

МИНОБРНАУКИ РОССИИ
Федеральное государственное бюджетное образовательное
учреждение высшего образования "Пермский
государственный национальный исследовательский
университет"

Кафедра фармакологии и фармации

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Программа учебной практики
PRACTICE ON PHARMACOGNOSY
Код УМК 93093

Утверждено
Протокол №6
от «23» марта 2020 г.

Пермь, 2020

1. Вид практики, способ и форма проведения практики

Вид практики **учебная**

Тип практики **практика по получению первичных профессиональных умений и навыков**

Способ проведения практики **стационарная, выездная**

Форма (формы) проведения практики **дискретная**

2. Место практики в структуре образовательной программы

Учебная практика « Practice on pharmacognosy » входит в Блок « С.2 » образовательной программы по направлениям подготовки (специальностям):

Специальность: **33.05.01** Фармация

направленность Программа широкого профиля (для иностранных граждан)

Цель практики :

The purpose of the practice is to consolidate the theoretical knowledge gained by students in the lecture and laboratory course on wild and cultivated medicinal plants, the formation of skills and practical skills in the preparation, drying, storage and processing of medicinal plant materials.

Задачи практики :

Objectives of educational practice:

- 1) to form students' skills in the morphological analysis of medicinal plants;
- 2) to teach the identification of the diversity of the morphological structure of individual organs and plants in general;
- 3) To train to recognize the main representatives of the local flora of herbaceous and woody medicinal plants;
- 4) To teach the description of medicinal plants according to morphological and merchandising protocols;
- 5) To teach the rules of collection, primary processing, drying of medicinal plants of local flora;
- 6) Teach students how to standardize the collected raw materials.

3. Перечень планируемых результатов обучения

В результате прохождения практики **Practice on pharmacognosy** у обучающегося должны быть сформированы следующие компетенции:

33.05.01 Фармация (направленность : Программа широкого профиля (для иностранных граждан))

ПК.5 способность к организации заготовки лекарственного растительного сырья с учетом рационального использования ресурсов лекарственных растений

4. Содержание и объем практики, формы отчетности

Training practice in pharmacognosy is the consolidation of the theoretical and practical skills acquired in the procurement, herbarization and quality control of medicinal plant materials, the formation and development of competencies among graduates aimed at consolidating professional skills and practical skills of a pharmacist in the pharmacognostic analysis of medicinal plant materials, expanding and deepening knowledge on the procurement of medicinal plant materials, taking into account rational use and production of natural resources, as well as the rules for the standardization of plant materials.

Направления подготовки	33.05.01 Фармация (направленность: Программа широкого профиля (для иностранных граждан))
форма обучения	очная
№№ триместров, выделенных для прохождения практики	9
Объем практики (з.е.)	6
Объем практики (ак.час.)	216
Форма отчетности	Экзамен (9 триместр)

Примерный график прохождения практики

Количество часов	Содержание работ	Место проведения
Introductory		
39	Organizational meeting. Introduction to practice. Acquaintance with the program, the schedule of practice, individual assignment, safety procedures, rules for designing and maintaining a diary for practice. Acquaintance with regulatory documents.	Neighborhood of Perm, Department of Pharmacology and Pharmacy
Harvesting, herbarization and drying of medicinal plants and their raw materials. Phytochemical rapid analysis.		
46	Students learn the correct harvesting taking into account the proposed instructions, gain skills in the herbarization of plants, and strengthen their knowledge of drying raw materials. Phytochemical rapid analysis of raw materials is carried out to distinguish from impurities. Replenish the fund of the department for the educational process.	Neighborhood of Perm, Department of Pharmacology and Pharmacy
Determination of medicinal plants in various phytocenoses		
46	Students identify plants in natural phytocenoses during excursions, and describe and record vegetation. Find out the phytocenosis characteristic of specific medicinal plants.	Neighborhood of Perm, Department of Pharmacology and Pharmacy
Organization of rational harvesting of plant materials		
40	Students develop recommendations for the rational procurement of raw materials of specific medicinal plants in certain territories.	Neighborhood of Perm, Department of Pharmacology and Pharmacy
Credit		
45	Interview on all topics of the practice program. Defense diary on the passage of practice.	Neighborhood of Perm, Department of Pharmacology

Количество часов	Содержание работ	Место проведения
		and Pharmacy

5. Перечень учебной литературы, необходимой для проведения практики

Основная

1. A.N.M Alamgir. Therapeutic Use of Medicinal Plants and Their Extracts: Volume 1. Springer International Publishing AG, 2017. Online. ISBN 978-3-319-63861-4. Текст электронный.
<https://link.springer.com/book/10.1007/978-3-319-63862-1>
2. Lu-qi Huang. Molecular Pharmacognosy / Lu-qi Huang // Publisher Name: Springer, Dordrecht. - 2013. - 220 p. ISBN 978-94-007-4945-0. [Электронный ресурс]. <https://link.springer.com/book/10.1007/978-94-007-4945-0>

Дополнительная

1. Brahma Singh. New Age Herbals / Brahma Singh, K.V. Peter // Publisher Name: Springer, Singapore. - 2018. - 464 p. ISBN 978-981-10-8291-7. [Электронный ресурс]. <https://link.springer.com/book/10.1007/978-981-10-8291-7>
2. K.G. Ramawat. Herbal Drugs: Ethnomedicine to Modern Medicine / K.G. Ramawat // Publisher Name: Springer, Berlin, Heidelberg. - 2009. - 402 p. ISBN 978-3-540-79116-4. [Электронный ресурс]. <https://link.springer.com/book/10.1007/978-3-540-79116-4>
3. Aiko Inui. Herbal Medicines. New Horizons / Aiko Inui // Publisher Name: Humana Press, New York, NY. - 2016. - 264 p. ISBN 978-1-4939-4002-8. [Электронный ресурс]. <https://link.springer.com/book/10.1007/978-1-4939-4002-8>
4. Rainer W. Bussmann. Ethnobotany of the Caucasus / Rainer W. Bussmann // Publisher Name: Springer, Cham. - 2020. ISBN 978-3-319-50009-6. [Электронный ресурс]. <https://link.springer.com/referencework/10.1007/978-3-319-50009-6>

6. Перечень ресурсов сети «Интернет», требуемых для проведения практики

При прохождении практики требуется использование следующих ресурсов сети «Интернет» :

<https://e.lanbook.com/> Электронно-библиотечная система

7. Перечень информационных технологий, используемых при проведении практики

Образовательный процесс по практике **Practice on pharmacognosy** предполагает использование следующего программного обеспечения и информационных справочных систем:

On-line access to the Electronic Library System (EDS)

access to the electronic informational and educational environment of the university;

Internet services and electronic resources (search engines, email, professional thematic chats and forums, audio and video conferencing systems, online encyclopedias, etc.).

The list of necessary licensed and (or) free software:

1. An application that allows you to view and play media content of PDF files "Adobe Acrobat Reader DC".
2. Programs, demonstrations of video materials (player) "WindowsMediaPlayer".
3. The program for viewing Internet content (browser) "Google Chrome".
4. Office suite of applications "LibreOffice".

При освоении материала и выполнения заданий по дисциплине рекомендуется использование материалов, размещенных в Личных кабинетах обучающихся ЕТИС ПГНИУ (student.psu.ru).

При организации дистанционной работы и проведении занятий в режиме онлайн могут использоваться:

система видеоконференцсвязи на основе платформы BigBlueButton (<https://bigbluebutton.org/>).

система LMS Moodle (<http://e-learn.psu.ru/>), которая поддерживает возможность использования текстовых материалов и презентаций, аудио- и видеоконтент, а так же тесты, проверяемые задания, задания для совместной работы.

система тестирования Indigo (<https://indigotech.ru/>).

8. Описание материально-технической базы, необходимой для проведения практики

1. Seminar-type classes (seminars, workshops) - An audience equipped with presentation equipment (projector, screen, computer / laptop) with the appropriate software, chalk (s) or marker board.

2. Group (individual) consultations - An audience equipped with presentation equipment (projector, screen, computer / laptop) with appropriate software, chalk (s) or marker board.

3. Current control - An audience equipped with presentation equipment (projector, screen, computer / laptop) with the appropriate software, chalk (s) or marker board.

4. Independent work - An audience for independent work, equipped with computer equipment with the ability to connect to the Internet, provided with access to the electronic information and educational environment of the university. The premises of the Scientific Library

Помещения научной библиотеки ПГНИУ для обеспечения самостоятельной работы обучающихся:

1. Научно-библиографический отдел, корп.1, ауд. 142. Оборудован 3 персональными компьютера с доступом к локальной и глобальной компьютерным сетям.

2. Читальный зал гуманитарной литературы, корп. 2, ауд. 418. Оборудован 7 персональными компьютерами с доступом к локальной и глобальной компьютерным сетям.

3. Читальный зал естественной литературы, корп.6, ауд. 107а. Оборудован 5 персональными

компьютерами с доступом к локальной и глобальной компьютерным сетям.

4. Отдел иностранной литературы, корп.2 ауд. 207. Оборудован 1 персональным компьютером с доступом к локальной и глобальной компьютерным сетям.

5. Библиотека юридического факультета, корп.9, ауд. 4. Оборудована 11 персональными компьютерами с доступом к локальной и глобальной компьютерным сетям.

6. Читальный зал географического факультета, корп.8, ауд. 419. Оборудован 6 персональными компьютерами с доступом к локальной и глобальной компьютерным сетям.

Все компьютеры, установленные в помещениях научной библиотеки, оснащены следующим программным обеспечением:

Операционная система ALT Linux;

Офисный пакет Libreoffice.

Справочно-правовая система «КонсультантПлюс»

9. Методические указания для обучающихся по освоению дисциплины

Students in the practice are required to:

- 1) comply with the established work schedule and follow the instructions of the leaders of the practice;
- 2) daily record the results of work in the diary, certifying them with the signature of the responsible person;
- 3) in the last entry in the diary, make a summary in which to highlight the main results of the practice;

In the process of internship, the student learns to carry out the herbarization of medicinal plant materials, conduct primary processing and drying of medicinal plant materials, standardize raw materials, conduct pharmacognostic analysis (macroscopic, microscopic, qualitative chemical analysis), determine the authenticity of medicinal plant materials of various morphological groups (leaves, herbs, flowers, fruits, bark, roots, rhizomes), the analysis of plant collections (determination of authenticity and good quality).

For students from among the disabled and persons with disabilities, on the basis of their written application, the organization of practice is implemented taking into account the peculiarities of psychophysical development, individual capabilities and the state of health of students. At the same time, the following general requirements are ensured: the use of special technical teaching aids for collective and individual use, the provision of assistant services that provide such a student with the necessary technical assistance, providing convenient access to buildings and premises where internships take place, other conditions without which it is impossible or difficult to pass practice. The choice of practice sites for people with disabilities and people with disabilities is made taking into account accessibility requirements for students and the recommendations of medical and social expertise reflected in the individual rehabilitation program for the disabled person.

For the development of the theoretical part of the practice, persons with disabilities and persons with disabilities are given the opportunity to use electronic technologies, remote development of material.

When performing the experimental part of the practice, additional remedies are provided as necessary, individual assistance is provided teaching and auxiliary personnel, as well as other activities taking into account the nosology of the disease of the students.

The format for the protection of diaries in practice for persons with disabilities is established taking into account their individual psychophysical characteristics (verbally, in writing, using electronic or other technical means).

For the visually impaired, a portable video enlarger can be provided, it is possible to use your own devices. For deaf and hard-of-hearing students, sound-reinforcing equipment may be presented; it is possible to use personal use equipment. According to the student with disabilities in the process of protecting the diary by

In practice, the presence of an assistant can be provided, providing the student with the necessary technical assistance, taking into account its individual characteristics. At If necessary, persons with disabilities and people with disabilities can be given extra time to prepare answers in practice.

During the period of restrictive measures that impede the conduct of educational practices in the educational process in the usual manner (self-isolation mode, quarantine, observation) for educational (production) practice

“Practice on pharmacognosy”, the educational institution establishes a special distance learning mode. The main objective of the practice at the same time is to obtain professional skills provided by remote technologies: mastering the material by submitting tasks and their control via Internet resources, individual consultations using both e-mail and visual communication based on online platforms that provide text, voice and video communications over the Internet.

Фонды оценочных средств для проведения промежуточной аттестации

Планируемые результаты обучения по дисциплине для формирования компетенции и критерии их оценивания

Компетенция	Планируемые результаты обучения	Критерии оценивания результатов обучения
ПК.5 способность к организации заготовки лекарственного растительного сырья с учетом рационального использования ресурсов лекарственных растений	To know: areas of growth of medicinal plants, terms and time of collection taking into account the rational use of resources, methods of procurement of medicinal plant raw materials. To be able: to recognize medicinal plants by appearance, determine the medicinal raw materials in whole for example, to recognize impurities of foreign plants in the analysis of raw materials. To possess: skills of identification of medicinal plants on external signs in a natural look.	<p style="text-align: center;">Неудовлетворительно</p> The student is not able to procure medicinal raw materials. <p style="text-align: center;">Удовлетворительно</p> The student is able to procure medicinal raw materials, but the approach to procurement is not rational in terms of the use of medicinal plants resources. <p style="text-align: center;">Хорошо</p> The student is able to procure medicinal raw materials, but the approach to procurement is not fully rational in terms of the use of medicinal plants resources <p style="text-align: center;">Отлично</p> The student is able to procure medicinal raw materials, taking into account the rational use of medicinal plants resources

Оценочные средства

Вид мероприятия промежуточной аттестации : Экзамен

Способ проведения мероприятия промежуточной аттестации : Защищаемое контрольное мероприятие

Продолжительность проведения мероприятия промежуточной аттестации :
 время отводимое на доклад .5

Показатели оценивания

The student did not appear for practice or did not draw up a practice diary.	Неудовлетворительно
The practice diary on it was not drawn up in accordance with the criteria; when defending a work, the student does not answer asked questions or refuses oral protection.	Удовлетворительно
The practice diary on it is designed in accordance with the criteria, but when defending the work, the student does not answer all the questions asked.	Хорошо
The practice diary on it is designed in accordance with the criteria, while protecting the work, the student answers all the questions asked.	Отлично