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

Academy of Engineering
(name of the main educational unit (MEU) that developed the educational program of higher education)

WORKING PROGRAM OF THE DISCIPLINE

FUNDAMENTALS OF PROJECT ACTIVITIES
(name of discipline/module)

Recommended for the field of study/specialty:

27.03.04 CONTROL IN TECHNICAL SYSTEMS
(code and name of the training area/specialty)

The discipline is mastered within the framework of the implementation of the main professional educational program of higher education (EP HE):

DATA SCIENCE AND SPACE SYSTEMS
(name (profile/specialization) of the educational institution of higher education)

2025

1. THE GOAL OF MASTERING THE DISCIPLINE

The course "Fundamentals of Project Activities" is part of the bachelor's program "Data Science and Space Systems" in the direction 27.03.04 "Control in Technical Systems" and is studied in the 3rd semester of the 2nd year. The course is implemented by the Department of Mechanics and Control Processes. The course consists of 3 sections and 8 topics and is aimed at studying the theoretical and practical foundations of project control, including methods and tools of project control, the project life cycle, principles of forming a project team, as well as methods for assessing the effectiveness of project activities.

The purpose of mastering the discipline is to develop students' research competence by mastering the methods of scientific knowledge and the skills of educational, research and project activities. The main objectives of mastering the discipline are as follows: - To teach how to independently achieve the intended goal. - To develop the ability to work with information. - To develop research skills. - To master the methods of presenting the results obtained. - To develop teamwork skills.

2. REQUIREMENTS TO THE RESULTS OF MASTERING THE DISCIPLINE

Mastering the discipline "Fundamentals of project activities" is aimed at developing the following competencies (parts of competencies) in students:

Table 2.1. List of competencies developed in students while mastering the discipline (results of mastering the discipline)

Cipher	Competence	Indicators of Competence Achievement (within the framework of this discipline)
UC-2	Able to define a range of tasks within the framework of a set goal and select optimal ways to solve them, based on current legal regulations, available resources and limitations	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	Able to interact socially and fulfill his/her role in a team	UC-3.1 Defines his role in the team based on the strategy of cooperation to achieve the set goal; 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 Exchanges information, knowledge and experience with team members; 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-6	Able to manage their time, build and implement a trajectory of self-development based on the principles of lifelong education	UC-6.1 Controls the amount of time spent on specific activities; UC-6.2 Develops tools and methods for time control when completing specific tasks, projects, and goals; UC-6.3 Analyzes his resources and their limits (personal, situational, time, etc.) for the successful completion of the assigned task; UC-6.4 Finds and uses sources of additional information to improve the level of general and professional knowledge;

Cipher	Competence	Indicators of Competence Achievement (within the framework of this discipline)
		UC-6.5 Analyzes the main opportunities and tools of continuous education in relation to one's own interests and needs, taking into account conditions, resources, personal capabilities, stages of career growth, time perspective for the development of activities and the requirements of the labor market; UC-6.6 Defines the tasks of self-development, goals and priorities of professional growth; UC-6.7 Distributes tasks into long-, medium- and short-term ones with justification of their relevance and analysis of resources for their implementation;

3. PLACE OF THE DISCIPLINE IN THE STRUCTURE OF THE EDUCATIONAL EDUCATIONAL EDUCATION

Discipline "Fundamentals of project activities" refers to the mandatory part of block 1 "Disciplines (modules)" of the educational program of higher education.

As part of the higher education program, students also master other disciplines and/or practices that contribute to the achievement of the planned results of mastering the discipline "Fundamentals of Project Activities".

Table 3.1. List of components of the educational program of higher education that contribute to the achievement of the planned results of mastering the discipline

Cipher	Name of competence	Previous courses/modules, practices*	Subsequent disciplines/modules, practices*
UC-3	Able to interact socially and fulfill his/her role in a team		Research work / Scientific research work; Technological Training; Undergraduate Training; Psychology and Pedagogy;
UC-2	Able to define a range of tasks within the framework of a set goal and select optimal ways to solve them, based on current legal regulations, available resources and limitations		Research work / Scientific research work; Technological Training; Undergraduate Training; Jurisprudence;
UC-6	Able to manage their time, build and implement a trajectory of self-development based on the principles of lifelong education	Physical Education; History of Russia; Introduction to the Specialty;	Research work / Scientific research work; Technological Training; Undergraduate Training; Physical Education; Psychology and Pedagogy; Philosophy; Fundamentals of Artificial Intelligence;

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

** - elective disciplines/practices

4. SCOPE OF THE DISCIPLINE AND TYPES OF STUDY WORK

The total workload of the "Fundamentals of Project Activities" course is 2 credits.

Table 4.1. Types of educational work by periods of mastering the educational program of higher education for full-time education.

Type of academic work	**TOTAL,**ac.h.		**Semester(s)**
			3
Contact work, academic hours	*36*		*36*
Lectures (LC)	18		18
Laboratory work (LW)	0		0
Practical/seminar classes (SC)	18		18
Independent work of students, academic hours	*36*		*36*
Control (exam/test with assessment), academic hours	*0*		*0*
General complexity of the discipline	**ac.h.**	***72***	*72*
	credit.ed.	***2***	*2*

5. CONTENT OF THE DISCIPLINE

Table 5.1. Contents of the discipline (module) by types of academic work

Section number	Name of the discipline section	Section Contents (Topics)		Type of academic work*
Section 1	Fundamentals of project activities	1.1	Basic concepts of project activities: The concept of project activities; the difference between a project and operational activities; key participants in project activities; basic terms and definitions; the role of project activities in the modern world	LC, SC
		1.2	History of project activities: Evolution of project control; historical examples of successful projects; development of project control methodologies; key milestones in the development of project control; modern trends in project activities	LC, SC
		1.3	Principles and structure of the project: Basic principles of project activities; project life cycle; project structure: components and interrelations; project goals and objectives; project success criteria	LC, SC
Section 2	Development and implementation of the project	2.1	Methodology of project activities: Types of project documentation; project planning methods; risk control tools; decision-making techniques; efficiency assessment methods; document flow in project activities	LC, SC
		2.2	Project Control: Project control processes; resource control; quality control; risk control; stakeholder control; project communications; change control	LC, SC
Section 3	Design and presentation of the project	3.1	Visualization in the project: Technical drawings; 3D modeling; prototyping; presentation materials	LC, SC
		3.2	Infographics in engineering: Creation of technical diagrams; data visualization; diagrams and flow charts; infographics for technical documentation	LC, SC
		3.3	Presentation and defense of projects: Preparation of project documentation; creation of a project presentation; public speaking techniques; answers to questions during the project defense; project evaluation criteria; practical recommendations for defense	LC, SC

* - filled in only for FULL-TIME education: LC – lectures; LW – laboratory work; SC – practical/seminar classes.

6. LOGISTIC AND TECHNICAL SUPPORT OF DISCIPLINE

Table 6.1. Material and technical support of the discipline

Audience type	Equipping the auditorium	Specialized educational/laboratory equipment, software and materials for mastering the discipline (if necessary)
Lecture	An auditorium for conducting lecture-type classes, equipped with a set of specialized	

Audience type	Equipping the auditorium	Specialized educational/laboratory equipment, software and materials for mastering the discipline (if necessary)
	furniture; a board (screen) and technical means for multimedia presentations.	
Seminar	An auditorium for conducting seminar-type classes, group and individual consultations, ongoing monitoring and midterm assessment, equipped with a set of specialized furniture and technical means for multimedia presentations.	
For independent work	A classroom for independent work of students (can be used for conducting seminars and consultations), equipped with a set of specialized furniture and computers with access to the Electronic Information System.	

* - the audience for independent work of students MUST be indicated!

7. EDUCATIONAL, METHODOLOGICAL AND INFORMATIONAL SUPPORT OF THE DISCIPLINE

Main literature:

1. Velikanova, S. S. Fundamentals of project activities: a course of lectures: a tutorial: [12+] / S. S. Velikanova. - Moscow: Direct-Media, 2022. - 316 p.: ill., diagrams, tables. - Access mode: by subscription.URL: https://biblioclub.ru/index.php?page=book&id=693220 – Bibliography. in the book – ISBN 978-5-4499-3272-3. – DOI 10.23681/693220. – Text: electronic.

2. Polovinkin, A. I. Fundamentals of engineering creativity: a tutorial / A. I. Polovinkin. - 7th ed., reprinted. - St. Petersburg: Lan, 2019. - 364 p. -ISBN 978-5-8114-4603-2. — Text: electronic // Lan: electronic library system. — URL: https://e.lanbook.com/book/123469 — Access mode: for authorized users.

3. Project control: textbook / edited by S.A. Polevoy. - Moscow: INFRA-M, 2024. - 575 p. - (Higher education). -DOI 10.12737/2016339. - ISBN 978-5-16-018508-8. - Text: electronic. - URL: https://znanium.ru/catalog/product/2016339 – Access mode: by subscription.

Further reading:

1. Plenkin, A. P. Organization of project activities: a tutorial / A. P. Plenkin, M. G. Shulika, V. D. Mikhailova; Southern Federal University. - Rostov-on-Don: Publishing House of the Southern Federal University, 2024. - 167 p. -ISBN 978-5-9275-4524-7. - Text: electronic. - URL: https://znanium.ru/catalog/product/2146715 – Access mode: by subscription.

2. Zemskov, Yu. P. Fundamentals of project activities: a tutorial / Yu. P. Zemskov, E. V. Asmolova. - 2nd ed., reprinted. - St. Petersburg: Lan, 2020. - 184 p. -ISBN 978-5-8114-4395-6. — Text: electronic // Lan: electronic library system. — URL: https://e.lanbook.com/book/130487 — Access mode: for authorized users.

3. Potasheva, G. A. Project control: a tutorial / G. A. Potasheva. - Moscow: INFRA-M, 2024. - 224 p. + Additional materials [Electronic resource]. - (Higher education). -DOI 10.12737/17508. - ISBN 978-5-16-019053-2. - Text: electronic. - URL: https://znanium.com/catalog/product/2084497 – Access mode: by subscription.

4. Project control: textbook / G.D. Antonov, O.P. Ivanova, V.M. Tumin, Yu.V. Daneikin, P.A. Kostromin. - Moscow: INFRA-M, 2023. - 294 p. — (Higher education: Bachelor's degree).

—DOI 10.12737/1864377. - ISBN 978-5-16-017640-6. - Text: electronic. - URL: https://znanium.ru/catalog/product/1910633 – Access mode: by subscription.

5. Khamidulin, V. S. Fundamentals of project activities: an extended course: a textbook for universities / V. S. Khamidulin. - 2nd ed., reprinted. - St. Petersburg: Lan, 2024. - 240 p. - ISBN 978-5-507-50052-9. — Text: electronic // Lan: electronic library system. — URL: https://e.lanbook.com/book/409478 — Access mode: for authorized users.

Resources of the information and telecommunications network "Internet":

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

- Electronic library system of RUDN - ELS RUDN https://mega.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
- EBS "Znanium"https://znanium.ru/

2. Databases and search engines

- Sage https://journals.sagepub.com/
- Springer Nature Link https://link.springer.com/
- Wiley Journal Database https://onlinelibrary.wiley.com/
- Scientometric database Lens.org https://www.lens.org

Educational and methodological materials for independent work of students in mastering a discipline/module:*

1. Lecture course on the subject “Fundamentals of project activities”.

* - all educational and methodological materials for independent work of students are posted in accordance with the current procedure on the discipline page in TUIS!

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