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 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)

2025 г.

1. DISCIPLINE (MODULE) GOAL

The purpose 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 TO PHD-STUDENTS ON FINISHING THE COURSE

Mastering the discipline « Technology and management in construction » is aimed at preparing for passing candidate exams, as well as mastering the competencies:

Proficiency in the methodology of theoretical and experimental research in the field of construction;

Proficiency in the culture of scientific research in the field of construction, including using the latest information and communication technologies;

Proficiency in methods for developing scientific and methodological foundations for research, improvement, theoretical, experimental and technical and economic justification for the use of various technical solutions and technologies in construction;

Proficiency in innovative scientifically 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 for ensuring environmental safety, increasing the cost-effectiveness and reliability of the functioning of water management systems in 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
Classroom activities (total), including:		60	60
в том числе:			
Lectures (LC)		30	30
Laboratory activities (LA)		–	–
Practical lessons/Seminars (PC)		30	30
Independent work		48	48
Intermediate certification (test with assessment/exam)		–	–
Overall workload	ac. hrs.	108	108
	credits	3	3

4. CONTENT OF THE DISCIPLINE

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. Economic and engineering surveys in construction. Organizational and technological documentation in construction.	LC, PC
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 AND TECHNOLOGY SUPPORT REQUIREMENTS

Room Type	Room Equipment	Specialized educational / laboratory equipment, software and materials for mastering the discipline
Class for Seminars	Room for seminar-type classes, equipped with a set of specialized furniture, board (screen) and technical / multimedia gadgets	Not necessary
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

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

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 sourses:

ELS RUDN University and third party EBS, to which university students have accessbased 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 ;
- 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 organization of construction ».

7. ASSESSMENT TOOLKIT AND GRADING SYSTEM FOR MIDTERM ATTESTATION OF STUDENTS IN THE DISCIPLINE (MODULE)

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

DEVELOPERS:

Associate Professor A.S. Markovich

HEAD OF THE DEPARTMENT

Head of Department S.B. Yazyev