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**Federal State Autonomous Educational Institution of Higher Education  
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA  
RUDN University**

**Agrarian and Technological Institute**

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educational division (faculty/institute/academy) as higher education programme developer

**INTERNSHIP SYLLABUS**

**Technological practice**

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internship title

**Industrial practice**

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internship type

**Recommended by the Didactic Council for the Education Field of:**

**35.04.04 Agronomy**

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field of studies / speciality code and title

**The student's internship is implemented within the professional education programme of higher education:**

**General Agriculture**

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higher education programme profile/specialisation title

## 1. TECHNOLOGICAL PRACTICE GOAL(s)

The purpose of conducting Technological practice is to master the professional competencies necessary for the formation of a systematic approach to research work among interns and to ensure the practical training of graduate students for independent research activities in higher educational institutions and research centers.

## 2. REQUIREMENTS FOR LEARNING OUTCOMES

Conducting Technological practice is aimed at the formation of the following competencies (parts of competencies) among students:

Table 2.1 – List of competencies formed by students during the internship (learning outcomes based on the results of practice)

Code and descriptor of generic competence	Code and competence level indicator
GC-1 Able to search, critical analysis of problem situations based on a systematic approach, develop an action strategy	GC-1.1. Performs the search for the necessary information, its critical analysis and summarizes the results of the analysis to solve the problem; GC-1.2. Uses a systematic approach to solve assigned tasks; GC-1.3. Develops a strategy for achieving the set goal as a sequence of steps, anticipating the result of each of them and assessing their impact on the external environment of the planned activity and on the relationship between the participants in this activity.
GC-2 Able to manage a project at all stages of its life cycle	GC-2.1. Develops the concept of the project within the framework of the identified problem, formulating the goal, objectives, relevance, significance (scientific, practical, methodological and other depending on the type of project), expected results and possible areas of their application; GC-2.2. Forms a schedule for the implementation of the project as a whole and a plan for monitoring its implementation, organizes and coordinates the work of project participants; GC-1.3. Suggests possible ways (algorithms) for putting the results of the project into practice (or implements it).
GC-6 Able to identify and implement the priorities of their own activities and ways to improve it based on self-assessment	GC-6.1 Evaluates his resources and their limits (personal, situational, temporary), uses them optimally for the successful completion of the assigned task; GC-6.2 Plans a professional trajectory, taking into account the characteristics of both professional and other types of activity and the requirements of the labor market.
GPC-1 Able to solve the problems of developing the field of professional activity and (or) organization based on the analysis of the achievements of science and production	GPC-1.2 Uses methods for solving problems of the development of agronomy based on the search and analysis of modern achievements in science and production; GPC-1.3 Uses available technologies, including information and communication, to solve the problems of professional activities in agronomy.
GPC-3 Able to use modern methods of solving problems in the development of new	GPC-3.1 Analyzes methods and methods for solving

<b>Code and descriptor of generic competence</b>	<b>Code and competence level indicator</b>
technologies in professional activities	problems of developing new technologies in agronomy; GPC-3.2 Uses information resources, achievements of science and practice in the development of new technologies in agronomy.
GPC-6 Able to manage teams and organize production processes	GPC-6.2 Defines the tasks of the personnel of the structural unit, based on the goals and strategy of the organization
GPC-7 Able to use tools for working with large arrays of structured and unstructured information, use modern digital methods for processing, analyzing, interpreting and visualizing data in order to solve the tasks of professional and research activities in the field of agronomy	GPC-7.1 Owns tools for working with large arrays of structured and unstructured information; GPC-7.2 Uses modern digital methods for processing, analyzing, interpreting and visualizing data in order to solve the assigned tasks.
PC-1 Capable of collecting, processing, analyzing and systematizing scientific and technical information, domestic and foreign experience in the field of agronomy	PC-1.1 Carries out a critical analysis of the information received
PC-2 Able to develop methods for conducting experiments, master new research methods	PC-2.1 Develops methods for conducting experiments PC-2.2 Applies modern types and methods of conducting observations and records in field experiments PC-2.3 Justifies the specializations and types of products grown in an agricultural organization;
PC-3 Able to organize, conduct and analyze the results of experiments (field experiments)	PC-3.1 Owns modern methods of processing research results using methods of mathematical statistics PC-3.2 Organizes field experiments to assess the effectiveness of innovative technologies in production conditions

### 3. INTERNSHIP IN HIGHER EDUCATION PROGRAMME STRUCTURE

The internship refers to the core component of (B2) block of the higher educational programme curriculum.

Within the higher education programme students also master other disciplines (modules) and / or internships that contribute to the achievement of the expected learning outcomes as results of the internship.

*Table 3.1. The list of the higher education programme components that contribute to the achievement of the expected learning outcomes as the internship results.*

<b>Competence code</b>	<b>Competence descriptor</b>	<b>Previous courses/modules, internships*</b>	<b>Subsequent courses/modules, internships*</b>
GC-1	Able to search, critical analysis of problem situations based on a systematic approach, develop an action strategy		
GC-2	Able to manage a project at all stages of its life cycle		
GC-6	Able to identify and implement the priorities of their own activities and ways to improve it based on self-		

Competence code	Competence descriptor	Previous courses/modules, internships*	Subsequent courses/modules, internships*
	assessment		
GPC-1	Able to solve the problems of developing the field of professional activity and (or) organization based on the analysis of the achievements of science and production		
GPC-3	Able to use modern methods of solving problems in the development of new technologies in professional activities		
GPC-6	Able to manage teams and organize production processes		
GPC-7	Able to use tools for working with large arrays of structured and unstructured information, use modern digital methods for processing, analyzing, interpreting and visualizing data in order to solve the tasks of professional and research activities in the field of agronomy		
PC-1	Capable of collecting, processing, analyzing and systematizing scientific and technical information, domestic and foreign experience in the field of agronomy		
PC-2	Able to develop methods for conducting experiments, master new research methods		
PC-3	Able to organize, conduct and analyze the results of experiments (field experiments)		

#### 4. INTERNSHIP WORKLOAD

The total workload of the internship is 15 credits (540 academic hours).

#### 5. INTERNSHIP CONTENTS

*Table 5.1. Internship contents*

Modules	Contents (topics, types of practical activities)	Workload, academic hours
Module 1. Preparatory stage	Working meeting at the department	1 week: 1-2 days
	Acquaintance with the scientific and publishing activities of the Department of Soil Science, General Agriculture and Crop Production named after V.D. Muhi	
	Study and analysis of scientific sources on a selected topic, determination of the degree of its elaboration in the scientific literature	Days 3-4
	Visit to the scientific library of the Academy. Work in the library with EBS, electronic educational	5th day

<b>Modules</b>	<b>Contents (topics, types of practical activities)</b>	<b>Workload, academic hours</b>
	resources, book supply maps, etc.	
	Adjustment of the research plan and the scheme of experience together with the supervisor	Week 2: Day 1
	Selection and purchase of the necessary materials for the foundation of the experiment (seeds, fertilizers, biological products), taking into account the available on the farm	2nd day
Module 2. Practical stage	Safety instruction at the workplace. Inspection of the farm and the place for bookmarks of experience	3rd day
	Analysis of the economic and research activities of a scientific institution (basic economy)	4-5 days of 2nd week and all days of 3rd and 4th weeks
	Conducting research (bookmarking the experience; conducting related observations and accounting)	
	Verification of the hypothesis put forward	
Module 3. Intermediate certification	Presentation of the results of scientific research. Collection, processing and analysis of collected materials and primary documentation	Last day of practice
	Writing a report, preparing a presentation	
	Internship interview, review of the content of the internship report	
	Conference on Scientific Technological practice	According to the plan
<b>TOTAL:</b>		<b>540</b>

## **6. INTERNSHIP EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS**

The place of the research internship and its specific content are determined by the specifics of the master's degree program in which the student is studying and his scientific interests. Depending on this, it can be carried out both at an enterprise (advanced farms of various forms of ownership), in an institution, organization, and in a structural subdivision of the academy (experimental field of the faculty, branches of graduate departments, production departments of the faculty).

## **7. INTERNSHIP LOCATION AND TIMELINE**

The internship can be carried out at the structural divisions of RUDN University (at Moscow-based organisations, as well as those located outside Moscow.

The internship at an external organisation (outside RUDN University) is legally arranged on the grounds of an appropriate agreement, which specifies the terms, place and conditions for an internship implementation at the organisation.

The period of the internship, as a rule, corresponds to the period indicated in the training calendar of the higher education programme. However, the period of the internship can be rescheduled upon the agreement with the Department of Educational Policy and the Department for the Organization of Internship and Employment of RUDN students.

## 8. RESOURCES RECOMMENDED FOR INTERNSHIP

### *Main readings:*

1. Бей-Биенко Г.Я. Общая энтомология: Учебник-СПб : «Проспект науки», - 2008.- 486
2. Защита растений от вредителей/ Под ред. Н. Н. Третьякова, В. В. Исаичева. Санкт-Петербург. -М. - Краснодар. - 2012.- 528с.
3. Карантин растений / Под ред. А.С.Васютина М., 2002 - 536с.
4. Перечень вредителей, возбудителей болезней растений, сорняков, имеющих карантинное значение для РФ.МСХ, 2003. -6с.
5. Биология карантинных вредных организмов (сорняки, вредители и болезни) [Электронный ресурс]: курс лекций / сост. О. Б. Котельникова. -Курск: изд-во КГСХА, 2008. -160с.
6. Фитосанитарный контроль и надзор в Орловской и Курской областях/ Под общ. ред. Е. Н. Дубровина. –Орел: ООО ПФ «Оперативная полиграфия», 2008.- 461с.

### *Additional readings:*

- 1.Александров, И.Н. Диплодий кукурузы/И.Н.Александров, И.П.Дудченко //Защита и карантин растений.-2002.-№ 1.-С.24.
- 2.Баранчиков, Ю.Н. Комплексный мониторинг популяции сибирского шелкопряда/Ю.Н.Баранчиков,Ю.П.Кондаков, В.М.Петько//Защита и карантин растений.-2006.-№5ю-С.39.
3. Васютин, А.С. Карантин растений в Российской Федерации/А.С.Васютин,А.И.Сметник, Я.Б.Мордкович и др.- М.: Колос, 2001- 375 с
- 4.Вредные организмы, имеющие карантинное значение для Европы. Пер. с англ. - М.: Колос, 1996 - 912 с.
5. Васютин, А.С. Испытание почвоотборников в очагах картофельной глободеры/А.С.Васютин//Защита и карантин растений.-2003.-№8.-С.32.
- 6.Варшалович, А.А. Карантинные и другие виды жуков-вредителей промышленного сырья и продовольственных запасов/А.А.Варшалович.- М.: Колос,1975.- 275с.
- 7.Выявление капрового жука в складских помещениях /Я.Б.Мордкович, Е.А.Соколов//Защита и карантин растений.-2000.-№ 12.-С.26.
- 8.Дулова, Е.В.Карантинные минеры/Е.В.Дулова//Защита и карантин растений.- 2005.-№5.-С.34.
- 9.Другова, Е.В. Особенности фитосанитарного контроля за вредителями тепличных культур/ Е.В.Другова, В.А.Нестеров// Защита и карантин растений.-2004.-№2.-С.44
- 10.Заполовский, С.А. Амброзия полыннолистная в Житомирской области/С.А.Заполовский,А.А.Дерега//Защита и карантин растений.-2004.-№11.-С.38.
- 11.Загуляев, А.К. Моли и огневки - вредители зерна и продовольственных запасов/А.К.Загуляев.- М.-Л.: Наука, 1965.-167с.
- 12.Закладной, Г.А., Ратанова В.Ф. Вредители хлебных запасов и меры борьбы с ними/ Г.А., Закладной , Ратанова В.Ф. - М.: Колос, 1973.-250с.
13. Защита растений от болезней / В.А.Шкаликов, О.О.Белошапкина, Д.Д.Букреев и др.-М.: Колос, 2001.-248с.

14. Ивапнова, Н.А. Карантинные болезни винограда // Защита и карантин растений.-2009.-№2.-С.40.
15. Ижевский, С. С. Интродукция и применение энтомофагов/С.С.Ижевский. — М.: Агропромиздат, 1990. - 223 с.
16. Исаичев, В.В.. Защита растений/. В.В. Исаичев, И.В. Горбачев и др.- М.: Колос.-2002.-
- 17.Карантинное и фитосанитарное состояние государств - участников СНГ и государства Балтии на 01.01.2000 г. - М.: 2000. - 267 с.
- 18.Карачаева Е.И. Черный сосновый усач //Защита и карантин растений.-2011.-№8.-С.37.
- 19.Квашнина, Н.А.Мониторинг очагов бактериального ожога плодовых культур на юге России// Защита и карантин растений.-2010.-№6.-С.40.
- 20.Кулешова, Ю.Г. Вирус шарки слив на территории на территории РФ //Защита и карантин растений.-2010.-№10.-С.35.
- 21.Кулинич, О.А.Сосновая стволовая нематода // // Защита и карантин растений.- 2010.-№7.-С.36.
- 22.Мордкович, Я.Б. Проблемы общие, а решать их надо вместе ///Защита и карантин растений.-2010.-№4.-С.34.

#### *Internet sources*

1. Electronic libraries (EL) of RUDN University and other institutions, to which university students have access on the basis of concluded agreements:

- RUDN Electronic Library System (RUDN ELS) <http://lib.rudn.ru/MegaPro/Web>
- EL "University Library Online" <http://www.biblioclub.ru>
- EL "Yurayt" <http://www.biblio-online.ru>
- EL "Student Consultant" [www.studentlibrary.ru](http://www.studentlibrary.ru)
- EL "Lan" <http://e.lanbook.com/>

#### *2.Databases and search engines:*

- electronic foundation of legal and normative-technical documentation <http://docs.cntd.ru/>
- Yandex search engine [https:// www .yandex.ru/](https://www.yandex.ru/)
- Google search engine <https://www.google.ru/>
- Scopus abstract database <http://www.elsevierscience.ru/products/scopus/>

*The training toolkit and guidelines for a student to do an internship, keep an internship diary and write an internship report\*:*

1. Safety regulations to do the internship (safety awareness briefing).
2. Machinery and principles of operation of technological production equipment used by students during their internship; process flow charts, regulations, etc. (if necessary).
3. Guidelines for keeping an internship diary and writing an internship report.

\*The training toolkit and guidelines for the internship are placed on the internship page in the university telecommunication training and information system under the set procedure.

## **8. ASSESSMENT TOOLKIT AND GRADING SYSTEM\* FOR EVALUATION OF STUDENTS' COMPETENCES LEVEL AS INTERNSHIP RESULTS**

The assessment toolkit and the grading system\* to evaluate the level of competences (competences in part) formation as the internship results are specified in the Appendix to the internship syllabus.

\* The assessment toolkit and the grading system are formed on the basis of the requirements of the relevant local normative act of RUDN University (regulations / order).