өнд. жәнәтүзет. ; Алматы мемл. дәрігерлер білімін жетіл. ин-ты ғыл. кеңесі бас. ұсынған. - Алматы : ЖШС "Жания-Полиграф", 2015. - 528 с.
2. Токсанбаева, Ж. С. Лекарственное ресурсоведение [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. Қазақстан Республикасының Мемлекеттік фармакопеясы. Т.1. – Алматы: «Жібек жолы» баспа үйі, 2008. – 592 б.
4. Қазақстан Республикасының Мемлекеттік фармакопеясы. Т.2. – Алматы: «Жібек жолы» баспа үйі, 2009. – 792 б.
5. Қазақстан Республикасының мемлекеттік фармакопеясы. Т. 3 [Мәтін] : монография / ҚР денсаулық сақтау министрлігі. - 1-бас. ; ҚР Денсаулық сақтау министрінің бұйрығымен бекіт. - Алматы : Жібек жолы, 2014. - 864 бет. С

6. Государственная фармакопея Республики Казахстан. Т. 3 [Текст] : монография / М-во здравоохранения РК. - 3-е изд. ; Утв. приказом М-ва здравоохранения РК. - Алматы : Изд. дом "Жибекжолы", 2014. - 872 с
7. Фармакогнозия. Атлас. В 3 т. Т. 3. Лекарственное растительное сырье, сборы. Растительные порошки. Лекарственные средства на основе измельченного растительного сырья [Текст] : учеб. пособие / И. А. Самылина [и др.]. - ; Рек. УМО по мед. и фарм. образованию вузов России. - М. : ГЭОТАР - Медиа, 2010. - 488 с. : ил.

Additional:

1. Самылина, И. А. Фармакогнозия. Атлас. В 3 т. Т. 2. Лекарственное растительное сырье. Анатомо-диагностические признаки фармакопейного и нефармакопейного лекарственного растительного сырья [Текст] : учеб. пособие / И. А. Самылина, О. Г. Аносова. - ; Рек. УМО по мед. и фарм. образованию вузов России. - М. : ГЭОТАР - Медиа, 2010. - 384 с. : ил
2. Фармакопея США. Национальный формуляр [Текст] : избранные обновления и все новые материалы с USP 29 - NF 24 по USP 33 - NF28 включительно: пер. с англ. - М. : ГЭОТАР - Медиа, 2012. - 888 с
3. 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
4. Фармакогнозия пәнінің зертханалық-тәжірибелік сабақтарына арналған қолданба [Мәтін] : оқу құралы / Ә. Қ. Патсаев. - Алматы : Эверо, 2018. - 392 бет
5. Келімханова, С. Е. Фармакогнозия [Мәтін] : практикум / С. Е. Келімханова ; ҚР денсаулық сақтау министрлігі; С. Ж. Асфендияров атындағы ҚазҰМУ. - Қарағанды : ЖК "Ақнұр", 2014. - 180 бет.

1. Department: “History of Kazakhstan and social disciplines”

2. Level of training master's degree

3. Educational program: “Public Health”, Medicine, Nursing, Pharmaceutical Ecology, Pharmacy.

4. Course-1

5. Name of the elective discipline - “Pedagogy in higher education”

6. Number of credits (at least 5 credits) - 5 credits

7. Goal: Formation of theoretical and practical knowledge, skills and abilities of undergraduates in the implementation of teaching activities in the field of medical education.

8. Contents of the discipline (30-50 words) – General fundamentals of pedagogy: methodology, history of development. Higher education in the Republic of Kazakhstan: integration into the global educational space. The meaning and structure of pedagogical activity. Personality, professional abilities and qualifications of the teacher. Organization of the educational process in higher education based on credit technology. Theory of scientific activity of higher education. The meaning and directions of educational work in higher education. Management of the education quality system. Pedagogy in medicine.

9. Objectives - directing undergraduates to become familiar with the theory and technology of their future profession;

10. Justification for choosing a discipline - This program is designed to provide undergraduates with the necessary knowledge, qualifications and skills in the subject to achieve learning outcomes.

11. Learning outcomes (4-6 learning outcomes according to Dublin descriptors):

1LO-Analyzes the connection between pedagogical conclusions and the world-historical development of mankind.

2 LO - Analyzes current problems of education and upbringing and through them analyzes the laws of personality formation.

3 LO – uses educational technologies in the learning process and presents its own opinion to the scientific community and society on ways to improve it.

4 LO - Ability for self-analysis and self-improvement, pedagogical competence in teaching medical subjects.

12. Prerequisites - no

13. Postrequisites - teaching practice

14. Literature:

1. Педагогика в медицине. Ч. 1. [Текст] : учебное пособие / под ред. Н. В. Кудрявой. - 3-е изд., испр. и доп. - Алматы : CyberSmith, 2017. - 192 с.
2. Педагогика в медицине. Ч. 2. [Текст] : учебное пособие / под ред. Н. В. Кудрявой. - 3-е изд., испр. и доп. - Алматы : CyberSmith, 2017. - 244 с.
3. Психология и педагогика для студентов медицинских вузов. 1 ч. : учебник / под ред. Н. В. Кудрявой. - Алматы : Эверо, 2017. - 196 с.
4. Психология и педагогика для студентов медицинских вузов. 2 ч.: учебник / под ред. Н. В. Кудрявой. - Алматы : Эверо, 2017. – 192
5. Жұмабекова, Ф. Н. Педагогикалық мамандыққа кіріспе [Мәтін] : оқулық / Ф. Н. Жұмабекова. - ; Л. Н. Гумилев атындағы Еуразия ұлттық ун- тінің ғыл. кеңесі ұсынған. - Алматы : Эверо, 2014. - 274 бет.
6. Мирза, Н. В. Кәсіби-педагогикалық қарым-қатынас [Мәтін] : оқу құралы / Н. В. Мирза, Р. К. Маженова ; ҚР БҒМ; Акад. Е. А. Бөкетов атындағы ҚарМУ. - Алматы : Эверо, 2014. - 160 бет.
7. Шунк, Дейл Х. Оқыту теориясы: білім беру көзқарысы = Learning theories an educational perspective : оқулық / Дейл Х. Шунк ; Қаз. тіл ауд. Б. М. Мизамхан [және т.б.]. - 7-ші бас. - Алматы : Ұлттық аударма бюросы, 2019. - 608 бет.
8. Pedagogy [Текст] : textbook / К. К. Zhampeisova [and etc.]. - Almaty : Association of higher educational institutions of Kazakhstan, 2016. - 390 p.

1. **The department of Pharmacognosy**

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

3. **Specialty:** 7M10143 «Pharmaceutical ecology»

4. **Course:** 1 (scientifically-pedagogical direction)

5. **Name of elective discipline:** «Ecological analysis of medicinal plant raw materials»

6. **Amount of credits:** 3

7. **Purposes:**

- Formation of theoretical knowledge (cognitive component)
- To develop the necessary knowledge and skills in recognizing medicinal plants, rational and scientifically based procurement of medicinal plant materials, resource conservation and protection of specific types of medicinal plants.
- 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. 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:**

Training of wild plant resources, determination of reserves of medicinal plant raw materials, placement of them in territories, zoning of procurement of medicinal plant raw materials, mapping of resources, formation of scientifically based recommendations for the rational use and protection of resources by nomenclature and volume for regional planning.

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

Knowledge (cognitive sphere)	Skills (psychomotor sphere)	Personal and professional competences (relations)
<p>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 know bases of preparation of medicinal raw materials of plant, animal and mineral origin.</p>	<p>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 be able to carry out rational preparation, drying and storage of medicinal plant raw materials and to define its stocks on concrete sites.</p>	<p>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 chemical composition and content of biologically active agents.</p>

11. Prerequisites: bachelor degree

12. Post-details: doctorate

13. Literature

The main:

1. Самылина, И. А. Фармакогнозия. Атлас. В 3 т. Т. 1. Общая часть. Термины и техника микроскопического анализа в фармакогнозии [Текст] : учеб. пособие / И. А. Самылина, О. Г. Аносова. - ; Рек. УМО по мед. и фарм. образованию вузов России. - М. : ГЭОТАР - Медиа, 2010. - 192 с. : ил.
2. Самылина, И. А. Фармакогнозия. Атлас. В 3 т. Т. 2. Лекарственное растительное сырье. Анатомо-диагностические признаки фармакопейного и нефармакопейного лекарственного растительного сырья [Текст] : учеб. пособие / И. А. Самылина, О. Г. Аносова. - ; Рек. УМО по мед. и фарм. образованию вузов России. - М. : ГЭОТАР - Медиа, 2010. - 384 с. : ил
3. Самылина, И. А. Фармакогнозия. Атлас. В 3 т. Т. 2. Лекарственное растительное сырье. Анатомо-диагностические признаки фармакопейного и нефармакопейного лекарственного растительного сырья [Текст] : учеб. пособие / И. А. Самылина, О. Г. Аносова. - ; Рек. УМО по мед. и фарм. образованию вузов России. - М. : ГЭОТАР - Медиа, 2010. - 384 с. : ил
4. Самылина, И. А. Атлас лекарственных растений и сырья [Текст] : учеб. пособие по фармакогнозии / И. А. Самылина, А. А. Сорокина. - М. : Авторская Академия : Товарищество науч. изд. КМК, 2008. - 318 с

Additional:

1. Руководство к практическим занятиям по фармакогнозии (под ред. И.А.Самылиной и А.А.Сорокиной), Москва, 2007, «МИА», 671 с.
2. Руководство к практическим занятиям по фармакогнозии. Анализ фасованной продукции (под ред. И.А.Самылиной), Москва, 2008, «МИА», 288с.
3. Самылина И.А., Сорокина А.А. Атлас лекарственных растений и сырья. М., «Авторская академия», 2008, 318с.
4. Практикум по фармакогнозии (под редакцией В.Н.Ковалева). Харьков, 2004, 512 стр

Electronic sources:

Самылина, И. А. Фармакогнозия. Атлас. В 3 т. Т.1 [Электронный ресурс] : учебник / И. А. Самылина, О. Г. Аносова. - Электрон. текстовые дан. (71,6 Мб). - М. : Изд. группа "ГЭОТАР-Медиа", 2012. - эл. опт. диск (CD-ROM)

1. Самылина, И. А. Фармакогнозия. Атлас. В 3 т. Т. 2 [Электронный ресурс] : учебник / И. А. Самылина, О. Г. Аносова. - Электрон. текстовые дан. (101 Мб). - М. : Изд. группа "ГЭОТАР-Медиа", 2012. - эл. опт. диск (CD-ROM)
2. Самылина, И. А. Фармакогнозия : Атлас. В 3 т. Т. 3. [Электронный ресурс] : учебник / И. А. Самылина, О. Г. Аносова. - Электрон. текстовые дан. (142 Мб). - М. : Изд. группа "ГЭОТАР-Медиа", 2012. - эл. опт. диск (CD-ROM)
3. Фармакогнозия. Атлас: учебное пособие: в 3-х томах. - М. : ГЭОТАР-Медиа, 2010. - Т. 1. - 192 с. : ил. ЭБС/<http://www.studmedlib.ru/>

1. **The department of Pharmacognosy**

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

3. **Specialty:** 7M10143 «Pharmaceutical ecology»

4. **Course:** 1 (scientifically-pedagogical direction)

5. **Name of elective discipline:** «Medicinal resource studies»

6. **Amount of credits:** 3

7. **Purposes:**

- Formation of theoretical knowledge (cognitive component)
- formation 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.
- 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. 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):**

Knowledge (cognitive sphere)	Skills (psychomotor sphere)	Personal and professional competences (relations)
To know history of development of a pharmacognosy and the main stages of its formation; To know the nomenclature and the chemical composition	To be able to use standard documentation, reference and scientific books; To be able to provide advice to patients of drugstores and to the	To carry out macro - and the microscopic analysis of medicinal plant raw materials; To determine herbs by anatomic and morphological features;

<p>of medicinal raw materials of natural origin; To know bases of preparation of medicinal raw materials of plant, animal and mineral origin.</p>	<p>population in questions of application, collecting, drying and storage of medicinal plant raw materials; To be able to carry out rational preparation, drying and storage of medicinal plant raw materials and to define its stocks on concrete sites.</p>	<p>To carry out the merchandising analysis of raw materials of natural origin; To store medicinal raw materials taking into account features of its chemical composition and content of biologically active agents.</p>
---	---	---

11. Prerequisites: bachelor degree

12. Post-details: doctorate

13. Literature

The main:

1. Рахимов, Қ. Д. Фитофармакология. Фармакология - Тезаурус. [Мәтін] : оқу құралы = Фитофармакология. Фармакология -Тезаурус : учеб. пособие / Қ. Д. Рахимов ; ҚР Ұлттық ғылым акад. Фармакология ин-ты; ҚР денсаулық сақтау және елеуметтік даму Министрлігі; Қазақ мед. үздіксіз білім беру ун-ті АҚ. - 2-бас. толықт., өңд. және түзет. ; Алматы мемл. дәрігерлер білімін жетіл. ин-ты ғыл. кеңесі бас. ұсынған. - Алматы : ЖШС "Жания-Полиграф", 2015. - 528 с.
2. Токсанбаева, Ж. С. Лекарственное ресурсосведение [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. Қазақстан Республикасының Мемлекеттік фармакопеясы. Т.1. – Алматы: «Жібек жолы» баспа үйі, 2008. – 592 б.
4. Қазақстан Республикасының Мемлекеттік фармакопеясы. Т.2. – Алматы: «Жібек жолы» баспа үйі, 2009. – 792 б.
5. Қазақстан Республикасының мемлекеттік фармакопеясы. Т. 3 [Мәтін] : монография / ҚР денсаулық сақтау министрлігі. - 1-бас. ; ҚР Денсаулық сақтау министрінің бұйрығымен бекіт. - Алматы : Жібек жолы, 2014. - 864 бет. С
6. Государственная фармакопея Республики Казахстан. Т. 3 [Текст] : монография / М-во здравоохранения РК. - 3-е изд. ; Утв. приказом М-ва здравоохранения РК. - Алматы : Изд. дом "Жибекжолы", 2014. - 872 с
7. Фармакогнозия. Атлас. В 3 т. Т. 3. Лекарственное растительное сырье, сборы. Растительные порошки. Лекарственные средства на основе измельченного растительного сырья [Текст] : учеб. пособие / И. А. Самылина [и др.]. - ; Рек. УМО по мед. и фарм. образованию вузов России. - М. : ГЭОТАР - Медиа, 2010. - 488 с. : ил.

Additional:

1. Самылина, И. А. Фармакогнозия. Атлас. В 3 т. Т. 2. Лекарственное растительное сырье. Анатомо-диагностические признаки фармакопейного и нефармакопейного лекарственного растительного сырья [Текст] : учеб. пособие / И. А. Самылина, О. Г. Аносова. - ; Рек. УМО по мед. и фарм. образованию вузов России. - М. : ГЭОТАР - Медиа, 2010. - 384 с. : ил
2. Фармакопея США. Национальный формуляр [Текст] : избранные обновления и все новые материалы с USP 29 - NF 24 по USP 33 - NF28 включительно: пер. с англ. - М. : ГЭОТАР - Медиа, 2012. - 888 с
3. 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
4. Фармакогнозия пәнінің зертханалық-тәжірибелік сабақтарына арналған қолданба [Мәтін] : оқу құралы / Ә. Қ. Патсаев. - Алматы : Эверо, 2018. - 392 бет
5. Келімханова, С. Е. Фармакогнозия [Мәтін] : практикум / С. Е. Келімханова ; ҚР денсаулық сақтау министрлігі; С. Ж. Асфендияров атындағы ҚазҰМУ. - Қарағанды : ЖК "Ақнұр", 2014. - 180 бет.

1. **The department of Pharmacognosy**
2. **Level of training (magistracy)**
3. **Specialty:** 7M10143 «Pharmaceutical ecology»
4. **Course:** 1 (scientifically-pedagogical direction)
5. **Name of elective discipline:** «Standardization of medicines of natural origin»
6. **Amount of credits:** 3
7. **Purposes:**
 - Formation of theoretical knowledge (cognitive component)
 - Mastering practical skills in conducting microscopy of medicines of natural origin 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 medicines of natural origin 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)
-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	- 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	- To carry out work with safety procedures of work in a chemical laboratory with medicinal plant raw materials and medicinal plants used in phytotherapy; - to carry out standardization and quality control of medicinal plant raw materials;

<p>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>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</p> <p>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>- 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>
---	---	---

11. Prerequisites: bachelor degree

12.Post-details: doctorate

13.Literature

The main:

1. Рахимов, Қ. Д. Фитофармакология. Фармакология - Тезаурус. [Мәтін] :оқуқұралы = Фитофармакология. Фармакология -Тезаурус : учеб. пособие / Қ. Д. Рахимов ; ҚР ҰЛТТЫҚҒЫЛЫМ АКАД. Фармакология ин-ты; ҚР денсаулықсақтаужәнеәлеуметтік даму Министрлігі; Қазақ мед. үздіксізбілім беру ун-ті АҚ. - 2-бас. толықт., өнд. жәнәтүзет. ; Алматы мемл. дәрігерлербілімінжетіл. ин-ты ғыл. кеңесі бас. ұсынған. - Алматы : ЖШС "Жания-Полиграф", 2015. - 528 с.

2. Токсанбаева, Ж. С. Лекарственное ресурсоведение [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. Қазақстан Республикасының Мемлекеттік фармакопеясы. Т.1. – Алматы: «Жібек жолы» баспа үйі, 2008. – 592 б.

4. Қазақстан Республикасының Мемлекеттік фармакопеясы. Т.2. – Алматы: «Жібек жолы» баспа үйі, 2009. – 792 б.

5. Қазақстан Республикасының мемлекеттік фармакопеясы. Т. 3 [Мәтін] : монография / ҚР денсаулық сақтау министрлігі. - 1-бас. ; ҚР Денсаулық сақтау министрінің бұйрығымен бекіт. - Алматы : Жібек жолы, 2014. - 864 бет. С

6. Государственная фармакопея Республики Казахстан. Т. 3 [Текст] : монография / М-во здравоохранения РК. - 3-е изд. ; Утв. приказом М-ва здравоохранения РК. - Алматы : Изд. дом "Жибекжолы", 2014. - 872 с

7. Фармакогнозия. Атлас. В 3 т. Т. 3. Лекарственное растительное сырье, сборы. Растительные порошки. Лекарственные средства на основе измельченного растительного сырья [Текст] : учеб. пособие / И. А. Самылина [и др.]. - ; Рек. УМО по мед. и фарм. образованию вузов России. - М. : ГЭОТАР - Медиа, 2010. - 488 с. : ил.

Additional:

1. Самылина, И. А. Фармакогнозия. Атлас. В 3 т. Т. 2. Лекарственное растительное сырье. Анатомо-диагностические признаки фармакопейного и нефармакопейного лекарственного растительного сырья [Текст] : учеб. пособие / И. А. Самылина, О. Г. Аносова. - ; Рек. УМО по мед. и фарм. образованию вузов России. - М. : ГЭОТАР - Медиа, 2010. - 384 с. : ил

2. Фармакопея США. Национальный формуляр [Текст] : избранные обновления и все новые материалы с USP 29 - NF 24 по USP 33 - NF28 включительно: пер. с англ. - М. : ГЭОТАР - Медиа, 2012. - 888 с

3. 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

4. Фармакогнозия пәнінің зертханалық-тәжірибелік сабақтарына арналған қолданба [Мәтін] : оқу құралы / Ә. Қ. Патсаев. - Алматы : Эверо, 2018. - 392 бет

5. Келімханова, С. Е. Фармакогнозия [Мәтін] : практикум / С. Е. Келімханова ; ҚР денсаулық сақтау министрлігі; С. Ж. Асфендияров атындағы ҚазҰМУ. - Қарағанды : ЖК "Ақнұр", 2014. - 180 бет.

