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**Federal State Autonomous Educational Institution for Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA NAMED AFTER PATRICE
LUMUMBA
(RUDN University)**

Higher School of Management

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

COURSE SYLLABUS

Economics and Management of Energy & Environment

course title

Recommended by the Didactic Council for the Education Field of:

38.04.02 Management

field of studies / speciality code and title

The study of the discipline is conducted as part of the professional program of higher education.

Engineering Management

higher education programme profile/specialisation title

1. COURSE GOAL(s)

The goal of mastering the *Economics and Management of Energy & Environment* discipline is to comprehend the role of the Fuel and Energy Complex in the national economy, its contents, structure, and management system.

2. REQUIREMENTS FOR LEARNING OUTCOMES

The mastering of the *Economics and Management of Energy & Environment* discipline envisages building the following competencies (parts of competencies) in students:

Table 2.1. The list of competencies acquired by students in the course of the discipline (outcomes of the discipline)

Competence Code	Competence Descriptor	Competence Formation Indicators (within this discipline)
GC-1	Ability to perform critical analysis of problematic situations based on the systemic approach and to develop a plan of action	GC-1.1 Analyzes the task and singles out its basic components GC-1.2 Defines and prioritizes the information needed to solve the task GC-1.3 Searches the information to solve the task by various types of queries GC-1.4 Offers solutions to the problem, analyzes the possible consequences of their use GC-1.5 Analyzes the ways of solving problems of worldview, moral and personal nature based on the use of fundamental philosophical ideas and categories in their historical development and socio-cultural context
GC-2	Ability to manage a project at all lifecycle stages	GC-2.1 Specifies a problem, the solution of which is linked to the achievement of the project goal
PC-1	Capability to manage the efficiency of an investment project	PC-1.1 Defines the operations and their sequence to implement the investment project. PC-1.2 Evaluates operational, estimates human resources and determines the participants in the investment project PC-1.3 Plans the implementation stages of the investment project, ensures the quality and quality control of the investment project implementation PC-1.4 Can work in specialized computer programs for the preparation and implementation of an investment project PC-1.5 Can search the necessary information for the preparation and implementation of an investment project PC-1.6 Can identify and assess the degree (level) of an investment project risks and develop measures to manage them

3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The *Economics and Management of Energy & Environment* is an elective block formed by students.

Within the higher education program students also take other disciplines and/or internships that contribute to the achievement of the expected learning outcomes as results of mastering the *Economics and Management of Energy & Environment* discipline.

Table 3.1. The list of the higher education program components that contribute to the achievement of the expected learning outcomes as the disciplines results.

Competence code	Competence descriptor	Previous courses/modules*	Subsequent courses/modules*
GC-1	Ability to perform critical analysis of problematic situations based on the systemic approach and to develop a plan of action	Innovation Management	Business Process Management Cloud Technologies in Enterprise Management
GC-2,	Ability to manage a project at all lifecycle stages	Strategic Management in Industrial Companies	Fundamentals of Logistics and Supply Chain Management Enterprise Management Information System
PC-1	Capability to manage the efficiency of an investment project	Innovation Management	Lean Manufacturing Data Mining and Decision Making

4. SCOPE OF DISCIPLINE AND TYPES OF SCHOLASTIC WORK

The total workload of the discipline is 3 credits.

Table 4.1. Types of educational work according to the periods of mastering the higher education program for ***FULL-TIME*** students

Type of academic activities		Total academic hours	Semesters/training modules			
			1	2	3	4
<i>Contact academic hours</i>		36		36		
including:						
Lectures (LC)		18		18		
Lab work (LW)						
Seminars (workshops/tutorials) (S)		18		18		
<i>Self-studies</i>		54		54		
<i>Evaluation and assessment (exam/passing/failing grade)</i>		18		18		
Course workload	academic hours_	432		108		
	credits	12		3		

5. COURSE CONTENTS

Table 5.1. The content of the discipline (module) by type of academic work

No	Name of the Discipline Section	Content of the Section (topics)	Type of Educational Work
1.	Subject 1. Energy Enterprise in the Market Relations System	The goal and objectives of the discipline. The discipline in education program structure. Planned results of the discipline outcomes. The enterprise as the basis of the economy. Classification of enterprises. The legal basis of the enterprises operations. Organizational and	Lecture, self study

		legal forms of enterprises. Energy enterprise and its features. Enterprise resources.	
2.	Subject 2. Fixed Assets and Capital of an Energy Company	The essence, classification and structure of fixed assets of an energy enterprise. Methods of fixed assets evaluation. Depreciation and amortization of fixed assets. The concepts of "investments" and "capital expenditures", their structure. Classification and structure of capital of an energy enterprise. Indicators of the efficiency of the use of fixed assets and capital of the enterprise and techniques to improve them.	Lecture, self study
3.	Subject 3. Human Resources of an Energy Company	Human resources (personnel) as the main resource of the enterprise. Labor productivity. Organization and rationing of work at an energy enterprise. Work discipline. Salary and its functions. Motivation and remuneration.	Lecture, self study
4.	Subject 4. Organization of Production and Management of an Energy Enterprise	Production and production systems. Forms, types and methods of production organization. Characteristics and principles of the organization of the production process in space and time. The production cycle and the factors determining its duration. The essence of the organization of enterprise management. Types of enterprise management structures (general, organizational and production).	Lecture, self study
5.	Subject 5. The Economic Mechanism of Enterprise Functioning	External and internal environment of an energy enterprise. The essence and main elements of the economic mechanism of enterprise functioning (the mechanism of market regulation of an enterprise; the internal mechanism of enterprise management; the mechanism of state regulation of the energy enterprise). Enterprise activity planning system: classification of enterprise plans; principles and methods of planning; strategic planning; business planning. Product quality and competitiveness.	Lecture, self study

6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Equipment and technological support of the discipline

Classroom Type	Equipment of the Classroom	Specialized Educational/Laboratory Equipment, Software and Materials for the Discipline (if necessary)
Lecture Hall	An auditorium for conducting lecture-type classes, equipped with a set of specialized furniture; a board (screen) and technical means of multimedia presentations.	21 workplaces: system unit P4 C2D/3160 MHz MB/ 320 GB/DVD±RW/ LCD monitor 19"+ 1 projector
Colloquium	A classroom for conducting colloquium-type classes, group and individual consultations, ongoing monitoring and midterm assessment, equipped with a set of specialized furniture and multimedia presentation equipment.	21 workplace: Celeron system unit/2600 MHz/1280 MB/ 40 GB/DVD ROM/ LCD monitor 17"+ 1 projector + WiFi access point
Computer Class	A computer classroom for conducting classes, group and individual consultations, continuous control and midterm assessment, equipped with personal computers (___ pcs.), a blackboard (screen) and multimedia presentation technical means.	21 workplace: Celeron system unit/2600 MHz/1280 MB/ 40 GB/DVD ROM/ LCD monitor 17"+ 1 projector + WiFi access point
Autonomous Work of Students	A classroom for autonomous work of students (can be used for seminars and consultations), equipped with a set of specialized furniture and computers with access to EIEE.	21 workplace: Celeron system unit/2600 MHz/1280 MB/ 40 GB/DVD ROM/ LCD monitor 17"+ 1 projector + WiFi access point

7. RESOURCES RECOMMENDED FOR COURSE STUDY

a) Main Readings:

1. *Ekonomika i upravlenie prirodopolzovanim. Resursosberezhenie.* [Economics and environmental management. Resource saving] : textbook and workshop for universities / A. L. Novoselov, I. Yu. Novoselova, I. M. Potravny, E. S. Melekhin. — 2nd ed., reprint. and add. — Moscow : Yurayt Publishing House, 2025. — 390 p. — (Higher education). — ISBN 978-5-534-12355. — Text : electronic // Yurayt Educational Platform [website]. — URL: <https://urait.ru/bcode/511467>

2. Korshunov, V.V. *Ekonomika organizatsii (predpriyatiya).* [The economy of the organization (enterprise). Theory and practice]: textb. / V. V. Korshunov; University of Science and Technology "MISIS". - 2nd ed., reprint. and add. - Moscow: Yurayt, 2025. - 433 p.

b) Additional Readings:_

3. *Belov, S. V. Bezopasnost zhiznedeyatel'nosti i zashita okruzhaiushchei sredy* [Life safety and environmental protection] (technosphere safety) : textbook for universities / S. V. Belov. — 6th ed., reprint. and add. — Moscow : Yurayt Publishing House, 2023. — 638 p. — (Higher education). — ISBN 978-5-534-16270-7. — Text : electronic // Educational platform Yurayt [website]. — URL: <https://urait.ru/bcode/530724>

4. Karakeyan, V. I. *Monitoring zagryazneniya okruzhaiushchei sredy.* [Environmental pollution monitoring: textbook for secondary vocational education] / E. A. Sevryukova ; under the general editorship of V. I. Karakeyan. — Moscow : Yurayt Publishing House, 2023. - 397 p. — (Professional education). — ISBN 978-5-534-02861-4. — Text : electronic // Yurayt Educational Platform [website]. — URL: <https://urait.ru/bcode/512043>

BiblioRossika An electronic library for students, professors and researchers.
<http://www.bibliorossica.com/individuals.html?ln=ru>

Resources of the Internet information and telecommunication network:

1. Electronic libraries (EL) of RUDN University and other institutions, to which university students have access on the basis of concluded agreements

- RUDN Electronic Library System (RUDN ELS) <http://lib.rudn.ru/MegaPro/Web>
- EL "University Library Online" <http://www.biblioclub.ru>
- EL "Yurayt" <http://www.biblio-online.ru>
- EL "Student Consultant" www.studentlibrary.ru

2. Databases and search engines:

- electronic foundation 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.elsevierscience.ru/products/scopus/>

The following training toolkit for the student's autonomous work is envisaged as part of mastering the discipline/module:*

1. A course of lectures on the *Economics and Management of Energy & Environment* discipline.

2. Laboratory workshop on the *Economics and Management of Energy & Environment* discipline (if laboratory work is available).

3. Methodological guidelines for drafting and formatting the course paper / project on the *Economics and Management of Energy & Environment* discipline (if there are ones).

8. ASSESSMENT TOOLKIT AND GRADING SYSTEM FOR COMPETENCES LEVEL EVALUATION

The assessment materials and the grading system* to evaluate the graduate's level of competences (part of competences) formation as the results of the *Economics and Management of Energy & Environment* discipline are specified in the Appendix to course syllabus.

DEVELOPERS:

Associate Professor of the
Applied Economics Department

Position, educational department

V.A. Ermakov

Signature

Name, surname

HEAD OF EDUCATIONAL DEPARTMENT:

Deputy Head of the Applied

Economics Department

A.A. Ostrovskaya

Name of the educational department

Signature

Name, surname

Program Manager

Deputy Head of the Applied Economics Department
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A.A. Ostrovskaya

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