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

**Agrarian and Technological Institute**

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

## **FINAL STATE EXAMINATION SYLLABUS**

Recommended by the Didactic Council for the Education Field of:

**35.04.04 Agronomy**

field of studies / speciality code and title

The final state examination is implemented within the professional education program of higher education:

**Integrated Plant Protection**

higher education programme profile/specialisation title

2025 г.

## 1. FINAL STATE EXAMINATION GOAL AND TASKS

**The goal** of the final state examination within the framework of the higher education programme implementation is to check the conformity of the students' training outcomes as the programme results with the relevant requirements of the Federal State Educational Standard of the Higher Education or the RUDN University Educational Standards.

**The tasks** of the final state examination include the following:

- checking the quality of teaching a person basic humanitarian knowledge, natural science laws and phenomena necessary for professional activities of a graduate;
- identifying the level of theoretical and practical readiness of a graduate to perform professional tasks in compliance with the qualification obtained;
- establishing the degree of a person's desire for self-development, improving his or her qualifications and skills;
- exploring the formation of a graduate's sustainable motivation for professional activities in compliance with the types of tasks of professional activities provided for by the Federal State Educational Standard of the Higher Education or the RUDN University Educational Standards;
- assessing the level of graduates' ability to find organizational and managerial solutions in non-standard situations and evaluating graduates' readiness to bear responsibility for them;
- ensuring the integration of education and scientific and technical activities, increasing the efficiency of scientific and technological achievements use, reforming the scientific sphere and stimulating innovation;
- ensuring the quality of specialists' training in compliance with the requirements of the Federal State Educational Standards of the Higher Education or the RUDN University Educational Standards.

## 2. REQUIREMENTS FOR HIGHER EDUCATION PROGRAMME COMPLETION AND LEARNING OUTCOMES

A student who does not have failed tests or exams and who has fully completed the curriculum or the individual curriculum of the higher education programme is allowed to the final state examination.

On the higher education programme completion the graduate is expected to master the following **generic competences** (GC):

Code and descriptor of the generic competences
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-3 Able to organize and manage the work of the team, developing a team strategy to achieve the goal
GC-4 Able to use modern communication technologies in the state language of the Russian Federation and foreign language(s) for academic and professional interaction
GC-5 Able to analyze and take into account the diversity of cultures in the process of intercultural interaction
GC-6 Able to identify and implement the priorities of their own activities and ways to improve it based on self-assessment
GC-7 Able to search for the necessary sources of information and data, perceive, analyze, memorize and transmit information using digital means, as well as using algorithms when working with data received

from various sources in order to effectively use the information received to solve problems, evaluate information, its reliability, build logical conclusions based on incoming information and data
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general professional competences (GPC):

<b>Code and descriptor of the general professional competences</b>
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-2 Able to transfer professional knowledge, taking into account pedagogical method
GPC-3 Able to use modern methods of solving problems in the development of new technologies in professional activities
GPC-4 Capable of conducting scientific research, analyzing results and preparing reports
GPC-5 Able to carry out a feasibility study of projects 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

professional competences (PC):

<b>Code and descriptor of the professional competences</b>
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)
PC-4 Able to create models of crop cultivation technologies, plant protection systems, varieties
PC-5 Able to prepare scientific and technical reports, reviews and scientific publications based on the results of research
PC-6 Able to prepare conclusions on the feasibility of introducing the studied methods, varieties and hybrids of agricultural crops into production based on the analysis of experimental data
PC-7 Able to carry out phytosanitary control at the state border in order to protect the territory of the Russian Federation from the penetration of quarantine and other dangerous pathogens and pests of plants, weeds

### 3. FINAL STATE EXAMINATION PROCEDURE

The final state examination can be conducted both in in-person format (students and the state examination committee are at RUDN University during the examination), and through the use of distance learning technologies available in the RUDN Electronic Information and Educational Environment.

The procedure for in-person or DLT-facilitated final state examination is regulated by the relevant local normative act of the RUDN University.

The final state examination within the framework of the higher education programme includes:

- state exam
- defence of the graduation qualifying paper (degree thesis).

### 4. STATE EXAM PROCEDURE

The total workload of the State Exam is 3 credits.

The state exam is held in one or more disciplines and (modules) of the higher education programme, whose mastery bears a decisive importance for graduates' occupational performance.

The state exam is held in two stages:

**The first stage** includes the assessment of the level of a graduate's theoretical training in the form of **computer testing** through the tools available in the RUDN Electronic Information and Educational Environment (EIEE).

**The second stage** focuses on the assessment of the graduate's practical preparation for future occupational activities in the form of **solving work-related situational problems (cases)**.

In order to prepare students for taking the state exam, the head of the educational programme (no later than one calendar month before the start of the final state examination) shall familiarise the graduate students with the final state examination syllabus, the comprehensive list of theoretical issues included in the state exam, examples of work-related (occupational) situational tasks (cases) that the students will have to solve in the process of taking the state exam, as well as with the procedure for each stage of the state exam and the grading system for evaluating its results (with assessment materials).

Before the state exam, students are offered consultations on issues and tasks included in the state exam (mandatory pre-exam consultation).

The state exam results evaluation is carried out in accordance with the methodology set forth in the assessment toolkit that is specified in the Appendix to this syllabus.

## **5. REQUIREMENTS FOR GRADUATION QUALIFYING PAPER (DEGREE THESIS) AND PROCEDURE FOR ITS DEFENCE**

The degree thesis is a graduation qualifying paper that the student (several students in a team) prepare to demonstrate his/her/their level of competence and work readiness.

The list of degree theses themes offered to students for further work is approved by the order of the head of the educational division (faculty/institute/academy) that runs the higher education programme, the respective information is delivered to the students by the programme head no later than six months before the date of the final state examination start.

The students are allowed to suggest their own themes for the theses, under the set procedure.

The student who has passed the state exam is admitted to defend the graduation degree thesis.

The student (students) is/are allowed to defend his/ her/their thesis only if this fully completed degree paper is signed by the respective graduate (s), the supervisor, the consultant (if any), the heads of the educational department and educational division; the thesis is also subject to the external review procedure (mandatory for master's and specialist's programmes) and the plagiarism check (in the "Anti-plagiarism" system). The review of the graduation qualifying paper supervisor shall be attached as well, with a specific emphasis laid on the graduate's activities in the course of the degree thesis drafting.

No later than 14 days before the date of the thesis defence, a rehearsal of the procedure is held at the presence of the degree thesis supervisor and other academic staff of the educational department, in order to timely identify and eliminate shortcomings in the structure, content and design of the degree thesis.

The degree theses are introduced to the State Examination Board members at the public defence procedure. It includes the students' oral reports with mandatory multimedia (graphic) presentations that introduce the thesis main content.

At the end of the reports, the students reply orally to the State Examination Board members' questions regarding the subject, structure, content of the paper and the profile/specialisation of the higher education programme. The reports and / or answers to the Board members' questions may be delivered in a foreign language.

The stages of the graduation qualifying paper preparation, the requirements for its structure, volume, contents and design, as well as the list of mandatory and recommended documents submitted for defence are specified in the relevant guidelines.

The evaluation of the degree thesis defense results is carried out in accordance with the methodology set forth in the assessment toolkit that is specified in the Appendix to the syllabus.

## **6. REQUIREMENTS FOR EQUIPMENT AND TECHNOLOGY SUPPORT FOR FINAL STAE EXAMINATION**

The first stage of the SE (computer testing) is conducted in a computer classroom equipped with personal computers, a blackboard (screen) and multimedia presentation equipment.

The second stage of the SE and the protection of the FQW is held in a seminar-type classroom equipped with a set of specialized furniture and multimedia presentation equipment.

## **7. RESOURCES RECOMMENDED FOR FINAL STATE EXAMINATION**

*Main readings to prepare for the state exam and/or degree thesis defence:*

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 to prepare for the state exam and/or degree thesis defence:*

- 1.Александров, И.Н. Диплодиоз 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.Белашапкина, Д.Д.Букреев и др.-М.: Колос, 2001.-248с.
14. Иванова, 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 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»: [сайт]. URL: <https://urait.ru/>
  - EL «Lan» <http://e.lanbook.com/>
  - EL «Student Consultant» [www.studentlibrary.ru](http://www.studentlibrary.ru)

#### *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 student's self-studies to prepare for the state exam and /or to draft the degree thesis and defend it\*:*

1. The guidelines for drafting and formatting the degree thesis within the higher education programme «Integrated Plant Protection».
2. The procedure for the degree thesis check in the "Anti- plagiarism" system».
3. The procedure for conducting the final state examination under the higher education programme «Integrated Plant Protection» through the use of DLT and proctoring system.

## **8. ASSESSMENT TOOLKIT AND GRADING SYSTEM\* FOR EVALUATION OF GRADUATES' COMPETENCES LEVEL**

The assessment materials and the grading system\* to evaluate the graduate's level of competences (competences in part) formation as the results of the higher education programme completion are specified in the Appendix to this syllabus.

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