

Документ подписан простой электронной подписью  
Информация о владельце:  
ФИО: Ястребов Олег Александрович  
Должность: Ректор  
Дата подписания: 28.05.2026 10:28:55  
Уникальный программный ключ:  
ca953a0120d891083f939673078ef1a989dae18a

**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 ENGINEERING ECONOMICS AND MANAGEMENT**

(name of discipline/module)

**Recommended for the field of study/specialty:**

---

**27.03.04 CONTROL IN TECHNICAL SYSTEMS**

(code and name of the field of study/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)

## 1. THE GOAL OF MASTERING THE DISCIPLINE

The course "Fundamentals of Engineering Economics and Management" is part of the bachelor's program "Data Science and Space Systems" (27.03.04 "Management in Technical Systems") and is studied in the third semester of the second year. The course is offered by the Department of Mechanics and Control Processes. It consists of eight sections and eight topics and focuses on the fundamentals of organizing economic activity and management at an industrial enterprise.

The purpose of mastering the discipline is to obtain knowledge, skills and abilities in the studied area, characterizing the stages of formation of competencies and ensuring the achievement of the planned results of mastering the educational program of higher education

## 2. REQUIREMENTS FOR THE RESULTS OF MASTERING THE DISCIPLINE

Mastering the course "Fundamentals of Engineering Economics and Management" 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)*

<b>Cipher</b>	<b>Competence</b>	<b>Indicators of Competency Achievement (within this discipline)</b>
UC-10	Able to make informed economic decisions in various areas of life	UC-10.1 Understands the basic principles of the functioning of the economy and economic development, the goals of the form of state participation in the economy; UC-10.2 Applies methods of personal economic and financial planning to achieve current and long-term financial goals; UC-10.3 Uses financial instruments to manage personal finances (personal budget), controls own economic and financial risks;
UC-6	Able to manage one's time, build and implement a trajectory of self-development based on the principles of lifelong learning	UC-6.1 Controls the amount of time spent on specific activities; UC-6.2 Develops tools and methods for time management when completing specific tasks, projects, and goals; UC-6.3 Analyzes one's resources and their limits (personal, situational, temporary, 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; 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 INSTITUTION

Course "Fundamentals of Engineering Economics and Management" 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 Engineering Economics and Management".

*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*

<b>Cipher</b>	<b>Name of competence</b>	<b>Previous courses/modules, practical training*</b>	<b>Subsequent disciplines/modules, practices*</b>
UC-10	Able to make informed economic decisions in various areas of life	History of Russia;	Research work / Scientific research work; Undergraduate Training; Jurisprudence;
UC-6	Able to manage one's time, build and implement a trajectory of self-development based on the principles of lifelong learning	Physical Education; History of Russia; Introduction to the Specialty;	Physical Education; Psychology and Pedagogy; Philosophers; Fundamentals of Artificial Intelligence; Research work / Scientific research work; Technological Training; Undergraduate Training;

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

\*\* - elective courses/practices

#### 4. SCOPE OF THE DISCIPLINE AND TYPES OF EDUCATIONAL WORK

The total workload of the discipline “Fundamentals of Engineering Economics and Management” is 2 credit units.

*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,academic hours		Semester(s)
			3
<i>Contact work, academic hours</i>	18		18
Lectures (LC)	18		18
Laboratory work (LW)	0		0
Practical/seminar classes (SC)	0		0
<i>Independent work of students, academic hours</i>	54		54
<i>Control (exam/test with assessment), academic hours</i>	0		0
<b>Total complexity of the discipline</b>	<b>academic hours</b>	72	72
	<b>credit</b>	2	2

## 5. CONTENT OF THE DISCIPLINE

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

Section number	Name of the discipline section	Topic Title		Topic Contents	Type of academic work*
Section 1	Enterprise	1.1	Mission, purpose. Entrepreneurial activity, principles of its development taking into account production efficiency.	Mission, purpose. Entrepreneurial activity, principles of its development taking into account production efficiency.	OK
Section 2	Financial results	2.1	Production costs and product costs. Reporting. Profitability. Liquidity. Taxes. Commercial activities. Pricing policy	Production costs and product costs. Reporting. Profitability. Liquidity. Taxes. Commercial activities. Pricing policy	OK
Section 3	Innovative and investment activities	3.1	Evaluation. Projects. Portfolio. Risks and Mitigation Methods	Evaluation. Projects. Portfolio. Risks and Mitigation Methods	OK
Section 4	Economic relations with other institutions	4.1	External and internal environment of the enterprise. Exchanges. Banks	External and internal environment of the enterprise. Exchanges. Banks	OK
Section 5	Modern management	5.1	Essence. Characteristic features. Management cycle	Essence. Characteristic features. Management cycle	OK
Section 6	Motivation of activity	6.1	Needs. Stimulation. Motivational content theories: Alderfer, Maslow, Herzberg, McClelland. Motivational process theories.	Needs. Stimulation. Motivational content theories: Alderfer, Maslow, Herzberg, McClelland. Motivational process theories.	OK
Section 7	Management communication	7.1	Communication. Organizational Culture. Conflict and Stress Management. Business Communication.	Communication. Organizational Culture. Conflict and Stress Management. Business Communication.	OK
Section 8	Management	8.1	Power. Partnership. Leadership. A Comparative Analysis of Situational Leadership Concepts	Power. Partnership. Leadership. A Comparative Analysis of Situational Leadership Concepts	OK

\* - to be completed 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 for the discipline

Audience type	Equipment of the auditorium	Specialized educational/laboratory equipment, software and materials for mastering the discipline (if necessary)
Lecture	A lecture hall equipped with specialized furniture, a whiteboard (screen), and multimedia presentation equipment.	A lecture hall equipped with specialized furniture, a whiteboard (screen), and multimedia presentation equipment.
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.	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 student work (can be used for seminars and consultations), equipped with a set of specialized furniture and computers with access to the Electronic Information System.	A classroom for independent student work (can be used for seminars and consultations), equipped with a set of specialized furniture and computers with access to the Electronic Information System.

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

## 7. EDUCATIONAL, METHODOLOGICAL AND INFORMATIONAL SUPPORT OF THE DISCIPLINE

### Main literature:

1. Otvarukhina, N. S. Strategic Management: Textbook and Workshop for Universities / N. S. Otvarukhina, V. R. Vesnin. - Moscow: Yurait Publishing House, 2023. - 336 p. - (Higher Education). - ISBN 978-5-534-02841-6. - Text: electronic // Yurait Educational Platform [website]. - URL: <https://urait.ru/bcode/512182>
2. Vikhansky O.S. Management: a textbook for students / O.S. Vikhansky, A.I. Naumov - M.: Master: INFRA-M, 2020. - 576 p. <http://znanium.com/catalog/product/1064558>
3. Kabushkin N.I. Fundamentals of Management: A Textbook for University Students / N.I. Kabushkin. -M.: New Knowledge, 2019. -336 p. <https://studfile.net/preview/1099029>
4. Kochetov, V.V. Engineering Economics [Electronic resource]: textbook / V.V. Kochetov, A.A. Kolobov, I.N. Omelchenko. - Electronic data. - Moscow: Bauman Moscow State Technical University, 2011. - 655 p. <https://e.lanbook.com/book/106624>
5. Economy, organization and management of the enterprise. N.L. Zaitsev. Textbook. -M: INFRA-M, 2007. <https://znanium.ru/read?id=194677>

### Further reading:

1. Enterprise Economics: Textbook / Edited by prof. O.I. Volkov. – M: INFRA – M, 2015. [https://e.lanbook.com/book/70605?category\\_pk=1043](https://e.lanbook.com/book/70605?category_pk=1043)

2. Gusarova, I. A. Economics of the enterprise: a textbook / I. A. Gusarova, Yu. V. Pan-teleeva, K. V. Nikolaeva. - 2nd ed., revised. and additional. - Kazan: KNITU, 2022. - 100 p. - ISBN 978-5-7882-3196-9. - Text: electronic // Lan: electronic library system. - URL: <https://e.lanbook.com/book/330779>

*Resources of the information and telecommunications network "Internet":*

1. RUDN University Electronic Library System and third-party electronic library systems to which university students have access based on concluded agreements

- Electronic library system of RUDN - ELS RUDN

<http://lib.rudn.ru/MegaPro/Web>

- Electronic Library System "University Library Online" <http://www.biblioclub.ru>

- EBS Yurayt <http://www.biblio-online.ru>

- Electronic Library System "Student Consultant" [www.studentlibrary.ru](http://www.studentlibrary.ru)

- Electronic Library System "Troitsky Bridge"

2. Databases and search engines

- electronic fund of legal and regulatory 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/>

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

1. Lecture course on the subject "Fundamentals of Engineering Economics and Management".

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

**DEVELOPER:**

Associate Professor

*Position, DEPARTMENT*

*Signature*

Andreeva Larisa Olegovna

*Surname I.O.*

**HEAD OF THE DEPARTMENT:**

Professor

*Position of the DEPARTMENT*

*Signature*

Razumny Yuri Nikolaevich

*Surname I.O.*

**HEAD OF THE EP HE:**

Head of Department

*Position, DEPARTMENT*

*Signature*

Razumny Yuri Nikolaevich

*Surname I.O.*