Federal State Autonomous Educational Institution for Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA
RUDN University

Higher School of Management

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

COURSE SYLLABUS

Cloud Technologies in Enterprise Management

course title

Recommended by the Didactic Council for the Education Field of:

38.04.02 Management

field of studies / speciality code and title

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

Engineering Management

(name (track/specialization) of professional program of higher education)

2025

1. COURSE GOAL(s)

The goal of mastering the *Cloud Technologies in Enterprise Management* discipline is to build in students the theoretical knowledge and skills of applying the process approach to enterprise management, as well as practical skills in business process modeling.

2. REQUIREMENTS FOR LEARNING OUTCOMES

The mastering of the *Cloud Technologies in Enterprise Management* 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-4	Capability to apply modern communication technologies on the official language of the Russian Federation and foreign language(s) for scholastic and professional interaction.	GC-4.1 Chooses the business communication style, depending on the language of communication, the terms and goals of partnership GC-4.2 Adjusts speech, communication style and sign language to interaction situations GC-4.3 Searches the necessary information to solve standard communication tasks in Russian and foreign languages GC-4.4 Enters into business correspondence in Russian and foreign languages, considering the peculiarities of the style of official and informal letters and cross-cultural differences in correspondence GC-4.5 Uses dialogue for cooperation in scholastic communication, considering the personality of the interlocutors, their communicative speech strategy and tactics, the degree of the situation formality GC-4.6 Forms and argues its own assessment of the main ideas of the participants of the dialogue (discussion) in accordance with the goals of cooperation
PC-3	Ability to manage organizations, departments, groups (teams) of employees, projects and networks	PC-3.1 Applies various organization management techniques existing in Russia and abroad

3.COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The *Cloud Technologies in Enterprise Management* is an elective block formed by students of the B1 unit of the higher education program.

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 *Cloud Technologies in Enterprise Management* program.

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 Disciplines/Modules, Practices*	Subsequent Disciplines/Modules, Practices*
GC-1	Ability to perform critical analysis of problematic situations based on the systemic approach and to develop a plan of action	Managerial Economics	Master's Degree R&D Pre-graduation Practice Preparing for defense and defense of the degree thesis
GC-3	Ability to organize and manage a team developing a team strategy for achieving the set goal.	Innovation Management	Master's Degree R&D Pre-graduation Practice Preparing for defense and defense of the degree thesis
PC-1	Capability to manage the efficiency of an investment project	Strategic Management in Industrial Companies	Master's Degree R&D Pre-graduation Practice Preparing for defense and defense of the degree thesis

4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

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
Contact academic hours		*36*			*36*	
including:						
Lectures (LC)		18			18	
Lab work (LW)						
Seminars (workshops/tutorials) (S)		18			18	
Self-studies		*63*			*63*	
Evaluation and assessment (exam/passing/failing grade)		*9*			*9*	
Course workload	academic hours_	**108**			**108**	
	credits	**3**			**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.	The History of Cloud-Based Computing	The first ideas of the application of computing using remote computation centers.	Lecture, self study
2.	The Essence of Cloud Technologies	Infrastructure as a Service (iaas);•Platform as a Service (Paas);•Data as a Service (Daas);•Software as a Service (saas);•Workplace as a service (Waas);•All as a Service (Aaas).	Lecture, self study
3.	Overview of Cloud Services	EC2 (ElasticComputeCloud)— Xen hosting;•S3 (SimpleStorageService)— storage	Lecture, self study
4.	Trends in the Cloud Technologies Development	Dynamic scalability.	Lecture, self study

6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Classroom equipment and technology support requirements

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 workplaces: system unit P4 C2D/3160 MHz MB/ 320 GB/DVD±RW/ LCD monitor 19"+ 1 projector
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 workplaces: system unit P4 C2D/3160 MHz MB/ 320 GB/DVD±RW/ LCD monitor 19"+ 1 projector

7. RESOURCES RECOMMENDED FOR COURSE STUDY

a) Main Readings:
1. Gavrilov, L. P. Innovazionnye tehnologhii v kommertsii i biznese.[Innovative technologies in commerce and business]: textbook for universities / L. P. Gavrilov. — Moscow : Yurayt Publishing House, 2025. - 372 p. — (Higher education). — ISBN 978-5-534-15960-8. — Text : electronic // Yurayt Educational Platform [website]. — URL: https://urait.ru/bcode/510351.

2. Monakhov D.N., Monakhov N.V., Pronchev G.B., Kuzmenkov D.A. Oblachnye tehnologhii [Cloud technologies]. Theory and practice. - Moscow: MAKS Press, 2025 - 128 p.
b) Additional Readings:
1. Pervushin, V.A. Praktika upravleniya innovatsinooymi proektami. [Practice of innovative project management]: textbook / V.A. Pervushin ; Russian Academy of National Economy and Public Administration under the President of the Russian Federation. - Moscow : Publishing House "Delo", 2014. - 209 p. - (Educational innovations). - ISBN 978-5-7749-0917-9. [electronic resource]. - URL: http://biblioclub.ru/index.php?page=book&id=443295 (15.06.2015).
Electronic library (http://elibrary.ru/defaultx.asp)

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 *Cloud Technologies in Enterprise Management*.
2. Laboratory workshop on the *Cloud Technologies in Enterprise Management* discipline (if laboratory work is available).
3. Methodological guidelines for drafting and formatting the course paper / project on the *Cloud Technologies in Enterprise Management* discipline (if there are ones).

8. ASSESSMENT TOOLKIT AND GRADING SYSTEM* FOR EVALUATION OF STUDENTS' COMPETENCES LEVEL UPON COURSE COMPLETION

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

DEVELOPERS:

Associate Professor of the Applied Economics Department		V.A. Ermakov
Position, educational department	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 _____ A.A. Ostrovskaya

position, name of the department   signature   Name, surname

Methodological guidelines for students on mastering the discipline (module)

The implementation of the course provides interactive lectures, practical classes (colloquiums) using multimedia equipment, preparation of autonomous creative projects and their subsequent presentations, testing, group discussions on the subject of the course, modern knowledge control technologies.

While studying the discipline, the student must attend a course of lectures, participate in the number of colloquiums provided by the course syllabus, study autonomously some topics of the course and confirm their knowledge during control activities.

The student's work in lectures consists in clarifying the basics of the discipline, briefly taking notes of the material, and clarifying issues that cause difficulties. The lecture notes are the basic educational material along with the textbooks recommended in the main list of readings.

The teaching of the main part of the lecture material involves usage of multimedia tools that facilitate the comprehension and consolidation of the material. Presentations are available for download from the RUDN website and can be freely used by students for educational purposes.

The student must master all the topics provided for by the educational and thematic plan of the discipline. Individual topics and training issues must be mastered autonomously. The student studies the recommended literature, briefly outlines the material, and clarifies the most difficult questions that require clarification during consultations. The same should be done with sections of the course that were skipped due to various circumstances.

For an in-depth study of the issue, the student should study the literature from the additional readings list and specialized websites. It is also recommended that students communicate in professional community forums.

Students study educational, scientific literature and periodicals on an autonomous basis. They have the opportunity to discuss what they have read with the teachers of the discipline during scheduled consultations, with other students at colloquiums, as well as at lectures, asking the professor questions.

The control of autonomous work is carried out by the professor in charge. Depending on the teaching methodology, the following forms of continuous assessment can be used: a short oral or written survey before the start of classes, tests, control papers, written homework, essays, etc.

The assessment toolkit for the midterm assessment of students in the discipline (module) *(developed and issued in accordance with the requirements of the " Regulations for the Formation of Assessment Toolkit (FOS"), approved by the Rector's order No. 420 dated 05.05.2016).*

The code of the controlled competence or its part	Controlled Discipline Section	Controlled Discipline Topic	Classroom Work					Autonomous Work					Exam/Test	Scores Topics	Section Scores
			Survey	Test	Colloquium	Control Paper	Discussion	Essay	Homework	Report	Creative Project	Course Paper / project			
GC-1, GC-4, PC-2	The History of Cloud-Based Computing	Subject 1. Process Approach to Company Management					5								
		Subject 2. Business Process Characteristics	2					2							16
		Subject 3. Mandatory Elements of the Business Process	2						5						
GC-1, GC-4, PC-2	The Essence of Cloud Technologies	Subject 1. Classification of Business Processes							5						
		Subject 2. Eight-Process Enterprise Model. IBM's Component Business Model.					5								15
		Subject 3. eTOM Multilevel Model of Production Management Business Processes. Toyota Model					5								
GC-1, GC-4, PC-2	Overview of Cloud Services	Subject 1. Methods of Business Processes Description							5						
		Subject 2. Fundamental Business Process Modeling Methodologies. SADT Functional Modeling Methodology	2												17
		Subject 3. ARIS Business Process Modeling Methodology. BPMN Business Process Modeling Methodology									10				

																TOTAL
GC-1, GC-4, PC-2	Trends in the Cloud Technologies Development	Subject 1. Principles and Methods of Business Process Analysis and Management					5										12
		Subject 2. Business Processes Assessment. The Main Approaches to Business Processes Optimization							5								
		Subject 3. Balanced Scorecard and Key Performance Indicators in Business Process Management						2									
GC-1, GC-4, PC-2		Milestone Certification (Control Paper)				10										10	10
GC-1, GC-4, PC-2		Test		10												10	10
		Exam													20	20	20
		TOTAL															100