Документ подписан простой электронной подписью
Информация о владельце:
ФИО: Ястребов Олег Александрович
Должность: Ректор
Дата подписания: 20.05.2025 17:02:17
Уникальный программный ключ:
ca953a0120d891083f939673078ef1a989dae18a

Federal State Autonomous Educational Institution of Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA NAMED AFTER PATRICE LUMUMBA
RUDN University

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

INTERNSHIP SYLLABUS

Pre-Graduation Practice
internship title

Advanced field internship
internship type

Recommended by the Didactic Council for the Education Field of:

08.04.01 Civil Engineering
field of studies / speciality code and title

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

Civil Engineering and Built Environment
higher education programme profile/specialisation title

2025

1. INTERNSHIP GOAL(s)

The goal of the Internship is to deepen, systematize and consolidate theoretical knowledge, as well as to acquire the skills and abilities in carrying out scientific research necessary for writing a master's thesis, including the formation and development of practical skills and competencies of the master, the acquisition of experience in independent professional activity.

The main objectives of the Internship are:

- to study scientific and technical information, and domestic and foreign experience on the topic of research work;
- learn to set scientific and technical problems, choose methodological methods and means of solving them, and process data for writing a master's thesis;
- master the skills and basic techniques for setting up and conducting experiments, collecting and analyzing results, identifying theory and experiment.

2. REQUIREMENTS FOR LEARNING OUTCOMES

The internship implementation is aimed at the development of the following competences (competences in part):

Table 2.1. List of competences that students acquire during the internship

Competence code	**Competence descriptor**	**Competence formation indicators** (within this course)
PC-1	Conducting scientific research in the field of construction	PC-1.1 Able to carry out planning, preparation for research; PC-1.2 Able to carry out, control, receive research results; PC-1.3 Able to analyze and process research results; PC-1.4 Knows how to draw up, coordinate, and present the results of completed research
PC-2	Development of project products based on the results of engineering and technical design for urban development activities	PC-2.1 Capable of performing engineering and technical design and developing design products for building structures, grounds and foundations; PC-2.2 Able to perform engineering and technical design and develop design products for engineering systems and engineering structures; PC-2.3 Is able to perform organizational and technological design and develop construction organization projects and work production projects
PC-3	Organizational, technical and technological preparation of construction production	PC-3.1 Able to carry out scheduling of construction works; PC-3.2 Knows how to choose the required material, labor resources and construction equipment for the production of works; PC-3.3 Knows how to choose suitable techniques, methods of work; PC-3.4 Able to plan control over the production of construction works, including compliance with safety during the production of works; PC-3.5 Able to develop organizational and technological documentation
PC-5	Organization of construction works at the capital construction facility	PC-5.1 Knows how to determine the required resources to perform the work; PC-5.2 Able to carry out scheduling of works; PC-5.3 Able to identify and take into account

		regulatory, legislative requirements, project requirements and organizational and technological documentation for the production of construction works; PC-5.4 Capable of performing operational management, monitoring the progress of work; PC-5.5 Able to carry out technical control, supervision, acceptance of construction works

3. INTERNSHIP IN HIGHER EDUCATION PROGRAMME STRUCTURE

The Pre-Graduation Practice internship refers to the "Part formed by participants in educational relations" 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.

Competence code	Competence descriptor	Previous courses / modules, internships	Subsequent courses / modules, internships
PC-1	Conducting scientific research in the field of construction	Problem solving tecniques in Civil Engineering; Nanotechnology in Civil Engineering; Building materials: Special Topics; Sustainability in Civil Engineering; Geometric Shaping and Analysis of Shells; Independent Research Work (obtaining basic skills of research work)	Final State Examination
PC-2	Development of project products based on the results of engineering and technical design for urban development activities	Digital technologies in construction; Life Cycle Economics of Buildings; Structural Design in Steel; Nanotechnology in Civil Engineering; Structural Design in Reinforced Concrete: Special Topics; Structural Dynamics; Structural Design in Reinforced Concrete; Building materials: Special Topics; Structural Design in Steel: Special Topics; Modelling of Construction Processes; Applications of Finite Element Method for Civil	Final State Examination

		Engineering problems; Sustainability in Civil Engineering; Optimization Methods in Civil Engineering; Structural Stability; Geometric Shaping and Analysis of Shells; Engineering Systems of Buildings	
PC-3	Organizational, technical and technological preparation of construction production	Project management; Life Cycle Economics of Buildings; BIM-Technology in Construction Management; Modelling of Construction Processes	Final State Examination
PC-5	Organization of construction works at the capital construction facility	Project management; Life Cycle Economics of Buildings; BIM-Technology in Construction Management; Modelling of Construction Processes	Final State Examination

4. INTERNSHIP WORKLOAD

The total workload of the internship Pre-Graduation Practice is 6 credits (216 academic hours).

5. INTERNSHIP CONTENTS

*Table 5.1. Internship contents**

Modules	Contents (topics, types of practical activities)	Workload, academic hours
Basic	Receiving an individual task for practice from the head	2
	Briefing on safety at the workplace (in the laboratory and / or in production)	2
	Collection and processing of information obtained from various sources (RUDN Library, Lenin Library, etc.) Processing and analysis of the information received, preparation of a report and a diary on the practice Preparation of the text part of the master's thesis for defense and presentation of the final work	184
	Current control of the internship by the head	4
	Keeping a diary of the internship	10
Reporting	Preparation of a report on the internship	10
	Intermediate assessment (preparation for the defense and defense of the report)	4
	TOTAL:	**216**

* The contents of internship through modules and types of practical activities shall be FULLY reflected in the student's internship report.

6. INTERNSHIP EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

The infrastructure and technical support necessary for the internship implementation include:

Laboratory of hydrological and technical safety of hydraulic structures.

Computer class. Multimedia. Interactive board.

Laboratory and research bench for water supply.

Laboratory and research stand for heating

Laboratory and research stand for ventilation.

Laboratory equipped with the following equipment: modernized HMS-50 tensile testing machine, GMS-20 tensile testing machine, PG-100 press, KMU-5 twisting machine, 2PG-2.5 press, TR-294 lever strain gauges, 3UKPA-5 Aistov device, calipers, deflectometer - indicators of movement of the pointer type, desktop drilling machine NS-12Az, printer HP LJ 1012W sch. Peleng-500 diaprector, HP Presario CQ61 laptop, demo models, and installations.

7. INTERNSHIP LOCATION AND TIMELINE

The internship Pre-Graduation Practice 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.

Main internship locations:

- laboratories of the Department of Civil Engineering;
- organizations (enterprises) for the construction, installation, repair and reconstruction of buildings, structures, their parts, and individual constructs (specialized organizations);
- research, design and development institutions and firms;
- firms for the production of building structures and products, the introduction of experimental materials and technologies for construction;
- construction laboratories, quality and certification centers, customer and supervision services, etc.

The student himself can come up with an initiative about the place of internship. The direction of the organization's professional activity offered to students for internship must correspond to the profile of the educational program and the types of professional activity for which the graduate of the program is preparing. The place of internship must be agreed with the head of the department, followed by (if the decision is positive) the conclusion of an appropriate agreement with the organization proposed by the student.

Students with disabilities and/or those who are classified as "disabled" undergo practical training, in an accessible form for them, in the laboratories of the university, as well as in specialized organizations with which relevant agreements have been concluded and which have the opportunity (equipment, special facilities, and infrastructure) for working with these categories of citizens.

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. Schreiber, K.A. Production technology of repair and construction works: monograph / K.A. Schreiber. - Moscow: ACB Publishing House, 2023. - 261 p. : illustrations, tables, schemes. - Bibliography: p. 258 - ISBN 978-5-4323-0038-6; Access mode:http://biblioclub.ru/index.php?page=book&id=312360.

2. Shirshikov, B.F. Reconstruction of objects: (Organization of work. Limitations. Risks): monograph / B.F. Shirshikov, M.N. Ershov. - Moscow: ACB Publishing House, 2021. - 115 p. : tab., scheme., ill. - Bibliography. in book. - ISBN 978-5-93093-760-2; Access mode:http://biblioclub.ru/index.php?page=book&id=273821.

3. Mikhailov A.Yu., Technology and organization of construction. Workshop [Electronic resource]: Textbook / Mikhailov A.Yu. - M. : Infra-Engineering, 2018. - 196 p. - ISBN 978-5-9729-0140-1 - Access mode: http://www.studentlibrary.ru/book/ISBN9785972901401.html

Additional readings:

1. Komarov A.S., Construction technology of water supply and sanitation systems and facilities [Electronic resource]: textbook / A.S. Komarov, O.A. Ruzhitskaya - M. : Publishing house MISI - MGSU, 2017. - 81 p. - ISBN 978-5-7264-1751-6 - Access mode: http://www.studentlibrary.ru/book/ISBN9785726417516.html

2. Ivanov E.S., Technology and organization of work in the construction of environmental and water management facilities [Electronic resource] / E.S. Ivanov - M.: DIA Publishing House, 2017. - 560 p. - ISBN 978-5-4323-0018-8 - Access mode: http://www.studentlibrary.ru/book/ISBN9785432300188.html

3. Revich Ya.L., Technology of building production [Electronic resource]: Textbook / Revich Ya. L., Rudomin E.N., Mazhaisky Yu.A. etc. - M. : DIA Publishing House, 2011. - 376 p. - ISBN 978-5-93093-798-5 - Access mode: http://www.studentlibrary.ru/book/ISBN9785930937985.html

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
- EL "Lan" http://e.lanbook.com/
- EL "Trinity Bridge"

2.*Databases and search engines:*

- electronic foundation 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/

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

1. Guidelines for internship, maintenance of current and preparation of reporting documentation for students in the direction 08.04.01 Construction.

*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).