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

**Academy of Engineering**

(name of the main educational unit (MEU) – developer of the educational program of higher education)

**INTERNSHIP PROGRAM**

**Undergraduate practice**

(name of practice)

**Industrial practice**

(type of practice: educational, industrial)

**Recommended for the field of study/specialty:**

**27.04.04 Control in Technical Systems**

(code and name of the training area/specialty)

**Practical training of students is carried out within the framework of the implementation of  
the main professional educational program of higher education (EP HE):**

**AIML and Space Science / Artificial Intelligence, Machine Learning and Space  
Science**

(name (profile/specialization) of the educational institution of higher education)

## 1. PURPOSE OF THE INTERNSHIP

The purpose of conducting Undergraduate practice / Pre-graduation practice is industrial practice and deepening, systematization and consolidation of theoretical knowledge in the studied disciplines, collection, processing and analysis of material necessary for the development of the final qualification work, as well as the formation and development of practical skills and competencies of the master, acquisition of experience in independent professional activity.

**The main tasks of Undergraduate practice / Pre-graduation practice are:**

- clarification of the composition and volume of the final qualifying work;
- collection of initial data on the topic of the final qualifying work and the necessary technical literature.

## 2. REQUIREMENTS FOR THE RESULTS OF TRAINING BASED ON THE RESULTS OF THE INTERNSHIP

Conducting Undergraduate practice / Pre-graduation practice is aimed at developing the following competencies (parts of competencies) in students:

*Table 2.1. List of competencies developed in students during internship (learning outcomes based on internship results)*

Cipher	Competence	Indicators of Competence Achievement (within the framework of this discipline)
UC-1	Ability to carry out critical analysis of problem situations based on a systems approach, develop an action strategy	UC-1.1. Analyzes the task, identifying its basic components;
		UC-1.2. Defines and ranks the information required to solve the assigned task;
		UC-1.3. Conducts a search for information to solve the assigned task using various types of requests;
		UC-1.4. Suggests options for solving the problem, analyzes the possible consequences of their use;
		UC-1.5. Analyzes ways of solving problems of ideological, moral and personal nature based on the use of basic philosophical ideas and categories in their historical development and socio-cultural context.
UC-2	Ability to manage a project at all stages of its life cycle	UC-2.1. Formulates a problem, the solution of which is directly related to achieving the project goal;
		UC-2.2. Defines the connections between the tasks set and the expected results of their solution;
		UC-2.3. Within the framework of the set tasks, determines the available resources and limitations, current legal norms;
		UC-2.4. Analyzes the project implementation schedule as a whole and selects the optimal way to solve the tasks set, based on current legal regulations and available resources and limitations;
		UC-2.5. Monitors the progress of the project, adjusts the schedule in accordance with the monitoring results.
UC-3	Ability to organize and manage the work of a team, developing a team strategy to achieve the set goal.	UC-3.1. Defines his/her role in the team based on the strategy of cooperation to achieve
		UC-3.2. Formulates and takes into account in its activities the behavioral characteristics of groups of people, identified depending on the set goal;
		UC-3.3. Analyzes the possible consequences of personal actions and plans his actions to achieve a given result;
		UC-3.4. Carries out the exchange of information, knowledge and experience with team members;

<b>Cipher</b>	<b>Competence</b>	<b>Indicators of Competence Achievement</b> (within the framework of this discipline)
		UC-3.5. Argues his point of view regarding the use of ideas of other team members to achieve the set goal; UC-3.6. Participates in teamwork to carry out assignments
UC-4	Ability to apply modern communication technologies in the state language of the Russian Federation and foreign language(s) for academic and professional interaction.	UC-4.1. Selects a style of business communication, depending on the language of communication, purpose and conditions of partnership; UC-4.2. Adapts speech, communication style and sign language to interaction situations; UC-4.3. Searches for the necessary information to solve standard communication tasks in Russian and foreign languages; UC-4.4. Conducts business correspondence in Russian and foreign languages, taking into account the stylistic features of official and unofficial letters and socio-cultural differences in the format of correspondence; UC-4.5. Uses dialogue for cooperation in academic communication, taking into account the personality of the interlocutors, their communicative speech strategy and tactics, and the degree of formality of the situation; UC-4.6. Forms and argues his/her own assessment of the main ideas of the participants in the dialogue (discussion) in accordance with the needs of the joint activity.
UC-5	Ability to analyze and take into account cultural diversity in the process of intercultural interaction	UC-5.1. Interprets the history of Russia in the context of world historical development; UC-5.2. Finds and uses information about the cultural characteristics and traditions of various social groups in social and professional communication; UC-5.3. Takes into account, during social and professional communication on a given topic, the historical heritage and socio-cultural traditions of various social groups, ethnic groups and faiths, including world religions, philosophical and ethical teachings; UC-5.4. Collects information on a given topic, taking into account the ethnic groups and religions most widely represented at the research sites; UC-5.5. Substantiates the specifics of project and team activities with representatives of other ethnic groups and (or) faiths; UC-5.6. Adheres to the principles of non-discriminatory interaction in personal and mass communication in order to fulfill professional tasks and strengthen social integration
UC-6	Ability to identify and implement priorities for one's own activities and ways to improve them based on self-assessment	UC-6.1. Controls the amount of time spent on specific types of activities; UC-6.2. Develops tools and methods for time management when performing specific tasks, projects, and goals; UC-6.3. Analyzes his resources and their limits (personal, situational, temporary, etc.) for the successful completion of the assigned task; UC-6.4. Distributes tasks into long-, medium- and short-term ones with justification of relevance and analysis of resources for their implementation.
UC-7	The ability to search for the	UC-7.1. Searches for the necessary sources of information

<b>Cipher</b>	<b>Competence</b>	<b>Indicators of Competence Achievement</b> (within the framework of this discipline)
	necessary sources of information and data, perceive, analyze, remember 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 information received to solve problems; evaluate information, its reliability, build logical conclusions based on incoming information and data	and data, perceives, analyzes, remembers and transmits information using digital means, as well as using algorithms when working with data obtained from various sources of data with the aim of effectively using the information obtained to solve problems;  UC-7.2. Conducts an assessment of information, its reliability, builds logical conclusions based on incoming information and data.
GPC-1	Ability to analyze and identify the natural scientific essence of control problems in technical systems based on provisions, laws and methods in the field of natural sciences and mathematics	GPC-1.1. Knows the basic laws, provisions and methods in the field of natural sciences and mathematics
		GPC-1.2. Able to identify the natural scientific essence of control problems in technical systems guided by the laws and methods of natural sciences and mathematics
		GPC-1.3. Has knowledge of tools for analyzing control problems in technical systems
GPC-2	Ability to formulate control problems in technical systems and justify methods for solving them.	GPC-2.1. Knows the basic methods for solving control problems in technical systems
		GPC-2.2. Able to justify methods for solving control problems in technical systems
		GPC-2.3. Has mastered methods of setting control tasks in technical systems
GPC-3	Ability to independently solve control problems in technical systems based on the latest achievements of science and technology.	GPC-3.1. Knows the basic approaches to solving control problems in technical systems
		GPC-3.2. Able to apply basic approaches based on the latest achievements of science and technology to solving control problems in technical systems
		GPC-3.3. Has mastered methods for solving control problems in technical systems based on the latest achievements of science and technology
GPC-4	Ability to evaluate the effectiveness of the results of development of control systems using mathematical methods	GPC-4.1. Knows the basic mathematical methods used to evaluate the effectiveness of the results of control systems
		GPC-4.2. Can apply mathematical methods to evaluate the effectiveness of the results of management systems
		GPC-4.3. Has mastered mathematical methods for assessing the effectiveness of the results of management systems
GPC-5	Ability to conduct patent research, determine forms and methods of legal protection and defense of rights to the results of intellectual activity, manage rights to them to solve problems in the field of development of science, engineering and technology.	GPC-5.1. Knows the methods and approaches to conducting patent research, forms and methods of legal protection and defense of rights to the results of intellectual activity
		GPC-5.2. Able to manage rights to the results of intellectual activity to solve problems in the field of development of science, engineering and technology
		GPC-5.3. Has knowledge of methods and approaches to conducting patent research, knows methods of legal protection and defense of rights to the results of intellectual activity
GPC-6	Ability to collect and analyze scientific and technical	GPC-6.1. Knows the basic methods of collecting and analyzing scientific and technical information

<b>Cipher</b>	<b>Competence</b>	<b>Indicators of Competence Achievement</b> (within the framework of this discipline)
	information, generalize domestic and foreign experience in the field of automation and control equipment.	GPC-6.2. Able to analyze and generalize domestic and foreign experience in the field of automation and control equipment GPC-6.3. Has knowledge of methods for collecting and analyzing scientific and technical information, and can also generalize domestic and foreign experience in the professional field
GPC-7	Ability to make informed choices, develop and implement in practice circuit, system engineering and hardware-software solutions for automation and control systems.	GPC-7.1. Able to develop and implement in practice circuit and system engineering solutions for automation and control systems GPC-7.2. Can develop hardware and software solutions for automation and control systems GPC-7.3. Has knowledge of approaches for making a well-founded choice and implementing in practice circuit, system engineering and hardware-software solutions for automation and control systems
GPC-8	Ability to select methods and develop control systems for complex technical objects and technological processes.	GPC-8.1. Knows the basic methods used to develop control systems for complex technical objects and technological processes GPC-8.2. Can develop control systems for complex technical objects and technological processes GPC-8.3. Has skills in selecting methods and developing control systems for complex technical objects and technological processes
GPC-9	Ability to develop methods and perform experiments at existing facilities with processing of results based on modern information technologies and technical means.	GPC-9.1. Possesses modern information technologies and technical means for conducting experiments at existing facilities GPC-9.2. Has skills in developing methods and conducting experiments at existing facilities GPC-9.3. Has the skills to develop methods and perform experiments at existing facilities with processing of results using information technology
GPC-10	Ability to manage the development of methodological and regulatory documents, technical documentation in the field of automation of technological processes and production, including the life cycle of products and their quality.	GPC-10.1. Familiar with the main approaches to the development of methodological and regulatory documents, technical documentation in the field of automation of technological processes and production GPC-10.2. Has knowledge of approaches to managing the development of technical documentation and regulatory documents in the field of automation of technological processes and production, including the life cycle of products and their quality
PC-1	Ability to formulate goals and objectives of scientific research in the field of aerospace systems management, select methods and means for solving professional problems	PC-1.1. Knows methods and means of solving problems of scientific research in the field of artificial intelligence systems and robotic systems PC-1.2. Able to formulate the goal and objectives of scientific research in the professional field PC-1.3. Has mastered the techniques for formulating the goals and objectives of scientific research, and is able to select methods and means for solving problems of professional activity
PC-2	Ability to apply modern theoretical and experimental	PC-2.1. Knows modern theoretical and experimental methods used to develop mathematical models of the objects

<b>Cipher</b>	<b>Competence</b>	<b>Indicators of Competence Achievement (within the framework of this discipline)</b>
	methods for developing mathematical models of objects and processes under study in the field of aerospace systems management	under study and processes of professional activity PC-2.2. Able to determine the effectiveness of the methods used to develop mathematical models of the objects and processes under study PC-2.3. Has mastered modern theoretical and experimental methods for developing mathematical models of objects and processes of professional activity in the field of training
PC-3	Ability to carry out work and research on the processing and analysis of scientific and technical information obtained using geographic information systems and technologies	PC-3.1. Able to analyze the results of theoretical and experimental research PC-3.2. Able to formulate recommendations for improving devices and systems, prepare scientific research results for publication and generate documents for filing an application for an invention PC-3.3. Participates in the analysis of research results, has the skills to formulate recommendations for improving devices and systems, as well as writing articles and submitting documents for registration of inventions
PC-4	Ability to participate in scientific research and development of design solutions in the field of ballistics, dynamics and flight control of spacecraft	PC-4.1. Familiar with the main methods and approaches used to solve problems in the field of artificial intelligence and robotic systems PC-4.2. Has knowledge of methods for solving professional problems in the field of artificial intelligence and robotic systems PC-4.3. Able to apply mathematical methods and modern information technologies in conducting scientific research

### 3. PLACE OF PRACTICE IN THE STRUCTURE OF THE EDUCATIONAL PROGRAM OF HIGHER EDUCATION

Undergraduate practice / Pre-graduation practice refers to the optional component of the compulsory part of Block 2.

As part of the EP HE, students also master disciplines and/or other practices that contribute to the achievement of planned learning outcomes following the completion of pre-graduation practice.

*Table 3.1. List of components of the educational program of higher education that contribute to the achievement of planned learning outcomes following the completion of the internship*

<b>Cipher</b>	<b>Name of competence</b>	<b>Previous courses/modules, practices*</b>	<b>Subsequent disciplines/modules, practices*</b>
UC-1	Ability to carry out critical analysis of problem situations based on a systems approach, develop an action strategy	History and Methodology of Science / History and methodology of science Research work / Research work (acquiring basic skills in research work)	State final certification
UC-2	Ability to manage a project at all stages of its life cycle	History and Methodology of Science / History and methodology of science Research work / Research work (acquiring basic skills	State final certification

<b>Cipher</b>	<b>Name of competence</b>	<b>Previous courses/modules, practices*</b>	<b>Subsequent disciplines/modules, practices*</b>
		in research work)	
UC-3	Ability to organize and manage the work of a team, developing a team strategy to achieve the set goal.	History and Methodology of Science / History and methodology of science	State final certification
UC-4	Ability to apply modern communication technologies in the state language of the Russian Federation and foreign language(s) for academic and professional interaction.	Professional Russian (as a Foreign Language) / Russian language (as a foreign language) in professional activities Cross-Cultural Training / Intercultural Communication	State final certification
UC-5	Ability to analyze and take into account cultural diversity in the process of intercultural interaction	History and Methodology of Science / History and methodology of science	State final certification
UC-6	Ability to identify and implement priorities for one's own activities and ways to improve them based on self-assessment	Design and Analysis of Algorithms / Design and Analysis of Algorithms	State final certification
UC-7	The ability to search for the necessary sources of information and data, perceive, analyze, remember 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 information received to solve problems; evaluate information, its reliability, build logical conclusions based on incoming information and data	History and Methodology of Science / History and methodology of science Research work / Research work (acquiring basic skills in research work) Research work / Research work	State final certification
GPC-1	Ability to analyze and identify the natural scientific essence of control problems in technical systems based on provisions, laws and methods in the field of natural sciences and mathematics	Mathematics for Spatial Sciences / Spatial Mathematics Applied Statistics Introduction to Geospatial Technology / Introduction to Geospatial Technology Geoinformation Systems and Applications / Geoinformation systems and their applications	State final certification

<b>Cipher</b>	<b>Name of competence</b>	<b>Previous courses/modules, practices*</b>	<b>Subsequent disciplines/modules, practices*</b>
GPC-2	Ability to formulate control problems in technical systems and justify methods for solving them.	Mathematics for Spatial Sciences / Spatial Mathematics Design and Analysis of Algorithms / Design and Analysis of Algorithms Applied Statistics	State final certification
GPC-3	Ability to independently solve control problems in technical systems based on the latest achievements of science and technology.	Design and Analysis of Algorithms / Design and Analysis of Algorithms Applied Statistics Advanced Methods of Space Flight Mechanics / Modern Methods of Space Flight Mechanics Research work / Research work (acquiring basic skills in research work)	State final certification
GPC-4	Ability to evaluate the effectiveness of the results of development of control systems using mathematical methods.	Inferential Statistics / Inductive Statistics	State final certification
GPC-5	Ability to conduct patent research, determine forms and methods of legal protection and defense of rights to the results of intellectual activity, manage rights to them to solve problems in the field of development of science, engineering and technology.	Relational Database Management System / Relational Database Management System Research work / Research work (acquiring basic skills in research work) Research work / Research work	State final certification
GPC-6	Ability to collect and analyze scientific and technical information, generalize domestic and foreign experience in the field of automation and control equipment.	Relational Database Management System / Relational Database Management System Inferential Statistics / Inductive Statistics Python for Data Science / Python for Data Science Technology Threats and Cybersecurity Systems / Technology Threats and Cybersecurity Systems Research work / Research work (acquiring basic skills in research work) Research work / Research work	State final certification
GPC-7	Ability to make informed	Operations Research and	State final certification



<b>Cipher</b>	<b>Name of competence</b>	<b>Previous courses/modules, practices*</b>	<b>Subsequent disciplines/modules, practices*</b>
	choices, develop and implement in practice circuit, system engineering and hardware-software solutions for automation and control systems.	Optimization Techniques / Operations Research and Optimization Techniques Research work / Research work (acquiring basic skills in research work)	
GPC-8	Ability to select methods and develop control systems for complex technical objects and technological processes.	Design and Analysis of Algorithms / Design and Analysis of Algorithms Block Chain Technology / Block-chain technologies Python for Data Science / Python for Data Science	State final certification
GPC-9	Ability to develop methods and perform experiments at existing facilities with processing of results based on modern information technologies and technical means.	Introduction to Geospatial Technology / Introduction to Geospatial Technology Advance Python Programming for Spatial Analytics / Advanced Python Programming for Spatial Analytics Operations Research and Optimization Techniques / Operations Research and Optimization Techniques Geoinformation Systems and Applications / Geoinformation systems and their applications Dynamics and Control of Space Systems / Dynamics and Control of Space Systems	State final certification
GPC-10	Ability to manage the development of methodological and regulatory documents, technical documentation in the field of automation of technological processes and production, including the life cycle of products and their quality.	Advanced Methods of Space Flight Mechanics / Modern Methods of Space Flight Mechanics Technology Threats and Cybersecurity Systems / Technology Threats and Cybersecurity Systems Research work / Research work (acquiring basic skills in research work) Research work / Research work	State final certification
PC-1	Ability to formulate goals and objectives of scientific research in the field of application of geographic information systems in territorial development, to select methods and means	Introduction to Natural Language Processing / introduction to natural language processing Artificial Neural Networks (Deep Learning) Artificial Neural Networks	State final certification

<b>Cipher</b>	<b>Name of competence</b>	<b>Previous courses/modules, practices*</b>	<b>Subsequent disciplines/modules, practices*</b>
	for solving professional problems	(Deep Learning) Artificial Neural Networks (Reinforcement Learning) Research work / Research work (acquiring basic skills in research work)	
PC-2	Ability to apply modern theoretical and experimental methods for developing mathematical models of objects and processes under study in the field of aerospace systems management	Mathematics for Spatial Sciences / Spatial Mathematics Operations Research and Optimization Techniques / Operations Research and Optimization Techniques Advanced Methods of Space Flight Mechanics / Modern Methods of Space Flight Mechanics Dynamics and Control of Space Systems / Dynamics and Control of Space Systems Artificial Neural Networks (Deep Learning) Artificial Neural Networks (Deep Learning) Artificial Neural Networks (Reinforcement Learning) Research work / Research work (acquiring basic skills in research work) Research work / Research work	State final certification
PC-3	Ability to analyze the results of theoretical and experimental research, make recommendations for improving devices and systems, prepare scientific publications and applications for inventions	Introduction to Geospatial Technology / Introduction to Geospatial Technology Advance Python Programming for Spatial Analytics / Advanced Python Programming for Spatial Analytics Research work / Research work (acquiring basic skills in research work)	State final certification
PC-4	Ability to apply modern theoretical and experimental methods for developing mathematical models of objects and processes under study related to professional activities in the field of training	Artificial Intelligence Dynamics and Control of Space Systems / Dynamics and Control of Space Systems Artificial Neural Networks (Reinforcement Learning) Research work / Research work (acquiring basic skills in research work)	State final certification

Cipher	Name of competence	Previous courses/modules, practices*	Subsequent disciplines/modules, practices*
		Research work / Research work	

\* - filled in in accordance with the competency matrix and the SUP EP HE

#### 4. SCOPE OF THE INTERSHIP

The total workload of pre-graduation practice is 24 credit units (864 academic hours).

#### 5. CONTENT OF THE INTERSHIP

*Table 5.1. Contents of practice\**

Name of the practice section	Section content (topics, types of practical activities)	Labor intensity, ac.h.
Section 1. Organizational and preparatory	Receiving an individual assignment for practice from the supervisor	2
	Safety training at the workplace (in the laboratory and/or in production)	4
Section 2. Main	Collection of initial data on the topic of the final qualification work and the necessary technical literature	640
	Ongoing monitoring of the internship by the supervisor	30
	Keeping a diary of your internship	95
Preparation of the internship report		43
Preparation for defense and defense of the internship report		50
<b>TOTAL:</b>		<b>864</b>

\* - the content of the practice by sections and types of practical training is FULLY reflected in the student's practice report.

#### 6. MATERIALLY-TECHNICAL SUPPORT FOR THE INTERSHIP

To conduct scientific research practice, laboratories equipped with modern computer equipment with Matlab 2008, Borland Developer Studio, G2, Wonderware Intouch software and Internet access are required. Safety requirements are the same as when working with personal computers.

During pre-graduation practice at RUDN, the material and technical base of the graduation department is used, which trains masters and bachelors in the field of "Control in technical systems".

#### 7. METHOD OF CONDUCTING PRACTICE

Undergraduate practice / Pre-graduation practice can be conducted both in RUDN structural divisions or in Moscow organizations (stationary), and at bases located outside of Moscow (visiting).

Conducting an internship at an external organization (outside RUDN) is carried out on the basis of a relevant agreement, which specifies the terms, place and conditions for conducting the internship at the base organization.

The internship dates correspond to the period specified in the academic calendar of the EP VO. The internship dates may be adjusted upon agreement with the Educational Policy Department and the Department for the Organization of Internships and Assistance to Graduates' Employment at RUDN.

#### 8. EDUCATIONAL, METHODOLOGICAL AND INFORMATIONAL SUPPORT FOR

## PRACTICE

### *Main literature:*

Classical and modern methods of automatic control theory. Textbook in 5 volumes; 2nd edition, revised and enlarged / Ed. by K.A. Pupkov, N.D. Egupov. – Moscow: Publishing House of Bauman Moscow State Technical University, 2004.

– Pupkov K.A. Modeling and testing of automatic control systems. Tutorial. – M.: RUDN, 2014. – 98s.

– Egupov N.D., Kolesnikov L.V., Pupkov K.A., Trofimov A.I. / edited by Matveev V.A. Algorithmic theory of control systems based on spectral methods. Monograph in 2 volumes. – Moscow: Publishing house of Bauman Moscow State Technical University, 2014. – 464 pages. Volume 1 and – 464 pages. Volume 2.

Domestic journals: Automation and Telemekhanics; Sensors and Systems; News of Higher Educational Institutions. Instrument Making; News of Higher Educational Institutions. Applied Nonlinear Dynamics; News of Higher Educational Institutions. Power Engineering Problems; News of the Russian Academy of Sciences. Control Theory and Systems; Information Measuring and Control Systems; Information Technology; Mathematical Modeling; Mechatronics. Automation. Control; Nonlinear World; Review of Applied and Industrial Mathematics; Devices and Systems: "Control, Monitoring, Diagnostics"; Applied Mathematics and Mechanics; Forecasting Problems; Problems of Control Theory and Practice; Control Problems; Control Systems and Information Technology; Digital Signal Processing; Open Systems; Neurocomputers: development, application.

Foreign journals: CAD/CAM/CAE Observer; Artificial Intelligence; IEEE Transaction on Automation Control; Control; IEEE Mechanical.

### *Further reading*

Proceedings of the 16th Congress, 2005: Prague, Czech Republic

Proceedings of the 17th Congress, 2008: Seoul, Republic of Korea

Proceedings of the 18th Congress, 2011: Milan, Italy

<http://www.ifac-control.org/publications>

### *Resources of the information and telecommunications network "Internet":*

1) Electronic library system (ELS) of RUDN and third-party ELS, to which the university students have access on the basis of concluded agreements:

– EBS RUDN <http://lib.rudn.ru/MegaPro/Web>

– Electronic library system "University Library Online" <http://www.biblioclub.ru>

– EBS "Yurait" <http://www.biblio-online.ru>

– Electronic Library System "Student Consultant" [www.studentlibrary.ru](http://www.studentlibrary.ru)

– EBS "Lan" <http://e.lanbook.com/>

– EBS "Troitsky Bridge"

2) Databases and search engines:

– electronic fund of legal and normative-technical documentation <http://docs.cntd.ru/>

– Yandex search engine <https://www.yandex.ru/>

– Google search engine <https://www.google.ru/>

– SCOPUS abstract database <http://www.elsevierscience.ru/products/scopus/>

*Educational-methodological materials for completing the internship, filling out the diary and preparing the internship report\*:*

1) Rules for safe working conditions and fire safety during undergraduate practice / Pre-graduation practice (initial briefing).

2) General structure and operating principle of technological production equipment used by students during their internship; process maps and regulations, etc. (if necessary).

3) Methodological instructions for students to fill out a diary and prepare a practice report.

\* - all educational and methodological materials for completing the internship are posted in accordance with the current procedure on the internship page in TUIS

## **9. EVALUATION MATERIALS AND SCORE-RATING SYSTEM FOR ASSESSING THE LEVEL OF COMPETENCE DEVELOPMENT BASED ON THE RESULTS OF PRACTICE**

Assessment materials and a scoring and rating system\* for assessing the level of development of competencies (part of competencies) based on the results of passing Undergraduate practice / Pre-graduation practice are presented in the Appendix to this Practice Program (module).

\* - OM and BRS are formed on the basis of the requirements of the relevant local regulatory act of RUDN (regulations/procedures).

### **DEVELOPERS:**

**Associate Professor of the Department  
of Mechanics and Control Processes**

Position, Department

Signature

Saltykova O.A.

Surname I.O.

### **HEAD OF THE DEPARTMENT:**

**Head of the Department of Mechanics  
and Control Processes**

Name of the Department

Signature

Razumny Yu.N

Surname I.O.

### **HEAD OF THE EP HE:**

**Head of the Department of Mechanics  
and Control Processes**

Position, Department

Signature

Razumny Yu.N

Surname I.O.