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

**PROGRAMM INNOVATIVE TECHNOLOGIES IN ENGINEERING EDUCATION**

**The program track 44.04.02 PSYCHOLOGY AND PEDAGOGY**

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**Educational program of higher education  
PEDAGOGY IN ENGINEERING**

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2024 г.

## 1. The aim

The purpose of mastering the discipline is to obtain knowledge, skills, abilities and experience in the field of innovative technologies in engineering education, characterizing the stages of the formation of competencies 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. List of formed competences

Competency Code	Name of competence	Indicators of competence achievement
ПК-1	Able to design basic and additional educational programs and develop scientific and methodological support for their implementation	ПК-1.1. Demonstrates knowledge of methods for designing basic and additional educational programs ПК-1.2. Develops scientific and methodological support for the implementation of basic and additional educational programs

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

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

Competency Code	Name of competence	Previous disciplines/practices*	Follow-up disciplines/practices*
ПК-1	Able to design basic and additional educational programs and develop scientific and methodological support for their implementation	-	Introductory practice Research Practice Pedagogical practice Pre-diploma practice Preparation for passing the state exam Execution, preparation for the defense procedure and defense of the final qualification work

\* - в соответствии с матрицей компетенций и СУП ОП ВО

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

General workload of the course 5

Table 4.1. Form of study work of EP HE

Form of study work	Total hours	Semester
		2
<i>Class hours (total)</i>	32	32
Lectures (L)	16	16
Laboratory classes (LC)	-	-
Seminars (S)	16	16
Control (exam)	27	27
Autonomous work (AW), hr	121	121
<b>In total</b>	180	180
	5	5

## 5. Content of the course

Table 5.1. The content of the discipline by types of educational work

Section name Discipline	Content of the section (topic)	Types of
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		<b>educational work</b>
Section 1 Pedagogy as a science. An innovative approach to building education	The subject of pedagogical science. Its main categories are: The concept of an innovative approach. The use of an innovative approach in the construction of the process of education (training). Principles of innovative construction of education	L, S, AW
Section 2 Content and regulatory framework for training an engineer at a university	The regulatory framework of the educational process in a technical university Organizational forms of training Lecture as a way of transferring knowledge Some practical aspects of lectures at the university. On the relationship between a lecture and a textbook Feedback during the lecture Seminars and workshops, laboratory work Course design Types of practice Diploma design Independent work of students, consultations Practice of the examination process Preparation for scientific research Ways of orientation in a variety of scientific sources Accumulation and systematization of information	L, S, AW
Section 3 Development of creative thinking in the process of training and education of an engineer	Continuous training of a specialist-engineer as a scientific and pedagogical problem Application of information and communication technologies in the system of continuous training of a specialist-engineer Technology of teaching masters in a technical university	L, S, AW
Section 4 Methods of designing basic educational programs	The concept and classification of methods for the development of basic educational programs of engineering orientation	L, S, AW
Section 5 Methods of designing additional educational programs	The concept and classification of methods for the development of additional educational programs of engineering orientation	L, S, AW

## 6. Technical Support Requirements

Таблица 6.1. Technical Support Requirements

<b>A type of a classroom</b>	<i>Technical Support Requirements</i>	<b>Special equipment, software</b>
For lectures	An auditorium for lecture-type classes, equipped with a set of specialized furniture; board (screen) and technical means of multimedia presentations	equipment: Epson EH-TW5300 projector (LCD, 1080p 1920 x 1080, 2200Lm, 35000:1, 2 x HDMI, MHL, Draper Baronet NTSC screen (3:4) 244/96(8) 152*203 MW
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	Computer class; technical facilities: personal computers, projection screen, multimedia projector, NEC NP-V302XG, Internet access. Software: Mi-crosoft

		products (OS, office suite, including MS Office/Office 365, Teams, Skype), Autodesk AutoCAD 2021, Autodesk Auto-CAD 2021, Autodesk Inventor 2021, Autodesk Revit 2021, ArchiCAD 23 (free training versions)
For autonomous work	An auditorium for independent work of students (can be used for seminars and consultations), equipped with a set of specialized furniture and computers with access to the EIS	Computer class; technical facilities: personal computers, projection screen, multimedia projector, NEC NP-V302XG, Internet access. Software: Microsoft products (OS, office suite, including MS Office/Office 365, Teams, Skype), Autodesk AutoCAD 2021, Autodesk Auto-CAD 2021, Autodesk Inventor 2021, Autodesk Revit 2021, ArchiCAD 23 (free training versions)

## 7. Study-methodical and information sources:

### *Main literature:*

- 1) Бухалков М.И. Управление персоналом: Учебник для вузов / 2-е изд. М.: Инфра-М. 2008. 400 с.
- 2) Кибанов А.Я. Управление персоналом организации: Практикум: Учебное пособие / Под ред. А.Я. Кибанова. 2-е изд. М.: Инфра-М. 2008. 365 с.

### *Дополнительная литература:*

- 1) Неверов А.В. Оценка персонала как фактор социального развития организации. Монография / М.: Изд-во РУДН. 2015. 180 с. Электронный ресурс.
- 2) Михайлова О.Б. Теория и практика управления персоналом. Учебное пособие / М.: Изд-во РУДН. 2013. 195 с. Электронный ресурс.
- 3) Анцупов А.Я., Ковалев В.В. Социально-психологическая оценка персонала: Учебное пособие / 2-е изд. М.: ЮНИТИ-ДАНА. 2012. 399 с. Электронный ресурс.
- 4) Егоршин А.П. Основы управления персоналом. Учебное пособие / 2-е изд. М.: Инфра-М. 2008. 352 с. Электронный ресурс.
- 5) Одегов Ю.Г., Никонова Т.В. Аудит и контроллинг персонала. Учебник / М.: Альфа-Пресс. 2006. 560 с.

### *Internet resources:*

- 1) Электронно-библиотечная система (ЭБС) РУДН и сторонние ЭБС, к которым студенты университета имеют доступ на основании заключенных договоров:
  - 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»

## 2) Базы данных и поисковые системы:

- 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/>

## 3) Сайты профильных министерств и ведомств:

- <https://www.mos.ru/mka/>
- <http://www.minstroyrf.ru/>

4) <http://www.smartcat.ru/Personnel> Управление персоналом: электронная библиотека учебной литературы.

5) <http://www.seminarna.ru/147.html> Управление персоналом: статьи

6) <http://www.univerlib.ru/book/motivacija-i-ocenka-personala-29.html> Управление персоналом организации. Практикум. под ред. А.Я. Кибанова  
<http://www.businessstest.ru/> Деловые тесты

*Educational and teaching materials for independent work of students in the development of the discipline* \*:

## 1. A course of lectures on the discipline.

\* - all educational and teaching materials for independent work of students are placed in accordance with the current procedure on the discipline page in the telecommunication educational and information systeme (TUIS) of RUDN University

**8. 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:**

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**Director of innovation management in industries department**

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