

*Federal State Autonomous Educational Institution higher education
Peoples' Friendship University of Russia*

Academy of Engineering

WORKING PROGRAM OF PRACTICE

Practice type (name): Practice in Obtaining Professional Skills and Professional Experience (Pedagogical practice)

Direction of training: 08.06.01 "Engineering and construction technologies"

Focus (profile / specialization):

«Structural mechanics»

«Building designs, buildings and constructions»

Moscow
2021

The working program of the practice was developed in accordance with the curriculum for the direction 08.06.01 "Engineering and technology of construction", 2018 set, approved at a meeting of the Academic Council of the Academy of Engineering ___ / _____ / 20__ (protocol No. _____).

The working program of pedagogical practice was considered at a meeting of the department of civil engineering ___ / _____ / 20__ (protocol No. _____).

Developers:

Assistant professor



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Head of department



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1. The purpose and objectives of the practice

The purpose of pedagogical practice in the direction of training 08.06.01 "Engineering and technology of construction" is:

- the formation and development of postgraduate students' competencies in accordance with the level of education and professional standard;
- development of teaching skills in the field of engineering and construction technology and related areas of technical knowledge in higher education;
- Acquisition of skills of work in a scientific and pedagogical team.

The main tasks of pedagogical practice in the direction of training 08.06.01 "Engineering and technology of construction" are:

- mastering the methods and techniques of teaching and upbringing in higher education;
- participation in modeling classes, drawing up programs and projects, planning individual classes and forecasting a special course, choosing an effective organization strategy;
- conducting classes in technical disciplines;
- study of modern information and technical means that contribute to the optimization of the educational process;
- analysis of the current state of the quality and level of teaching disciplines to students in undergraduate and graduate programs.

2. Place of practice in the structure of OBOP HE

Pedagogical practice in the direction of training 08.06.01 "Engineering and technology of construction" refers to the variable part of Block 2 of the curriculum. Its passage is based on the material of previous disciplines and / or practices, and it is also basic for the study of subsequent disciplines and / or practices of the curriculum, the list of which is presented in Table 1.

Table 1 - List of previous and subsequent disciplines / practices

№	Preceding disciplines / practices	Subsequent disciplines
1	Foreign Language / Russian as a foreign language	Advanced Structural Mechanics
2	History and Philosophy of Science	Building designs, buildings and constructions: the theory of buildings and structures
3	Methodology of Scientific Research	Technology and Organization of Construction
4	Pedagogy of Higher Education	Practice in Obtaining Professional Skills and Professional Experience (Research Practice)
5	Scientific Seminar	State Exam
6		PhD Qualification Thesis and Presentation
7		

3. Ways of conducting practice

Methods of conducting pedagogical practice in the direction of preparation 08.06.01 "Engineering and construction technologies" are as follows:

- stationary;
- exit.

4. Scope of practice and types of educational work

Table 2 - Scope of practice and types of educational work

Type of educational work		Total, ac. hours	Semester		
			2	3	4
Contact work		28	4	12	12
Independent work		674	86	294	294
Control		54	18	18	18
Type of certification test			Graded credit		
Total labor intensity	academic hours	756			
	credits	21			
Duration of practice	weeks	39			

5. Place of practice

The bases for students to undergo pedagogical practice in the direction 08.06.01 "Engineering and construction technologies" are:

- structural divisions and laboratories of the university.

If necessary, the practice can be organized on the basis of RUDN University partner organizations.

Persons with disabilities and / or those belonging to the category of "disabled" undergo practical training, in an accessible form for them in the laboratories of the university, as well as in specialized organizations with which the relevant contracts have been concluded and which have the opportunity (equipment, special means and infrastructure) to work with these categories of citizens.

6. The list of the planned results of the internship, correlated with the planned results of the development of the educational program

Pedagogical practice in the direction 08.06.01 "Engineering and construction technologies" is aimed at developing the following competencies in students:

- the ability to follow ethical standards in professional activity (UK-5);
- readiness for teaching in the basic educational programs of higher education (GPC-8).
- readiness to teach training courses, disciplines (modules), conduct certain types of training sessions in Russian and foreign languages for higher education programs (PC-3);
- the ability to organize educational, research and project activities of students in higher education programs (PC-4).

The result of the internship is knowledge, skills, skills and experience of professional activity, characterizing the stages of the formation of competencies and ensuring the achievement of the planned results of mastering the educational program, presented in Table 3.

Table 3 - Learning outcomes in the discipline, correlated with the planned results of mastering OBEP HE

Competence	Knowledge	Ability	Skills
1	2	3	4
readiness to teach training courses, disciplines (modules), conduct certain types of training sessions in Russian and foreign languages for higher education programs (PC-3)	organization of quality control of educational activities using modern technologies, standards, methods, complexes in Russian and foreign languages for higher education programs	develop projects in the field of educational activities using modern technologies, standards, methods, complexes in Russian and foreign languages	development of plans, programs and research methods in the field of educational activities
the ability to organize educational, research and project activities of students in higher education programs (PC-4)	organization of management of educational and research work using modern technologies, standards, methods, complexes	develop projects in the field of scientific research using modern technologies, standards, methods, complexes	search, analysis and generalization of information on the improvement of technological processes, carry out the necessary calculations using modern technology.

7. Practice structure and content

№	Practice stages	Types of work carried out by students	Educational work on forms, academic hours		Total, academic hours
			Contact work	Other forms of educational work	
1	Organizational and preparatory	Receiving an individual assignment for practice from a supervisor	4	-	4
2		Safety briefing in the workplace (laboratory and / or production). Setting the goal and objectives of the practice. Review and analysis of information on assigned disciplines.	8	-	8
3	Main	Review and analysis of information on the research topic. Conducting theoretical and experimental research.	-	180	180
4		Processing of the collected and received data, analysis of the results.	-	80	80
5		Conducting practical classes with students	-	380	380
6		Preparation of a report and teaching materials for conducting classes.	-	68	68
7		Ongoing control of the internship by the head	4	-	4
8	Reporting	Keeping an internship diary	-	10	10
9		Preparing an internship report	-	10	10
		Intermediate attestation (preparation for protection and protection of the report)	12	-	12
		TOTAL:	28	728	756

For students from among persons with disabilities and / or belonging to the category of "disabled", if necessary, the head of the practice develops individual tasks, a plan and procedure for passing the practice, taking into account the peculiarities of their psychophysical

development, individual capabilities and health status, an educational program adapted for these students (if any) and in accordance with individual rehabilitation programs for the disabled.

8. Educational, research and production technologies used in practice

In the process of pedagogical in the direction 08.06.01 "Engineering and construction technologies", the following educational technologies are used:

- contact work between the student and the teacher, which consists in receiving an individual assignment, undergoing safety briefing, receiving advice on internship issues, filling out current and reporting documentation, as well as protecting the internship report;
- other forms of educational work (educational activities), which include the main activity of the student on the implementation of sections of practice in accordance with the individual task, recommended methods and literature sources, aimed at the formation of certain professional skills or experience of professional activity provided for by the practice program, as well as filling out the current and reporting documentation, and preparing for the defense of the report on the internship.

During the internship, the following research and development technologies are used:

- mastering by students the methods of information analysis and interpretation of the results of research activities;
- execution of written analytical and calculation tasks within the framework of practice using recommended information sources;
- the use of various computer software products for graphic, analytical and / or industrial purposes (depending on the place of internship and the specifics of the task);
- use by students of various electronic library and legal reference systems, etc.

9. Educational-methodical and informational support of educational practice

Main literature:

1. Banshchikova IA, Complex ANSYS: nonlinear strength analysis of structures [Electronic resource]: tutorial / Banshchikova IA. - Novosibirsk: Publishing house of NSTU, 2015 .-- 94 p. - ISBN 978-5-7782-2816-0
2. Moskalev NS, Metal structures [Electronic resource]: Textbook / NS. Moskalev, Ya.A. Pronosin. - M.: Publishing house ASV, 2014 .-- 344 p. - ISBN 978-5-93093-500-4 - Access mode: <http://www.studentlibrary.ru/book/ISBN9785930935004.html>
3. Ibragimov AM, Welding of building metal structures [Electronic resource]: Textbook / Ibragimov AM, Parlashkevich V.S. - M.: Publishing house ASV, 2015 .-- 176 p. - ISBN 978-5-93093-891

Additional literature:

1. Automated information systems in the economy / ed. M.V. Vasilyeva. - Moscow: Student Science, 2012. - Part 1. Collection of student works. - 1064 p. - (University science to help the student). - ISBN 978-5-00046-053-5; Access mode: <http://biblioclub.ru/index.php?page=book&id=225482>
2. Fundamentals of scientific research and patenting: teaching aid / comp. V.A. Valkov, V.A. Golovatyuk, V.I. Kochergin, S.G. Shchukin. - Novosibirsk: Novosibirsk State

Agrarian University, 2013 .-- 228 p. Access mode: <http://biblioclub.ru/index.php?page=book&id=230540>

3. Sidorov VN, The finite element method in the design of structures. Theory, algorithm, examples of calculations in the SIMULIA Abaqus software package [Electronic resource]: Textbook / VN Sidorov, VV Vershinin. - M.: Publishing house ASV, 2015 .-- 288 p. - ISBN 978-5-4323-0090-4

4. Radin VP, The finite element method in dynamic problems of resistance of materials [Electronic resource] / Radin VP, Samogin Yu.N., Chirkov VP. - M.: FIZMATLIT, 2013 .-- 316 p. - ISBN 978-5-9221-1485-1

Resources of the information and telecommunications network "Internet":

1. EBS of RUDN University and third-party EBS to which university students have access on the basis of concluded agreements:

- Electronic library system RUDN - EBS RUDN <http://lib.rudn.ru/MegaPro/Web>
- EBS "University Library Online" <http://www.biblioclub.ru>
- EBS Yurayt <http://www.biblio-online.ru>
- EBS "Student Consultant" www.studentlibrary.ru
- EBS "Doe" <http://e.lanbook.com/>

2. Базы данных и поисковые системы:

- 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.elsevier.com/locate/scopus/>

Software:

The use of specialized software during the practice is not provided.

Methodological materials for passing practice, maintaining current and preparing reporting documentation for students (also posted in the TUIS RUDN University in the relevant section of the discipline):

Methodical instructions for passing practice, maintaining current and preparing reporting documentation for students in the direction 08.06.01 "Engineering and construction technologies" (Appendix 2).

10. Material and technical support of educational practice

Auditorium with a list of logistics	Location
Educational laboratory for laboratory and practical exercises - Laboratory of Building Materials and Building Structures, room. No. 24a. Combined testing machine C040N + C092-11 "MATESTA", Vibrating plates laboratory C282 MATEST and SMZH-539, Chamber-cabinet for normal hardening and wet storage KNT-72, Universal steaming chamber KUP-1, molds for concrete samples, concrete mixers-2 pcs., Concrete strength meter POS-50MG4, Vika devices, Aistova's device, Electronic moisture meter - MG4U, Ultrasonic flaw detector A1220 MONOLITH, Shaking table with a cone and ruler,	Moscow, st. Ordzhonikidze, 3

etc. installations and testing devices. Educational laboratory for laboratory and practical training - Laboratory of Soil Mechanics, No. 520a. Training and testing complex ASIS-1 "Automated test systems in construction", laboratory scales MWR-3000, drying cabinet, laboratory glassware, etc.	
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11. Practice attestation forms

In the process of passing the practice, the teacher carries out current control of the student's implementation of the practice assignment. Based on the results of the practice, intermediate certification is provided in the form of a set-off with an assessment (based on the results of the defense of the report on practice).

12. Fund of assessment tools for intermediate certification of students in practice

The fund of assessment tools, formed to conduct ongoing monitoring of progress and intermediate certification of students in pedagogical practice, is presented in Appendix 1 to the work program of the practice and includes:

- a list of competencies formed in the course of internship;
- description of indicators and criteria for assessing competencies, description of assessment scales;
- typical control tasks or other materials necessary to assess knowledge, skills, skills and (or) experience of activities, characterizing the level of competence formation;
- methodological materials that determine the procedures for assessing knowledge, skills, skills and (or) experience of activities, characterizing the level of competence formation.