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ФИО: Ястребов Олег Александрович  
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**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 higher education programme developer

## COURSE SYLLABUS

**Project management in the oil and gas industry / Управление проектами в  
нефтегазовой отрасли**

course title

**Recommended by the Didactic Council for the Education Field of:**

**21.04.01 Oil and gas engineering**

field of studies / speciality code and title

**The course instruction is implemented within the professional education programme of  
higher education:**

**Oil and gas engineering / Технологии добычи и транспортировки нефти и газа**

higher education programme profile/specialisation title

## 1. COURSE GOALS

The goal of the course "Project management in the oil and gas industry / Управление проектами в нефтегазовой отрасли" is to gain knowledge, skills and experience in the field of project management in the oil and gas industry. The acquired knowledge and skills characterize the stages of the formation of competencies and ensure the achievement of the planned results of mastering the educational program.

The aims of the course are:

- To study the methodology of project management in the oil and gas industry.
- To study the principles and processes, the phase approach in the management of large projects.
- To study the stages of design in the development of oil and gas fields.
- To form the skills of managing large projects at all stages of the life cycle.
- Develop project cost management skills.
- Develop project risk management skills.
- To master the calendar-resource planning and preparation of the contract strategy of the project.
- Learn how to add value to a project.
- To master project management within the matrix structure.
- Master the analysis and application of best practices for project implementation.

## 2. REQUIREMENTS FOR LEARNING OUTCOMES

The course "Project management in the oil and gas industry / Управление проектами в нефтегазовой отрасли" is designed for students to acquire following competences (competences in part):

*Table 2.1. List of competences that students acquire during the course*

Competence code	Competence descriptor	Competence formation indicators (within this course)
GC-1	Able to search, make a critical analysis of problem situations based on a systematic approach, develop a strategy	GC-1.1. Knows the methods of critical analysis and evaluation of modern scientific achievements; methods of critical analysis; basic principles of critical analysis. GC-1.2. Can analyze the task, highlighting its basic components, decompose the task; receive new knowledge based on analysis, synthesis, etc.; carry out a critical analyze of information necessary to solve the problem; collect data on complex scientific problems related to the professional field; search for information and solutions based on actions, experiment and experience. GC-1.3. Has the ability to study the problem of professional activity using analysis; synthesis and other methods of intellectual activity; identify scientific problems and use adequate methods to solve them; the skills of value judgments in solving professional situations.
GC-2	Able to manage a project at all stages of its life cycle	GC-2.1. Knows methods for solving specific problems of the project of the declared quality and within the specified time; the basics of designing and solving a specific project problem, choosing the best way to solve it, based on current legal regulations and available resources and

		<p>restrictions.</p> <p>GC-2.2. Can formulate, within the framework of the goal of the project, a set of interrelated tasks that ensure its achievement;</p> <p>GC-2.3. Has the skills of forecasting and determining the expected results of solving selected tasks; the skills of public presentation of the results of solving a specific project problem.</p>
GC-3	Able to organize and manage team the work of the team, developing a team strategy to achieve the goal	<p>GC-3.1. Knows the peculiarities of the behavior of selected groups of people with whom he works / interacts, takes them into account in his activities (the choice of categories of groups of people is carried out by an educational organization depending on the goals of training - by age characteristics, by ethnicity or religion, socially unprotected segments of the population, etc. );</p> <p>GC-3.2. Can foresee the results (consequences) of personal actions and plans a sequence of steps to achieve a given result; anticipates the results (consequences) of personal actions and plans a sequence of steps to achieve a given result;</p> <p>GC-3.3. Has the skills to effectively use the cooperation strategy to achieve the set goal, determines his role in the team; effective interaction with other team members, incl. participates in the exchange of information, knowledge and experience, and the presentation of the results of the team's work.</p>
SPC-9	Able to organize the work of performers, find and make management decisions, rules for ensuring the safety of technological processes, as well as personnel when working in the field, in laboratories, in office processing	<p>SPC-9.1 Knows the safety rules and safety precautions when working in the field, in laboratories, during office processing</p> <p>SPC-9.2 Can justify and make management decisions in the field of organization and regulation of labor; conduct briefings on ensuring the safety of technological processes, as well as personnel when working in the field, in laboratories, during office processing</p> <p>SPC-9.3 Has the methodology for ensuring the safety of technological processes, as well as personnel when working in the field, in laboratories, during office processing</p>

### 3. ACADEMIC PROGRAMME STRUCTURE

The course refers to the elective component of (B1) block of the higher educational programme curriculum.

*Table 3.1. The list of the higher education programme components that contribute to the achievement of the expected learning outcomes as the course results*

<b>Competence code</b>	<b>Competence descriptor</b>	<b>Previous courses/modules, internships*</b>	<b>Subsequent courses/modules, internships*</b>
GC-1	Able to search, make a critical analysis of problem situations based on a systematic approach, develop a strategy		
GC-2	Able to manage a project at all stages of its life cycle.		

Competence code	Competence descriptor	Previous courses/modules, internships*	Subsequent courses/modules, internships*
GC-1	Able to search, make a critical analysis of problem situations based on a systematic approach, develop a strategy		
GC-3	Able to organize and manage team the work of the team, developing a team strategy to achieve the goal.		Pre-graduation Practical Training;
SPC-9	Able to organize the work of performers, find and make management decisions, rules for ensuring the safety of technological processes, as well as personnel when working in the field, in laboratories, in office processing	Technological practice (industrial) / Технологическая практика (производственная); <i>Advanced oil and gas processing equipment and product quality management**</i> ; <i>Modern stream in oil and gas processing in Russia**</i> ; Technological processes of pipeline transport; Technologies for developing prospective hydrocarbon reserves;	Pre-graduation Practical Training;

\* - filled in in accordance with the matrix of competencies and the Higher Education Programme

#### 4. COURSE WORKLOAD

The total workload of the course "Project management in the oil and gas industry / Управление проектами в нефтегазовой отрасли" is 3 credits.

*Table 4.1 Types of academic activities during the period of the HE programme mastering*

Type of study work	TOTAL , acc.hrs.	Semester(s) 3
<i>Contact academic hours, acc.</i>	36	36
including:		
Lectures		
Laboratory work		
Seminars (workshops/tutorials)	36	36
<i>Self-study (ies), academic hours</i>	72	72
<i>Evaluation and assessment (exam or pass/fail grading)</i>		
<b>The course total workload</b>	acc.hrs.	<b>108</b>
	Credits.	<b>3</b>

#### 5. COURSE MODULE and CONTENTS

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

Name of the section (topic) of the discipline	Contents of the section (topic)	Type of study work
Section 1. Fundamentals of	Topic 1.1. Project stages, Artifact concept, distribution of artifacts by project stages, main project artifacts (IT);	Seminar

project management	Topic 1.2. Types of customers, RACI matrix.	Seminar
Section 2. The golden triangle of the manager	Topic 2.1. Triangle Manager, how to manage the sides of a triangle	Seminar
	Topic 2.2. Priority matrix, reporting to the customer of the restrictions in the project;	Seminar
Section 3. Collection and analysis of information before the start of the project	Topic 3.1. Key questions for understanding the project.	Seminar
	Topic 3.2. What is MVP and release plan.	Seminar
	Topic 3.3. Decomposition of tasks and what it happens.	Seminar
Section 4. Development of a project implementation plan	Topic 4.1. What resources need to be assessed for the implementation of the project, from which the final deadline for the project is formed.	Seminar
	Topic 4.2. How to prioritize work and form releases, what external factors affect the project.	Seminar
Section number 5. Management of risks	Topic 5.1. Market analysis, competitor analysis;	Seminar
	Topic 5.2. Target audience analysis;	Seminar
Section number 6. Budgeting and Unit Economics	Topic 6.1. Elements of the estimate, Unit-economy.	Seminar
	Topic 6.2. Basic metrics.	Seminar

## 6. CLASSROOM EQUIPMENT and TECHNOLOGY SUPPORT REQUIREMENTS

*Table 6.1. Classroom Equipment and Technology Support Requirements*

<b>Classroom for Academic Activity Type</b>	<b>Classroom equipment</b>	<b>Specialized educational / laboratory equipment, software and materials for mastering the discipline (if necessary)</b>
Lecture	Training room for conducting lecture-type classes: room. No. 335 A set of specialized furniture; technical means: projection screen; multimedia projector SANYO PROxtraX ; system block DEPO Neos 220	
Seminar	Classroom for conducting seminar-type classes: room. No. 356 A set of specialized furniture; chalk board; monitor NEC PLASMA MONITO MODEL PX-42XM1G; system block DEPO Neos 220	
For self-study	Classroom for conducting seminar-type classes: room. No. 356 A set of specialized furniture; chalk board; monitor NEC PLASMA MONITO MODEL PX-42XM1G; system block DEPO Neos 220	

## 7. RESOURCES RECOMMENDED FOR COURSE

### *Main reading(sources):*

1. International business in the oil and gas industry: textbook / Ed. Yu. N. Linnik, V. Ya. Afanasiev, A. S. Kazak. - Moscow: INFRA-M, 2016.
2. Meredith J. Project management: textbook: per. from English. / J. Meredith, S. ml. Mantel . - St. Petersburg [and others]: Peter, 2014.
3. Fundamentals of management (oil and gas industry ): textbook for universities / A.F. Andreev [i dr.]. - M.: Oil and gas, Publishing House of the Russian State University of Oil and Gas, 2007.

4. Project management: a textbook for universities / V. N. Ostrovskaya [and others]. - St. Petersburg [and others]: Lan, 2018.

*Additional(optional) reading (sources):*

1. Jen F. Exploration and production of hydrocarbons: Per. from English. / F. Jen, M. Cook, M. Graham. - Moscow: Premium Engineering, Technopress , 2013.

2. Johnston Daniel Analysis of the economics of exploration, risks and agreements in the international oil and gas industry: Per. from English / Daniel Johnston . - M.: Olimp-Business, 2005.

3. Corporate management: textbook for universities / I. I. Mazur [and others]. - M.: Omega-L, 2008.

4. Rose P. R. Risk analysis and management of oil and gas exploration projects: per. from English. / P. R. Rose. - Moscow Izhevsk: Institute of Computer. issled ., 2011.

5. Management of large capital projects: textbook / V.L. Voevodkin, E.G. Zubarev, S.Yu. Karamyan, O.R. Rykov. - M .: LLC "3D-Marketing", 2019. - 184 p.

6. Project management: textbook for universities / I. I. Mazur [and others]. - Moscow: Omega-L, 2014.

*Internet sources*

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](http://www.studentlibrary.ru)
- EL "Lan" <http://e.lanbook.com/>
- EL "Trinity Bridge"

*Internet sources*

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](http://www.studentlibrary.ru)
- EL "Lan" <http://e.lanbook.com/>
- EL "Trinity Bridge"

*Learning toolkits for self- studies:*

1. Guidelines for students on the development of the course "Project management in the oil and gas industry / Управление проектами в нефтегазовой отрасли".

\*The training toolkit and guidelines for the course are placed on the course page in the university telecommunication training and information system under the set procedure.

## **8. ASSESSMENT TOOLKIT AND GRADING SYSTEM\* FOR EVALUATION OF STUDENTS' COMPETENCES LEVEL AS COURSE RESULTS**

The assessment toolkit and the 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.

\* The assessment toolkit and the grading system are formed on the basis of the requirements of the relevant local normative act of RUDN University (regulations / order).

**DEVELOPERS:**

Senior lecturer of the Department of Mineral  
Developing and Oil&Gas Engineering  
\_\_\_\_\_  
position, educational department

Khakimov R.V.  
\_\_\_\_\_  
name and surname

**Head of Department:**  
Head of the Department of Mineral Developing  
and Oil&Gas Engineering  
\_\_\_\_\_  
position, educational department

Kotelnikov A.E.  
\_\_\_\_\_  
name and surname

**Head of Educational Programme:**  
Professor of the Department of Mineral  
Developing and Oil&Gas Engineering  
\_\_\_\_\_  
position, educational department

Kapustin V.M.  
\_\_\_\_\_  
name and surname