Federal State Autonomous Educational Institution of Higher Education
Peoples' Friendship University of Russia named after Patrice Lumumba
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:

GENERAL AGRONOMY

higher education programme profile/specialisation title

1. FINAL STATE EXAMINATION GOAL AND TASKS

The goal of conducting the State Final Certification within the framework of the Higher Education Programme "General Agronomy" is to determine the correspondence of the results of mastering the programme by students to the relevant requirements of the Federal State Educational Standard of Higher Education.

The objectives of the State Final Certification are:

- To verify the quality of students' mastering of basic humanitarian knowledge, natural science laws and phenomena necessary for professional activities;
- To determine the level of theoretical and practical readiness of graduates to perform professional tasks in accordance with the qualification obtained;
- To establish the degree of the individual's aspiration for self-development, improvement of qualifications and skills;
- To verify the formation of graduates' stable motivation for professional activities in accordance with the types of professional activity tasks provided for by the Federal State Educational Standard of Higher Education;
- To evaluate the level of graduates' ability to find organizational and managerial solutions in non-standard situations and their readiness to take responsibility for them;
- To ensure the integration of education and scientific and technical activities, increase the efficiency of using scientific and technical achievements, reform the scientific sphere and stimulate innovative activities;
- To ensure the quality of specialist training in accordance with the requirements of the Federal State Educational Standard of Higher Education.

2. REQUIREMENTS FOR HIGHER EDUCATION PROGRAMME COMPLETION AND LEARNING OUTCOMES

A student who has no academic debt and has fully completed the curriculum or individual curriculum of the Higher Education Programme is admitted to the State Final Certification.

Upon completion of the Higher Education Programme, the graduate must possess the following competencies:

Code and descriptor of the generic competences
GC-1 Able to carry out 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 lead team work, developing a team strategy to achieve the set goal
GC-4 Able to apply modern communicative 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 cultural diversity in the process of intercultural interaction
GC-6 Able to determine and implement priorities of own activity and ways of its improvement based on self-assessment
GC-7 Able to search for necessary sources of information and data, perceive, analyze, memorize and transmit information using digital means, as well as using algorithms when working with data obtained from various sources in order to effectively use the received information to solve problems, evaluate information, its reliability, build logical conclusions based on incoming information and data

- general professional competences (GPC):

Code and descriptor of the general professional competences
GPC-1 Able to solve problems of development of the field of professional activity and/or organization based on the analysis of scientific and production achievements
GPC-2 Able to transfer professional knowledge taking into account pedagogical methods
GPC-3 Able to use modern methods of solving problems when developing new technologies in professional activities
GPC-4 Able to conduct scientific research, analyze results and prepare reporting documents
GPC-5 Able to carry out feasibility study of projects in professional activity
GPC-6 Able to manage teams and organize production processes
GPC-7 Able to master the tools for working with large arrays of structured and unstructured information, use modern digital methods of processing, analysis, interpretation and visualization of data in order to solve assigned tasks of professional and research activities in the field of agronomy

- professional competences (PC):

Code and descriptor of the professional competences
PC-1 Able to organize and conduct experiments (field trials) to assess the effectiveness of innovative technologies (technology elements), varieties and hybrids under production conditions
PC-2 Able to develop and implement environmentally safe practices and technologies for the production of high-quality crop production, taking into account the properties of agrolandscapes and economic efficiency
PC-3 Able to determine directions for improving and increasing the efficiency of crop production technologies based on scientific achievements and advanced experience of domestic and foreign producers
PC-4 Able to create models of crop cultivation technologies, plant protection systems, and varieties

3. FINAL STATE EXAMINATION PROCEDURE

The State Final Certification can be conducted both in a face-to-face format (students and the State Examination Commission are at RUDN University during the SFC) and using distance educational technologies (DET) available in the Electronic Information and Educational Environment of RUDN University (EIEE).

The procedure for conducting the State Final Certification in a face-to-face format or using DET is regulated by the relevant local regulatory act of RUDN University.

The State Final Certification for the Higher Education Programme "General Agronomy" includes:

- State Exam (SE);
- Defense of the Final Qualifying Work (FQW).

4. STATE EXAM PROCEDURE

The total workload of the State Exam for the Higher Education Programme is 3 credit units.

The state exam is held in one or more disciplines and/or modules of the higher education programme, the mastery of which 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;
- 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.

Evaluation of the State Exam results is carried out in accordance with the methodology outlined in the assessment materials for the State Final Certification programme, developed by the graduating educational department and placed in the University Telecommunication Training and Information System (TUIS) before the beginning of the academic year of the graduating course.

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

The total workload of the Final Qualifying Work for the Higher Education Programme is 6 credit units.

The Final Qualifying Work is a work performed by a student (or several students jointly) demonstrating the level of the graduate's preparedness for independent professional activities.

The list of topics for Final Qualifying Works offered to students for completion is approved by the order of the head of the educational unit implementing the Higher Education Programme and is brought to the attention of graduating course students by the programme head no later than 6 months before the start date of the State Final Certification.

Preparation and defense of a Final Qualifying Work on a topic proposed by the student(s) is permitted in the established manner.

A student who has passed the State Exam is admitted to the defense of the Final Qualifying Work.

Only a fully completed Final Qualifying Work, signed by the graduate(s) who performed it, the supervisor, consultant (if any), the head of the graduating educational department and the educational unit, which has undergone external review procedure (mandatory for Master's and Specialist programmes) and verification for the volume of borrowings (in the "Antiplagiat" system), is admitted to defense. A review from the supervisor on the graduate's work during the preparation of the Final Qualifying Work must be attached to the FQW admitted to defense.

In order to identify and timely eliminate shortcomings in the structure, content and formatting of the Final Qualifying Work, no later than 14 days before the date of its defense,

a rehearsal of the defense of the work by students (pre-defense) is conducted in the presence of the FQW supervisor and other teachers of the graduating educational department.

The defense of the Final Qualifying Work is conducted at an open meeting of the State Examination Commission (SEC).

The certification test is conducted in the form of an oral report by students with a mandatory multimedia (graphic) presentation reflecting the main content of the FQW.

Upon completion of the report, the defenders give oral answers to questions that have arisen from the members of the SEC regarding the topic, structure, content or formatting of the FQW and the profile of the Higher Education Programme. The report and/or answers to questions from SEC members may be in a foreign language.

The stages of completing the FQW, requirements for structure, volume, content and formatting, as well as the list of mandatory and recommended documents submitted for defense are specified in the relevant methodological guidelines.

Evaluation of the Final Qualifying Work results is carried out in accordance with the methodology outlined in the assessment materials for the State Final Certification programme, developed by the graduating educational department and placed in TUIS before the beginning of the academic year of the graduating course.

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

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

The second stage of the State Exam and the defense of the Final Qualifying Work are 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. Be-Bienko, G.Ya. *General Entomology: Textbook*. — St. Petersburg: Prospekt Nauki, 2008. — 486 p.

2. *Plant Protection from Pests* / Ed. by N.N. Tretyakov, V.V. Isaichev. — St. Petersburg-Moscow-Krasnodar, 2012. — 528 p.

3. *Plant Quarantine* / Ed. by A.S. Vasyutin. — Moscow, 2002. — 536 p.

4. *List of Pests, Plant Disease Pathogens, and Weeds of Quarantine Importance for the Russian Federation*. Ministry of Agriculture, 2003. — 6 p.

5. *Biology of Quarantine Harmful Organisms (Weeds, Pests and Diseases)* [Electronic resource]: lecture course / compiled by O.B. Kotelnikova. — Kursk: KSAU Publ., 2008. — 160 p.

6. *Phytosanitary Control and Supervision in Oryol and Kursk Regions* / Ed. by E.N. Dubrovina. — Oryol: Operativnaya Poligrafiya, 2008. — 461 p.

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

1. Aleksandrov, I.N., Dudchenko, I.P. Diplodia Corn Disease // Plant Protection and Quarantine. — 2002. — No. 1. — P. 24.
2. Baranchikov, Y.N., et al. Complex Monitoring of Siberian Silk Moth Population // Plant Protection and Quarantine. — 2006. — No. 5. — P. 39.
3. Vasyutin, A.S., et al. Plant Quarantine in the Russian Federation. — Moscow: Kolos, 2001. — 375 p.
4. Harmful Organisms of Quarantine Importance for Europe (Translated from English). — Moscow: Kolos, 1996. — 912 p.
5. Vasyutin, A.S. Testing Soil Samplers in Potato Cyst Nematode Foci // Plant Protection and Quarantine. — 2003. — No. 8. — P. 32.
6. Varshalovich, A.A. Quarantine and Other Species of Beetles-Pests of Industrial Raw Materials and Food Stocks. — Moscow: Kolos, 1975. — 275 p.
7. Mordkovich, Ya.B., Sokolov, E.A. Detection of Khapra Beetle in Storage Facilities // Plant Protection and Quarantine. — 2000. — No. 12. — P. 26.
8. Dulova, E.V. Quarantine Miners // Plant Protection and Quarantine. — 2005. — No. 5. — P. 34.
9. Drugova, E.V., Nesterov, V.A. Features of Phytosanitary Control for Greenhouse Crop Pests // Plant Protection and Quarantine. — 2004. — No. 2. — P. 44.
10. Zapolovsky, S.A., Derega, A.A. Common Ragweed in Zhytomyr Region // Plant Protection and Quarantine. — 2004. — No. 11. — P. 38.
11. Zagulyaev, A.K. Moths and Pyralids — Pests of Grain and Food Stocks. — Moscow-Leningrad: Nauka, 1965. — 167 p.
12. Zakladnoy, G.A., Ratanova, V.F. Pests of Grain Stocks and Control Measures. — Moscow: Kolos, 1973. — 250 p.
13. Shkalikov, V.A., et al. Plant Protection from Diseases. — Moscow: Kolos, 2001. — 248 p.
14. Ivanova, N.A. Quarantine Grapevine Diseases // Plant Protection and Quarantine. — 2009. — No. 2. — P. 40.
15. Izhevsky, S.S. Introduction and Application of Entomophages. — Moscow: Agropromizdat, 1990. — 223 p.
16. Isaichev, V.V., et al. Plant Protection. — Moscow: Kolos, 2002.
17. Quarantine and Phytosanitary Status of CIS and Baltic States as of 01.01.2000. — Moscow, 2000. — 267 p.
18. Karachaeva, E.I. Black Pine Sawyer // Plant Protection and Quarantine. — 2011. — No. 8. — P. 37.
19. Kvashnina, N.A. Monitoring of Fire Blight Foci in Southern Russia // Plant Protection and Quarantine. — 2010. — No. 6. — P. 40.
20. Kuleshova, Y.G. Plum Pox Virus in the Russian Federation // Plant Protection and Quarantine. — 2010. — No. 10. — P. 35.
21. Kulinich, O.A. Pine Wood Nematode // Plant Protection and Quarantine. — 2010. — No. 7. — P. 36.
22. Mordkovich, Ya.B. Common Problems Require Joint Solutions // Plant Protection and Quarantine. — 2010. — No. 4. — P. 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): https://mega.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
- EL "Znanium": https://znanium.ru/

2. Databases and search engines:
   - Sage: https://journals.sagepub.com/
   - Springer Nature Link: https://link.springer.com/
   - Wiley Journal Database: https://onlinelibrary.wiley.com/
   - Scientometric database Lens.org: https://www.lens.org

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. Methodological guidelines for completing and formatting the Final Qualifying Work for the Higher Education Programme "General Agronomy".
2. Procedure for checking the Final Qualifying Work for the volume of borrowings in the "Antiplagiat" system.
3. Procedure for conducting the State Final Certification for the Higher Education Programme "General Agronomy" using distance educational technologies, including the procedure for identifying the identity of the graduate.

*The training toolkit and guidelines for the student's self-studies are placed on the final state examination page in the university telecommunication training and information system under the set procedure.

HEAD OF DUCATIONAL DEPARTMENT:

Director of the Agrobiotechnology Department		Pakina E.N.
educational department	signature	name and surname

HEAD
OF HIGHER EDUCATION PROGRAMME:

Director of the Agrobiotechnology Department		Pakina E.N.
position, department	signature	name and surname