

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

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Программа производственной практики  
**UNDERGRADUATE PRACTICE**  
Код УМК 93099

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

Пермь, 2020

## **1. Вид практики, способ и форма проведения практики**

Вид практики **производственная**

Тип практики **преддипломная практика**

Способ проведения практики **стационарная, выездная**

Форма (формы) проведения практики **дискретная**

## **2. Место практики в структуре образовательной программы**

Производственная практика « Undergraduate practice » 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 undergraduate practice: ensuring the independent preparation of the graduate for the implementation of the experimental part of the graduate qualification work of a specialist; providing methodological guidance to the independent work of a graduate through the organization of his activities on the implementation of the experimental part of the final qualifying work, processing the empirical data obtained, on the systematization and integration of theoretical knowledge and practical skills in the direction of training "Pharmacy".

### **Задачи практики :**

Consolidation of theoretical learning outcomes; acquisition of skills and practical work (development of safety in the laboratory, methods of preparation and implementation of complex syntheses, application of the basics of physical and chemical analysis in practice, description and synthesis of research results).

### 3. Перечень планируемых результатов обучения

В результате прохождения практики **Undergraduate practice** у обучающегося должны быть сформированы следующие компетенции:

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

**ОК.4** критически анализировать и оценивать свой профессиональный и социальный опыт, при необходимости готовность изменить профиль своей профессиональной деятельности, демонстрировать готовность к саморазвитию и самосовершенствованию, повышению профессионального уровня и мастерства

**ПК.20** готовность к участию во внедрении новых методов и методик в сфере разработки, производства и обращения лекарственных средств

**ПК.21** способность к анализу и публичному представлению научной фармацевтической информации

#### 4. Содержание и объем практики, формы отчетности

Undergraduate practice is independent work of the student under the guidance of the teacher of the graduating Department. Undergraduate practice is a preparatory stage for the development of the project of Final qualifying work.

<b>Направления подготовки</b>	33.05.01 Фармация (направленность: Программа широкого профиля (для иностранных граждан))
<b>форма обучения</b>	очная
<b>№№ триместров, выделенных для прохождения практики</b>	15
<b>Объем практики (з.е.)</b>	6
<b>Объем практики (ак.час.)</b>	216
<b>Форма отчетности</b>	Экзамен (15 триместр)

#### Примерный график прохождения практики

Количество часов	Содержание работ	Место проведения
<b>Preparatory stage stage</b>		
52	The preparatory stage, which includes familiarization with the features of this course of practice, the requirements for students when passing the PP, production instruction, distribution and issuance of documents (directions).	Faculty of chemistry, Perm state University
<b>Practical stage</b>		
134	Laboratory research. Production of dosage forms and carrying out mandatory types of intra-intestinal control. Pharmaceutical consulting and sale of medicines and pharmacy products. Organization of activity of structural divisions of pharmacy and management of pharmacy organization in rural areas (in the absence of a specialist with higher education). Implementation of the practical part of the final qualifying work.	Pharmacy "planet health" and "Performace" Perm drugstores "Pharmacies Udmurt Republic" Udmurt Republic, laboratory
<b>Production of dosage forms and carrying out mandatory types of intra-intestinal control</b>		
30	Preparation of solid, liquid, soft, sterile, aseptic dosage forms. Carrying out mandatory types of intra-pharmacy quality control of medicines, registration of control results, packaging and registration of medicines for release, use of regulatory documentation.	Pharmacy "planet health" and "Performace" Perm drugstores "Pharmacies Udmurt Republic" Udmurt Republic, laboratory
<b>Realization of medicines and goods of pharmacy assortment</b>		
30	The use of modern technologies and the issuance of reasonable recommendations for the release of goods pharmacy range. Design of the trading floor with the use of merchandising elements. Compliance with the storage conditions of medicines and pharmacy products. Informing consumers about the rules of collection, drying and storage of medicinal plant raw materials. Providing advice to ensure responsible self-treatment. The use of	Pharmacy "planet health" and "Performace" Perm drugstores "Pharmacies Udmurt Republic" Udmurt Republic, laboratory

Количество часов	Содержание работ	Место проведения
	<p>verbal and nonverbal ways of communication in professional activities. Organization of work: the organization of reception, storage, accounting, release of medicines and goods of pharmaceutical assortment in the organizations of wholesale and retail trade.</p> <p>Organization of work on compliance with the sanitary regime, labor protection, safety and fire safety. The formation of socio-psychological climate in the resolution of conflict situations. Use of the computer method of collection, storage and processing of the information applied in professional activity, application programs of providing pharmaceutical activity. Protection of their rights in accordance with labor legislation.</p>	
Implementation of the practical part of the final qualifying work		
74	Performed in accordance with the individual task to perform WRC	Laboratories of "Pharmaceutical and industrial technology", "Biochemistry and pharmacognosy", "Research works" of PSNIU and laboratory of pharmaceutical company "Medisorb", equipped with specialized equipment. The composition of the equipment is defined in the Passport of the laboratory
Final stage		
30	Analysis and interpretation of experimental data, description of the study and its results, discussion and generalization of the results of the study, the formulation of conclusions.	Faculty of chemistry, Perm state University

## 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. Marianthi G. Ierapetritou, Rohit Ramachandran Process Simulation and Data Modeling in Solid Oral Drug Development and Manufacture. Springer Science+Business Media, New York, 2016. Online ISBN978-1-4939-2996-2. Текст электронный // : <https://link.springer.com/book/10.1007/978-1-4939-2996-2#toc>  
<https://link.springer.com/book/10.1007/978-1-4939-2996-2>

### Дополнительная

1. Zaheer-Ud-Din Babar. Pharmacy Practice Research Methods / Zaheer-Ud-Din Babar // Publisher Name: Springer, Singapore. — 2020. — 265 p. — ISBN 978-981-15-2993-1. — [Электронный ресурс].  
<https://link.springer.com/book/10.1007/978-981-15-2993-1>
2. 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>
3. Ali R. Rajabi-Siahboomi Multiparticulate Drug Delivery. Formulation, Processing and Manufacturing. Controlled Release Society, 2017. Online ISBN 978-1-4939-7012-4. Текст электронный // :  
<https://link.springer.com/book/10.1007/978-1-4939-7012-4#toc> <https://link.springer.com/book/10.1007/978-1-4939-7012-4>
4. Yvonne Bouwman-Boer, V'Iain Fenton-May, Paul Le Brun Practical Pharmaceutics. An International Guideline for the Preparation, Care and Use of Medicinal Products. KNMP and Springer International Publishing Switzerland 2015. Online ISBN 978-3-319-15814-3. Текст электронный // :  
<https://link.springer.com/book/10.1007/978-3-319-15814-3> <https://link.springer.com/book/10.1007/978-3-319-15814-3>

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

Для проведения практики использование ресурсов сети «Интернет» не предусмотрено.

## **7. Перечень информационных технологий, используемых при проведении практики**

Образовательный процесс по практике **Undergraduate practice** предполагает использование следующего программного обеспечения и информационных справочных систем:

Presentation materials (slides on the topics of lectures and workshops);

on-line access to the Electronic library system (EBS)

access to the electronic information and educational environment of the University;

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

The list of necessary licensed and (or) freely distributed software :

1.The application allows you to view and play media content PDF-files "Adobe Acrobat Reader DC".

2.Programs, video demonstrations (player) "Windows Media Player".

3.The program of browsing Internet content (a browser) "Google Chrome".

4.Office Suite applications f "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**

Independent work-laboratory "Pharmaceutical and industrial technology", "Biochemistry and pharmacognosy", "Research works" PSU and laboratory pharmaceutical company "Medisorb", equipped with specialized equipment. The composition of the equipment is defined in the Passport of the laboratory.

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**

All of the students before the internship required to undergo a medical examination, instruction on safety.

Management of pre-graduate practice is carried out by the head appointed by the head.department.

Students during the internship are obliged to:

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

For students with disabilities and persons with disabilities on the basis of their written application the organization of practice is realized taking into account features of psychophysical development, individual opportunities and health status of students. This ensures compliance with the following General requirements: use of special technical means of training collective and individual use, provision of services of the assistant rendering

such learner needs technical assistance, convenient access to buildings and premises where practices are held, other conditions without which it is impossible or difficult passing practice.

Choice of places of practice for disabled people and persons with disabilities it is made taking into account the requirements of accessibility for students and recommendations medical and social expertise reflected in the individual rehabilitation program invalid's. At the direction of the disabled person or the person with HIA in the organization, on the enterprise for the head agrees with the enterprise on passing of industrial practice conditions of its passing and types of activity taking into account recommendations medico-social examination and individual rehabilitation program of the disabled person.

For the development of the theoretical part of the practice of the disabled and persons with disabilities health opportunities are provided the opportunity to use electronic technologies, remote mastering of material by providing tasks and their control through the Internet, as well as individual consultations with the application of both e-mail, and visual communication using "Skype".

When performing the experimental part of the practice as needed additional means of protection are provided, individual assistance is provided training and support personnel, as well as other activities taking into account nosologies diseases of students.

Format of protection of practice reports for persons with disabilities and persons with disabilities it is established taking into account their individual psychophysical features (orally, in writing, using electronic or other technical means). In the process of protection the student with HIA has the right to use the necessary technical means. For the visually impaired, a portable video magnifier may be provided, possibly using your own devices. For deaf and hard of hearing students can be the sound amplifying equipment is presented, it is possible to use the equipment individual use. At the request of a student with HIA in the process of protecting the report on

in practice, the presence of an assistant can be provided to assist the student the necessary technical assistance, taking into account its individual characteristics. By if necessary, persons with disabilities and persons with disabilities may be granted additional time preparation of replies in the reports of the practice.



## 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
<p><b>ОК.4</b> критически анализировать и оценивать свой профессиональный и социальный опыт, при необходимости готовность изменить профиль своей профессиональной деятельности, демонстрировать готовность к саморазвитию и самосовершенствованию, повышению профессионального уровня и мастерства</p>	<p>To know: the main methods and approaches to the synthesis of compounds under study, the main methods of collecting and analyzing the necessary information. To be able to: work with the instrument base, summarize and systematize the results. To possess: methods of synthesis of the studied compounds.</p>	<p style="text-align: center;"><b>Неудовлетворительно</b></p> <p>The student is not able to carry out the synthesis of the studied compounds</p> <p style="text-align: center;"><b>Удовлетворительно</b></p> <p>The student is able to carry out the synthesis of the studied compounds, but does not have the skills of generalization and systematization of the results</p> <p style="text-align: center;"><b>Хорошо</b></p> <p>The student is able to carry out the synthesis of the studied compounds, has the skills of generalization and systematization of the results, there are difficulties with the collection and analysis of the necessary information</p> <p style="text-align: center;"><b>Отлично</b></p> <p>The student is able to carry out the synthesis of the studied compounds, has the skills of generalization and systematization of the results, the main methods of collecting and analyzing the necessary information.</p>
<p><b>ПК.21</b> способность к анализу и публичному представлению научной фармацевтической информации</p>	<p>To know: modern methods of search of scientific pharmaceutical information; Be able to: collect, summarize, analyze and present scientific pharmaceutical information; Possess: methods and techniques of analysis and presentation of scientific pharmaceutical information.</p>	<p style="text-align: center;"><b>Неудовлетворительно</b></p> <p>The information provided is unsystematic and fragmentary. In the answers of the student made gross, fundamental errors. Difficulties in understanding the basics of General pharmacology. Difficulties and mistakes are not eliminated after leading questions of the teacher.</p> <p style="text-align: center;"><b>Удовлетворительно</b></p> <p>The information provided is incomplete, without justification and explanation. Weak ideas about the presented topic, significant difficulties in theoretical issues related to the problems considered by the topic. Errors are eliminated with the help of additional questions from the teacher.</p> <p style="text-align: center;"><b>Хорошо</b></p> <p>Full knowledge of the material provided for a given topic, the successful completion of all</p>

		<p style="text-align: center;"><b>Хорошо</b></p> <p>tasks provided by the forms of current control. The answer is justified, reasoned. Minor mistakes, inaccuracies, which are corrected after the comments of the teacher.</p> <p style="text-align: center;"><b>Отлично</b></p> <p>Comprehensive in-depth knowledge of the information provided. The answer is justified, reasoned.</p>
<p><b>ПК.20</b> готовность к участию во внедрении новых методов и методик в сфере разработки, производства и обращения лекарственных средств</p>	<p>To know: methods and techniques in the development, production and circulation of medicinal products means'.</p> <p>To be able to: apply new methods, production technologies, depending on the properties of medicinal substances'.</p> <p>To possess: skills of conducting chemical experiments, physical and chemical analysis and other experiments</p>	<p style="text-align: center;"><b>Неудовлетворительно</b></p> <p>The student does not know the methods and techniques of development, production and circulation of drugs, does not have the skills of chemical experiment, physical and chemical analysis.</p> <p style="text-align: center;"><b>Удовлетворительно</b></p> <p>The student knows the methods and techniques of development, production and circulation of drugs, has little skills of chemical experiment, physico-chemical analysis.</p> <p style="text-align: center;"><b>Хорошо</b></p> <p>The student knows the methods and techniques of development, production and circulation of drugs, has the skills of a chemical experiment, has little knowledge of the methods of physical and chemical analysis.</p> <p style="text-align: center;"><b>Отлично</b></p> <p>The student knows the methods and techniques of development, production and circulation of drugs, has the skills of a chemical experiment, has little knowledge of the methods of physical and chemical analysis.</p>

### 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 attend the practice or not issued internship journal and wrote the report.	<b>Неудовлетворительно</b>
The internship journal and the report on it is issued not according to criteria, at protection of work the student does not answer the asked questions or refuses oral protection.	<b>Удовлетворительно</b>

The internship journal and report on it is issued in accordance with the criteria, but the protection of the student does not answer all questions.	<b>Хорошо</b>
The internship journal and report on it is issued in accordance with the criteria, the protection of the student answers all questions.	<b>Отлично</b>