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

### **COURSE SYLLABUS**

#### «Economics and management of oil and gas production / Экономика и управление нефтегазовым производством»

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 «Economics and management of oil and gas production / Экономика и управление нефтегазовым производством» is the formation of a complex of knowledge for the effective implementation of production management processes at the enterprises of the oil and gas industry and in their structural divisions on the basis of organizational and economic knowledge.

The study of the course «Economics and management of oil and gas production / Экономика и управление нефтегазовым производством» provides for the acquisition of practical skills in the study of the global oil and gas market, the results and factors of production, methods for assessing the efficiency of resource use in oil and gas production, the formation of production costs and financial results in oil and gas production, the content and functions of enterprise management : entities and types of planning; types of organizational structures of management; motivation; control; information; management decisions.

#### 2. REQUIREMENTS FOR LEARNING OUTCOMES

The course «Economics and management of oil and gas production / Экономика и управление нефтегазовым производством» is designed for students to acquire following competences (competences in part):

	Table 2.1. List of competences that students acquire during the course		
Competence	Competence descriptor	<b>Competence formation indicators</b>	
code		(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 restrictions. GC-2.2. Can formulate, within the framework of the goal of the project, a set of interrelated tasks that ensure its achievement; 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.	
GC-3	Able to organize and manage team the work of the team, developing a team strategy to	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	

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

Competence	Commentance description	Competence formation indicators	
code	Competence descriptor	(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.	
	achieve the goal.	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.); 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; 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.	
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	SPC-9.1 Knows the safety rules and safety precautions when working in the field, in laboratories, during office processing 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 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	

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#### 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

Compete nce 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-2	Able to manage a project at all stages of its life cycle.		
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); Advanced oil and gas processing equipment and product quality management**; Modern stream in oil and gas processing in Russia**; 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 «Economics and management of oil and gas production / Экономика и управление нефтегазовым производством» is 3 credits.

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

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

#### 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. Organizational foundations for the functioning of	Topic 1.1. An industrial enterprise as a complex production system. Organizational and legal forms of commercial enterprises. Corporate forms of management in the oil and gas complex.	Seminar
enterprises	Topic 1.2. General characteristics of the enterprises of the oil and gas complex as an object of organization. Types of industrial production. The composition and structure of the manufacturing enterprise.	Seminar
Section 2. The effectiveness of the	Topic 2.1. Planning the implementation of new equipment and advanced technology at oil and gas facilities	Seminar
introduction of new equipment and advanced technology at oil and gas industry facilities	Topic 2.2. Determination of the effect from the implementation of measures aimed at improving the reliability and efficiency of the operation of technological equipment for oil and gas production.	Seminar
Section 3.	Topic 3.1. The content and objectives of innovation.	Seminar
Organization of innovative activity of	Topic 3.2. Organization of research work at the enterprise. Organization of design preparation of production.	Seminar
the enterprise	Topic 3.3. Organization of technological preparation of production. Strategy for the development of the production potential of the enterprise.	Seminar

#### 6. CLASSROOM EQUIPMENT and TECHNOLOGY SUPPORT REQUIREMENTS

• Table 6.1. Classroom Equipment and Technology Support Requirements

Classroom for Academic Activity Type	Classroom equipment	Specialized educational / laboratory equipment, software and materials for mastering the discipline (if necessary)
	Training room for conducting lecture-type classes:	
Lecture	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. Krayushkina, M.V. Economics and «Economics and management of oil and gas production / Экономика и управление нефтегазовым производством»: study guide / M.V.

Krayushkin; Ministry of Education and Science of the Russian Federation, Federal State Autonomous Educational Institution of Higher Professional Education "North Caucasian Federal University". - Stavropol: NCFU, 2014. - 156 p.

http://biblioclub.ru/index.php?page=book&id=457397

2. Eremenko, O.V. Innovative technologies of personnel management in the oil and gas industry: study guide / O.V. Eremenko. - Moscow; Berlin: Direct-Media, 2017. - 192 p. : http://biblioclub.ru/index.php?page=book&id=455580

#### Additional literature:

1. Zhukov, B.M. Research of control systems: textbook / B.M. Zhukov, E.N. Tkachev. - Moscow: Publishing and Trade Corporation "Dashkov and Co", 2017. - 207 p. http://biblioclub.ru/index.php?page=book&id=495774

2. Antsupov, A.Ya. Strategic management / A.Ya. Antsupov; Institute for Development Strategy. - 3rd edition, rev . and rework . - Moscow: Technosphere, 2015. - 344 p. <u>http://biblioclub.ru/index.php?page=book&id=4448483</u>. Mstislavskaya L.P. Oil and Gas Production (Issues, Problems, Solutions): Textbook. – M.: Russian State University of Oil and Gas, 1999.

#### 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) <u>http://lib.rudn.ru/MegaPro/Web</u>
- EL "University Library Online" http://www.biblioclub.ru
- EL "Yurayt" http://www.biblio-online.ru
- EL "Student Consultant" www.studentlibrary.ru
- EL "Lan" <u>http://e.lanbook.com/</u>
- 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) <u>http://lib.rudn.ru/MegaPro/Web</u>
- EL "University Library Online" http://www.biblioclub.ru
- EL "Yurayt" http://www.biblio-online.ru
- EL "Student Consultant" www.studentlibrary.ru
- EL "Lan" http://e.lanbook.com/
- EL "Trinity Bridge"

### Learning toolkits for self- studies:

1. Guidelines for students on mastering the discipline "«Economics and management of oil and gas production / Экономика и управление нефтегазовым производством»."

\*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

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#### 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:**

Associate Professor of the Department of Mineral Developing and Oil&Gas Engineering position, educational department

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

Head of Educational Programme:

Professor of the Department of Mineral Developing and Oil&Gas Engineering

position, educational department

Chekushina T.V. name and surname

Kotelnikov A.E. name and surname

Kapustin V.M. name and surname

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