

Документ подписан простой электронной подписью
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**Federal State Autonomous Educational Institution of Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA
NAMED AFTER PATRICE LUMUMBA
RUDN University**

Engineering Academy

(educational division (faculty/institute/academy) as programme developer)

Department of Construction Technology and Structural Materials

(department realizing the PhD program)

COURSE SYLLABUS

Technology and management in construction

(course title)

Scientific specialty:

2.1.7. Technology and management in construction

(scientific speciality code and title)

The course instruction is implemented within the PhD programmes:

Technology and management in construction

(PhD program title)

1. DISCIPLINE (MODULE) GOAL

The objective of mastering the discipline «Technology and management in construction» is to gain knowledge, skills, and experience in the field of calculation of structures and structures that characterize the stages of competence formation and ensure the achievement of the planned results of the development of the educational program and also preparation for the candidate's examinations and obtaining knowledge, skills and experience in the field of construction.

2. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the discipline is aimed at preparing for passing candidate exams, as well as mastering the following competencies:

- knowledge of the methodology of theoretical and experimental research in the field of construction;
- mastery of the culture of scientific research in the field of construction, including the use of the latest information and communication technologies;
- mastery of methods for developing scientific and methodological foundations for research, improvement, theoretical, experimental and feasibility studies for the use of various technical solutions and technologies in construction;
- possession of innovative science-based methods for designing structures and devices for obtaining water from natural sources, its preparation for various needs, transportation to places of consumption, subsequent processing with rational use in technological cycles, taking into account the requirements of ensuring environmental safety, increasing the efficiency and reliability of the systems water management of populated areas, industrial enterprises and territorial-industrial complexes.

3. WORKLOAD OF THE DISCIPLINE AND TYPES OF ACTIVITIES

The overall workload of the discipline «Technology and management in construction» is 3 credit units (108 academic hours).

Types of activities		Total ac. hrs.	Semesters
			3
<i>Classroom activities (total), including:</i>		60	60
в том числе:			
Lectures (LC)		30	30
Laboratory activities (LA)		–	–
Practical lessons/Seminars (PC)		30	30
<i>Independent work</i>		48	48
<i>Intermediate certification (test with assessment/exam)</i>		–	–
Overall workload	ac. hrs.	108	108
	credits	3	3

4. DISCIPLINE CONTENTS

Name of the discipline section	Contents of the section (topic)	Type of study work
Section 1. Pre-project preparation and organization of construction design	Stages of pre-project preparation of construction.	LC, PC
	Economic and engineering surveys in construction. Organizational and technological documentation in construction.	

Section 2. Construction scheduling	Types and purpose of calendar plans for construction. The procedure for the development of calendar plans for construction.	LC, PC
Section 3. Network modeling of construction	Basic parameters and types of network diagrams. Calculation of the network diagram by sector and tabular method.	LC, PC
Section 4. Construction master plans as part of the POS and PPR	Types and basics of designing building master plans. Development of an object construction master plan.	LC, PC
Section number 5. Economic aspects of technology and organization of construction	Methods for evaluating investment projects. Determination of the economic efficiency of technological solutions in construction.	LC, PC

5. EQUIPMENT REQUIREMENTS AND TECHNOLOGY SUPPORT

Room Type	Room Equipment	Specialized educational / laboratory equipment, software and materials for mastering the discipline
Class for Seminars, Lectures	Room for seminar-type classes, equipped with a set of specialized furniture, board (screen) and technical / multimedia gadgets	Training and research stand for the study of air conditioning patterns RAZ-A-KOV, Educational and scientific stand "Automated heating system", Ball mill BML-6, Model of the circulating water supply system, Model of the water tower, Laboratory stand for the thermal conductivity of the outer wall, Laboratory and research stand of the system supply and exhaust ventilation with

		mechanical stimulation, ThermoCAM ~ TM ~ P640 infrared thermal imager, Portable hardness tester - Metalltester, PULSAR-1.1 sound propagation time meter, Sound level meter, vibration meter, spectrum analyzer ECOFIZIKA-110AB4 and other devices, projection screen Dropper Baronet; EPSON EB X11 projector, "BONIX" system unit - 1 pc.
Self-Work Class	Room for self-working (can be used for lecture and seminars activities), equipped with a set of specialized furniture, board (screen) and technical / multimedia gadgets and computers with an access to EIPES	Not necessary
Computer class	Computer class for conducting classes, group and individual consultations, ongoing monitoring and intermediate certification, equipped with personal computers (9 pcs.), a whiteboard (screen) and technical means for multimedia presentations.	RUDN University software: Plaxis 2D Suit (Network license). Plaxis Professional (version 8) + Plaxis Dynamics Modul + PlaxFlow (version 1) - Education Registration number 90-07-019-00261-3 MS-office corporate, Registration code: 86626883 Parent program: 86493330 Status: Active

6. METHODOLOGICAL SUPPORT AND LEARNING MATERIALS

Main readings:

1. Dikman, L. G. Organization of construction production: textbook / L. G. Dikman. — M.: DIA Publishing House, 2017. — 588 p. - ISBN 978-5-93093-141-9. - Access mode: <http://www.zodchii.ws/books/info-1142.html>
2. SP 48.13330.2011 Organization of construction. M.: 2011. - Access mode: <http://docs.cntd.ru/document/1200084098>
3. Tsai T.N. Organization of construction production / T.N. Tsai, P.G. Grabovoi, V.A. Bolshakov. — M.: DIA Publishing House, 199. — 432 p. — ISBN 5-93093-006-6. — Access mode: <https://mysocrat.com/book-card/17486-organizaciya-stroitel'nogo-proizvodstva/>

Additional readings:

1. Oleinik P.P. Organization of construction production. Preparation and production of construction and installation works: study guide / P.P. Oleinik, V.I. Brodsky. — M.:

- MGSU, 2014. — 96 p. - ISBN 978-5-7264-0865-1. - Access mode: <http://mgsu.ru/resources/izdatelskaya-deyatelnost/izdaniya/uchebnye-posobiya/2135>
2. Collectors S.B. Organization of construction (lectures, course and diploma design): study guide / S.B. Collectors. - M.: Publishing House ASV, 2014. - 160 p. — ISBN 978-5-93093-996-5. — Access mode: <https://iasv.ru/organizatsiya-stroitelstva-lektsii-kursovoe-i-diplomnoe-proektirovanie.html>
3. Oleinik P.P. Organization, planning, management and economics of construction. Terminological dictionary / P.P. Oleinik, B.F. Shirshikov. — M.: DIA Publishing House, 2016. — 320 p. - ISBN 978-5-4323-0121-5. — Access mode: <https://iasv.ru/organizatsiya-planirovanie-upravleniya-i-ekonomika-stroitelstva-terminologicheskij-slovar.html>
4. Tukhfatullin, B.A. Numerical methods for calculating building structures. Finite element method: textbook. manual for academic baccalaureate / B. A. Tukhfatullin. — 2nd ed., corrected. and additional - Moscow: Yurayt Publishing House, 2019. - 157 p. - (Series: Bachelor. Academic course). - ISBN 978-5-534-08899-1. - Access mode: HYPERLINK <https://biblio-online.ru/bcode/442338>

Internet sources:

ELS RUDN University and third party EBS, to which university students have access based signed contracts:

- RUDN Electronic Library System, <http://lib.rudn.ru/MegaPro/Web> ;
- ELS University Library Online, <http://www.biblioclub.ru> ;
- EBS Urayt, <http://www.biblio-online.ru> ;
- ELS Student Consultant, <http://www.studentlibrary.ru> ;
- EBS Lan, <http://e.lanbook.com> ;
- EBS Trinity Bridge <http://www.trmost.ru>

Databases and search engines:

- Electronic fund of legal and normative-technical documentation, <http://docs.cntd.ru> ;
- Yandex search system [https:// www .yandex.ru](https://www.yandex.ru) ;
- Google search system <https://www.google.com> ;
- Reference database Scopus , <http://www.elsevierscience.ru/products/scopus>

Educational and methodological materials for students' self-work studying the discipline / module:

A course of lectures on the discipline «Technology and management in construction».

7. ASSESSMENT TOOLKIT AND GRADING SYSTEM FOR EVALUATION OF PHD STUDENTS' COMPETENCES LEVEL AS COURSE RESULTS

Assessment toolkit and a grading system to evaluate the level of competences (competences in part) formation as the course results are specified in the Appendix to the course syllabus.

DEVELOPERS:

Professor

A.P. Svintsov

HEAD OF THE DEPARTMENT

Director of the department

S.B. Yazyev