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Информация о владельце:  
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Должность: Ректор  
Дата подписания: 01.06.2023 12:01:32  
Уникальный программный ключ:  
ca953a0120d891083f939673078ef1a989dae18a

**Federal State Autonomous Educational establishment of higher education  
RUDN-University  
Engineering Academy**

**PROGRAMM**

**Methodology of scientific research**

**The program track 27.04.05 Innovation studies**

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**Educational program of higher education**

**Innovation management**

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### 1. The aim

The purpose of mastering the discipline is to gain knowledge, skills and experience in the field of innovative tools of supply chain management at innovative enterprises, characterizing the stages of competency formation and ensuring the achievement of the planned results of mastering the educational program.

### 2. Requirements to the outcome of the course:

The following competences are formed in the study process.

Table 2.1. A list of formed competences

A code of a competence	A competence	Indicators of achieving a competence
UC-1	Able to carry out a critical analysis of problem situations based on a systematic approach, develop an action strategy	UC-1.1 Analyzes the problem situation and decomposes it into separate tasks
GPC-1	Able to analyze and reveal the natural scientific essence of control problems in technical systems on the basis of provisions, laws and methods in the field of mathematics, natural and technical sciences	GPC-1.1 Analyzes control tasks in technical systems, highlighting the basic components, performs task decomposition GPC-1.2 Competently, logically, reasonably forms own judgments and assessments
GPC-2	Able to formulate control tasks in technical systems and substantiate methods for their solution	GPC-2.1 Selects the optimal methods for solving control problems in technical systems GPC-2.2 Competently formulates control tasks in technical systems
GPC-3	Able to independently solve control problems in technical systems based on the latest achievements of science and technology	GPC-3.1 Independently finds sources of information for solving control problems in technical systems
GPC-5	Able to conduct patent research, determine the forms and methods of legal protection and protection of rights to the result of intellectual activity, dispose of the rights to them to solve problems in the field of science, engineering and technology development	GPC-5.1. Solves problems related to the use of intellectual activity to create innovative products and services GPC-5.2. Demonstrates knowledge of the forms of methods of legal protection and protection of rights to the result of intellectual activity

### 3. Place of the course in the structure of GEP: Basic part- the first block of EP HE.

Table 3.1. A list of EP HE components, bringing forward planned results achievement

A code of a competence	A competence	Preceding courses	Following courses
UC-1	Able to carry out a critical analysis of problem situations based on a	-	

	systematic approach, develop an action strategy		
GPC-1	Able to analyze and reveal the natural scientific essence of control problems in technical systems on the basis of provisions, laws and methods in the field of mathematics, natural and technical sciences		
GPC-2	Able to formulate control tasks in technical systems and substantiate methods for their solution		Marketing of innovative products Supply chain management in an innovative enterprise Operational controlling at an innovative enterprise Organizational and managerial practice (educational)
GPC-3	Able to independently solve control problems in technical systems based on the latest achievements of science and technology		Innovative Technologies of Personnel Management
GPC-5	Able to conduct patent research, determine the forms and methods of legal protection and protection of rights to the result of intellectual activity, dispose of the rights to them to solve problems in the field of science, engineering and technology development		Strategic Management of the Innovative Enterprise

#### 4. Workload of the course and forms of study work

General workload of the course 2.

Table 4.1. Form of study work of EP HE

Form of study work	Total hours	Semester							
		1	2	3	4	5	6	7	8
<b>Class hours (total)</b>	36			36					
Lectures (Lc)	18			18					
Laboratory classes (LC)	-			-					
Seminars (S)	18			18					
Autonomous work (AW), hr	36			36					
<i>Credit</i>									
<b>In total</b>	72			72					
	2			2					

#### 5. Content of the course

Table 5.1. Content of the course

Наименование раздела дисциплины	Содержание раздела (темы)	Виды учебной работы
Scientific research and its specificity	Specificity of the object and subject of research. The subject of research. Rational, objective, true in science. Rationality and Rationalism. Classical and non-classical concepts of truth in science. Characteristics of scientific research: objectivity, reproducibility, evidence, accuracy. Explanation, understanding, interpretation. The nature and types of explanation. Main research programs: naturalistic and anti-naturalistic research program	L,S, AW
Conceptual development of the problem	Overview, relevant, abstract information. Scheme and sequence of scientific research. Abstracts of research as an explication of the topic. Methods of scientific research and their specificity in economic science. Methods of scientific research, their specificity and classification. Empirical and theoretical methods. Methodology of scientific research: general philosophical, general scientific, specific branch of science. General philosophical methodology as a system of general principles, conditions, guidelines in research activities.	L,S, AW
The concept and its role in scientific research	Logical analysis of concepts. The scope of the concept. Operations with volumes of concepts. Conceptual and terminological situations in scientific research and their resolution. Selection of defined concepts in scientific research. Choice of basic and auxiliary concepts. Definition of a concept, choice of the type of definition used in scientific research. Informativeness, scientific adequacy and cognitive simplicity of definition. Typical mistakes in defining concepts. The division of the concept as the basis of the structure of scientific research. Division and classification of concepts.	L,S, AW

## 6. Technical Support Requirements

Table 6.1. Technical Support Requirements

A type of a classroom	<i>Technical Support Requirements</i>	Special equipment, software
For lectures	An auditorium for lecture-type classes, equipped with a set of specialized furniture; board (screen) and technical means of multimedia presentations	-
For seminars	Audience for conducting seminar-type classes, group and individual consultations, current control and intermediate certification, equipped with a set of specialized furniture and technical means for multimedia presentations	-
For	An auditorium for independent work of students (can be used for	-

autonomous work	seminars and consultations), equipped with a set of specialized furniture and computers with access to the EIS	
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## 6. Study-methodical and information sources:

### Main literature:

1. Афанасьев, В. В. Методология и методы научного исследования : учебное пособие для вузов / В. В. Афанасьев, О. В. Грибкова, Л. И. Уколова. — Москва : Издательство Юрайт, 2023. — 154 с. — (Высшее образование). — ISBN 978-5-534-02890-4.

2. Новиков, А.М. Методология научного исследования / А.М. Новиков, Д.А. Новиков. - Москва : Либроком, 2010. - 284 с. - ISBN 978-5-397-00849-5 ; То же [Электронный ресурс]. - URL: <http://biblioclub.ru/index.php?page=book&id=82773> (17.09.2018).

3. Пещеров, Г. И. Методология научного исследования : учебное пособие : [16+] / Г. И. Пещеров ; Институт мировых цивилизаций. — Москва : Институт мировых цивилизаций, 2017. — 312 с.: ил. — Режим доступа: по подписке. — URL: <https://biblioclub.ru/index.php?page=book&id=598470> (дата обращения: 12.04.2023). — Библиогр.: с. 242-245. — ISBN 978-5-9500469-0-2. — Текст: электронный.

### Additional literature:

1. Микешина Л. А. Философия науки. Современная эпистемология. Научное знание в динамике культуры. Методология научного исследования : учебное пособие / Л.А. Микешина [Электронный ресурс]. - М. : Прогресс-Традиция [и др.], 2005. 463 с. ISBN 5-89826-202-4 (Прогресс-Традиция) URL: <http://dlib.rsl.ru/rs101002000000/rs101002671000/rs101002671663/rs101002671663.pdf>

### Internet resources:

- 1) <http://www.businessstest.ru/> деловые тесты
- 2) <http://www.smartcat.ru/Personnel/> электронная библиотека учебной литературы
- 3) Electronic library systems:
  - ЭБС РУДН <http://lib.rudn.ru/MegaPro/Web>
  - ЭБС «Университетская библиотека онлайн» <http://www.biblioclub.ru>
  - ЭБС «Юрайт» <http://www.biblio-online.ru>
  - ЭБС «Консультант студента» [www.studentlibrary.ru](http://www.studentlibrary.ru)
  - ЭБС «Лань» <http://e.lanbook.com/>
  - ЭБС «Троицкий мост»
- 4) Data bases and browsers:
  - электронный фонд правовой и нормативно-технической документации <http://docs.cntd.ru/>
  - поисковая система Яндекс <https://www.yandex.ru/>
  - поисковая система Google <https://www.google.ru/>
  - реферативная база данных SCOPUS <http://www.elsevierscience.ru/products/scopus/>
- 5) Sites:
  - <https://www.mos.ru/mka/>
  - <http://www.minstroyrf.ru/>

## 7. Assessment system

*Materials for assessing the level of mastering the educational material of the discipline (assessment materials), including a list of competencies indicating the stages of their formation, a description of indicators and criteria for assessing competencies at various stages of their formation, a description of assessment scales, standard control tasks or other materials necessary for assessment knowledge, abilities, skills and (or) experience of activity, characterizing the stages of the formation of competencies in the process of mastering the educational program, the methodological materials defining the procedures for assessing knowledge, skills, skills and (or)*

*experience of the activity, characterizing the stages of the formation of competencies, are developed in full and are available for students on the discipline page in the TUIS RUDN University.*

**Educational designer:**

Associate Professor, Ph.D



E. A. Kovaleva

**Director of innovation management in industries department**



O.E. Samusenko

**Head of EP HE:**

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Yu. A. Nazarova