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**Federal State Autonomous Educational establishment of higher education
RUDN-University
Engineering Academy**

FINAL STATE CERTIFICATION PROGRAM

The program track 27.04.05 Innovation studies

**Educational program of higher education
Innovation management**

1. PURPOSE AND OBJECTIVES OF THE FINAL STATE CERTIFICATION (FSC)

The purpose of the FSC within the framework of the implementation of the EP HE "Innovation Management" is to determine the conformity of the results of mastering the OP HE by students corresponding to the requirements of the Federal State Educational Standard

The objectives of the state final certification are:

- checking the quality of teaching a person basic humanitarian knowledge, natural science laws and phenomena necessary in professional activities;
- determination of the level of theoretical and practical preparedness graduate to perform professional tasks in accordance with the received qualification;
- establishing the degree of a person's desire for self-development, improving their qualifications and skills;
- checking the formation of a graduate's sustainable motivation for professional activities in accordance with the stipulated OS VO GEF VO types of tasks of professional activity;
- assessment of the level of graduates' ability to find organizational and managerial decisions in non-standard situations and readiness to bear for them responsibility;
- ensuring the integration of education and scientific and technical activities, increasing the efficiency of using scientific and technological achievements, reforming the scientific sphere and stimulating innovation;
- ensuring the quality of training of specialists in accordance with the requirements GEF VO.

2. REQUIREMENTS FOR THE RESULTS OF THE DEVELOPMENT OF OS VO

A student who has no academic debt and has fully completed the curriculum or the individual OS VO curriculum is allowed to be certified by FSC. At the end of the development of OS VO, the graduate must have the following **universal competencies (YK)**:

Code and name YK
YK-1 Able to carry out critical analysis of problem situations on the basis of a systematic approach, to develop an action strategy
YK-2 Able to manage the project at all stages of its life cycle
YK-3 Able to organize and manage the work of the team, developing a team strategy to achieve the goal
YK-4 Able to apply modern communication technologies, including in a foreign language(s), for academic and professional interaction
YK-5 Able to analyze and take into account the diversity of cultures in the process of intercultural interaction
YK-6 Able to determine and implement the priorities of their own activities and ways to improve them on the basis of self-esteem

general professional competencies (OIK):

Code and name OIK
OIK-1 Able to analyze and identify the natural-scientific essence of control problems in technical systems on the basis of provisions, laws and methods in the field of mathematics, natural and technical sciences
OIK -2 Able to formulate control problems in technical systems and substantiate methods for their

solution
OPIK-3 Able to independently solve control problems in technical systems based on the latest achievements of science and technology
OPIK-4 Able to develop criteria for evaluating management systems in the field of innovation based on modern mathematical methods, develop and implement management decisions to improve their efficiency
OPIK-5 Able to conduct patent research, determine the forms and methods of legal protection and enforcement of rights to the result of intellectual activity, dispose of rights to them to solve problems in the development of science, technology and technology
OPIK-6 Able to collect and analyze scientific and technical information, summarize domestic and foreign experience in the field of innovation management and building innovation ecosystems
OPIK-7 Able to reasonably select and substantiate structural, algorithmic, technological and software solutions for managing innovative processes and projects, implement them in practice in relation to enterprise innovation systems, industry and regional innovation systems
OPIK-8 Able to perform experiments at existing facilities according to the specified methods and process the results using modern information technologies and techniques
OPIK-9 Able to solve professional problems based on the history and philosophy of innovations, mathematical methods and models for innovation management, knowledge of the features of emerging technological modes and the fourth industrial revolution in the innovation sphere
OPIK-10 Able to develop, combine and adapt algorithms and software applications suitable for solving practical problems of digitalization in the field of professional activity
OPIK-11 Able to develop educational and methodological materials and participate in the implementation of educational programs in the field of education

professional competencies (PIK):

Code and name PIK
PIK-1 The ability to organize the work of the creative team to achieve the set scientific goal, to find and make management decisions, to assess the quality and effectiveness of labor, the costs and results of the activities of the scientific and production team
PIK-2 Ability to find (select) optimal solutions in the creation of new high-tech products, taking into account the requirements of quality, cost, performance time, competitiveness and environmental safety
PIK-3 Ability to develop a plan and program for the organization of innovative activities of the research and production unit, to carry out a feasibility study of innovative projects and programs

3. COMPOSITION OF FSC

FSC can be held both in full-time format (students and the state examination commission during the FSC are in RUDN University), and using distance educational technologies (DOT) available in the Electronic Information and Educational Environment of RUDN University (ЭИОС).

The procedure for conducting FSC in full-time format or using (DOT) is regulated by the relevant local regulatory act of RUDN University. The FSC for OS VO "Innovation Management" includes:

- State Examination (SE)
- Defense of the Final Qualification Thesis (WRC).

4. PROGRAMME SE

The state exam is held in several disciplines OF OS VO, the results of the development of which are of decisive importance for the professional activities of graduates.

The volume of SE on OS VO is 3 credits.

The first stage is to assess the level of theoretical and practical training of the graduate in the form of **computer testing** using the tools available in the Electronic Information and Educational Environment of RUDN University (EIOS).

The second stage is the assessment of the level of theoretical and practical training of the graduate in the form of **a written exam**.

In order to prepare students for the SE, the head of OS VO (no later than one calendar month before the start of the FSC) is obliged to familiarize the students of the final course with this FSC program, an exhaustive list of theoretical and practical questions included in the SE, as well as with the procedure for each of the SE stages and the methodology for assessing its results (with evaluation materials).

Before SE, mandatory counseling of students on the questions and tasks included in the SE program (pre-examination consultation) is carried out. **The procedure for conducting computer testing** within the framework of the FSC is as follows:

1. During training, students are given **300** test questions, which are loaded into the TUIS system.
2. On the exam, students randomly get 40 questions, which they must answer in 90 minutes.
3. For each correct answer, students receive 1 point.

The procedure for the second stage SE is as follows:

The main part of the state exam is conducted in writing using exam tickets. Each exam card contains three questions.

The questions included in the exam card are of an interdisciplinary nature and are aimed at determining the level of theoretical and practical preparedness of the graduate to solve professional problems defined by GEF VO in accordance with the type of professional activity to which the educational program is oriented.

The total number of examination cards is determined by the number of students admitted to the state exam. The student is given 180 minutes to prepare a written response on the ticket. The maximum number of points that can be obtained for a written exam is 60 (20 points for each question).

5.REQUIREMENTS FOR FINAL QUALIFYING WORK AND PROCEDURE FOR ITS DEFENSE

Final qualifying work is a work performed by the student, demonstrating the level of preparedness of the graduate for independent professional activity.

The list of topics of final qualification works offered to students for implementation is approved by the order of the head of the PMO implementing OS VO, and is communicated by the program manager to the students of the final course no later than 6 months before the start date of the FSC.

It is allowed to prepare and defend final qualifying work on the topic proposed by the trainees (students) in the prescribed manner. To defend the final qualifying work is allowed to the student who passed the SE.

Only a fully completed final qualifying work, signed by the graduate (graduates), its performer, the head, consultant (

cashing), the head of the issuing BUP and the PMO, which has passed the procedure of external review (for master's and specialist's degrees is mandatory) and verification for the volume of borrowings (in the "Anti-Plagiarism" system) are allowed to defend. , admitted to the defense, it is mandatory to apply the feedback of the supervisor about the work of the graduate in the preparation of the final qualifying work.

In order to identify and timely eliminate shortcomings in the structure, content and design of final qualifying work, no later than 14 days before the date of its defense, a rehearsal of the defense of the students of their work (pre-protection) is carried out in the presence of the head of the final qualifying work and other teachers of the issuing BUP. The defense of final qualifying work is held at an open meeting of the State Examination Commission (FSC).

The attestation test is carried out in the form of an oral report of students with an obligatory multimedia (graphic) presentation reflecting the main content of the final qualifying work.

At the end of the report, the defenders give oral answers to questions that have arisen among FSC members on the subject, structure, content or design of the final qualifying work and the profile of OS VO

The stages of final qualifying work, the requirements for the structure, volume, content and design, as well as the list of mandatory and recommended documents submitted for protection are indicated in the relevant guidelines.

Evaluation of the results of the final qualifying work is carried out in accordance with the methodology set forth in the evaluation materials presented in the Annex to this FSC program.

6.LOGISTICAL SUPPORT FOR DEFENSE FSC

To prepare for the state exam, prepare for final qualifying work, students use classrooms designed for independent work, equipped with specialized furniture and technical means, as well as classrooms for lecture-type classes, practical classes, group and individual consultations with a set of specialized furniture; technical means: A set of specialized furniture; technical means: projector Epson EH-TW5300 (LCD, 1080p 1920 x 1080, 2200Lm, 35000:1, 2 x HDMI, MHL, screen Draper Baronet NTSC (3:4) 244/96(8) 152 * 203 MW, access to the Internet via LAN and Wi-Fi. Software: Microsoft products (OS, suite of office applications, incl. MS Office/Office 365, Teams, Skype).

To conduct the test part of the state exam , a classroom equipped with workplaces with personal computers (at least 12) equipped with the necessary software and an Internet connection is used.

For the main part of the state exam and / or the defense of final qualifying work, a room with a capacity of 12 or more people is used, in which workplaces are equipped for all FSC members , with the ability to listen to reports, view public presentations of speakers, keep records and minutes, there are places for students wishing to attend the final qualifying work defense procedure . The necessary equipment of the premises includes:

- equipment for public presentations of the results of final qualifying work, including a multimedia screen, a projector, audio equipment.
- Whiteboard to illustrate the answers to the questions.

On the wishes for additional material and technical equipment (if necessary) of the audience designated for the defense of the final qualifying work, the student can notify the graduating department with a written statement no later than one week before the defense procedure.

7. EDUCATIONAL, METHODOLOGICAL AND INFORMATION SUPPORT FOR FSC

1. Federal Law "On Education in the Russian Federation" dated 29.12.2012 No. 273-FZ.

2. The procedure for the organization and implementation of educational activities in educational programs of higher education - bachelor's programs, specialist programs, master's programs, approved by the Order of the Ministry of Education and Science of the Russian Federation dated April 5. № 301.2017 г

3. The procedure for conducting the state final certification for educational programs of higher education - bachelor's programs, specialist programs and master's programs, approved by the Order of the Ministry of Education and Science of the Russian Federation dated June 29. № 636. 2015 г

4. The procedure for the implementation of educational activities in educational programs of higher education - bachelor's programs, specialist programs and master's programs at the Peoples' Friendship University of Russia, approved by the Order of the Rector dated 12.03.2018 No. 171.

5. The procedure for conducting the final state certification of students in higher education programs - bachelor's programs, specialist programs and master's programs at the Peoples' Friendship University of Russia (new edition), approved by the Rector's Order of 13.10.2016 No. 790.

6. Rules for the preparation and registration of the final qualification work of a graduate of the Peoples' Friendship University of Russia, approved by the Order of the Rector dated 30.11.2016 No. 878.

7. Regulations for state certification of educational programs of higher education - bachelor's programs, specialist programs and master's programs at RUDN University, approved by the Order of the Rector dated 14.12.2015 No. 768.

8. Rector's Order of 11.02.2015 No. 65 "On compulsory study of foreign languages and defenses of the WRC in foreign languages in the magistracy".

9. Regulations for individual consultations to prepare students for the defense of the WRC in a foreign language and the implementation of the procedure for oral defense of the WRC in a foreign language, approved by the Order of the Rector dated 20.06.2016 No. 547.

10. Regulations on the use of the "Antiplagiat" system for the verification of written educational works in RUDN University, approved by the Order of the Rector dated 30.03.2018 No. 228.

11. The main literature and additional literature specified in the work programs of the disciplines / modules of the educational program (in preparation for the state exam).

Resources of the information and telecommunication network "Internet":

1. ЭБС РУДН и сторонние ЭБС, к которым студенты университета имеют доступ на основании заключенных договоров:

- Электронно-библиотечная система РУДН – ЭБС РУДН
<http://lib.rudn.ru/MegaPro/Web>

- ЭБС «Университетская библиотека онлайн» <http://www.biblioclub.ru>

- ЭБС Юрайт <http://www.urait.ru>

- ЭБС «Консультант студента» www.studentlibrary.ru

- ЭБС «Лань» <http://e.lanbook.com/>

2. Databases and search engines:

- электронный фонд правовой и нормативно-технической документации

<http://docs.cntd.ru/>

- поисковая система Яндекс <https://www.yandex.ru/>

- поисковая система Google <https://www.google.ru/>

- реферативная база данных SCOPUS

<http://www.elsevierscience.ru/products/scopus/>

*Educational and methodical materials for the independent work of students in preparation for passing the SE and / or performing the WRC and preparing the work for the defense *:*

1. Guidelines for the implementation and design of the WRC on OS VO "Management of innovations in industries".

2. The procedure for checking the WRC for the volume of borrowings in the "Anti-Plagiarism" system.

3. The procedure for conducting GIA on OS VO "Management of innovations in industries" using DOT, incl. the procedure for identifying the identity of the graduate.

* - all educational and methodological materials for the independent work of students are posted in accordance with the current procedure on the page of the GIA **in TUIS**.

8. ASSESSMENT MATERIALS AND POINT-RATING SYSTEM FOR ASSESSING THE LEVEL OF FORMATION OF COMPETENCIES IN GRADUATES

Evaluation materials and a point-rating system* for assessing the level of formation of competencies based on the results of mastering the discipline OS VO "Innovation Management" are presented in the Annex to this GIA program.

Educational designer:

Associate professor, PhD



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