Документ подписан простой электронной подписью
Информация о владельце:
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Должность: директор департамента по образовательной политике
Дата подписания: 13.04.2026 17:16:26
Уникальный программный ключ:
8db180d1a3f02ac9e60521a5672742735c18b1d6

MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION

Federal State Autonomous Educational Institution of Higher Education

"Moscow Polytechnic University"

APPROVE
Vice-President
for International Affairs
_____ /Yu.D. Davydova/
"__" февраля 2024

Dean of the Faculty
of Economics and Management
_____ /A.V. Nazarenko/
"15" февраля 2024

WORKING PROGRAM OF THE DISCIPLINE

"Project management"

Field of study
38.03.02 Management

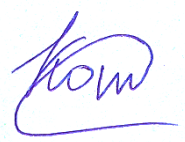
Educational program (profile)
"Business Process Management"

Qualification (degree)
Bachelor

Form of study
Part-time

Moscow 2024

Developer(s):

Art. Lecturer at the Department of Management  /I.S. Koshel/

Agreed:
Head of the Department of Management,
Ph.D., Associate Professor  /E.E. Alenina/

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1. Goals, objectives and planned learning outcomes in the discipline

The main goals of mastering the discipline “Project Management” include combining all previously acquired knowledge and skills into a single comprehensive management system, as well as studying and mastering by students the theoretical foundations and practical skills of project management.

The main objectives of mastering the discipline “Project Management” include:

- Gain an understanding of the basics of developmentand project management in the internal and external environment.
- To form ideas on fundamental and applied sections of the discipline and develop skills for their creative use in scientific, industrial and technical activities.
- Prepare for active communication in scientific, industrial, social and public spheres of activity.
- Develop basic skills of economic analysis and the ability to apply them to understand the socio-economic processes of assessing economic, social and environmental policies.
- To teach how to competently carry out development planning activitiesproject.

Training in the discipline “Project Management” is aimed at developing the following competencies in students:

Code and name of competencies	**Indicators of Competency Achievement**
UK-2. Able to determine the range of tasks within the framework of the set goal and choose the best ways to solve them, based on current legal norms, available resources and limitations	IUC-2.1. Formulates a set of tasks within the framework of the set goal of the project, the solution of which ensures its achievement IUC-2.2. Determines the connections between the assigned tasks, the main components of the project and the expected results of its implementation IUC-2.3. Selects the optimal methods of planning, distributing areas of responsibility, solving problems, analyzing results, taking into account current legal norms, existing conditions, resources and limitations, possibilities of use

2. Place of discipline in the structure of the educational program

The discipline belongs to the mandatory part of block B1 “Disciplines (modules)”.

The discipline “Project Management” is logically, substantively and methodologically interconnected with the following disciplines and practices of the EP:

- Project activities
- Introduction to project activities
- Fundamentals of Management
- Economic theory

3. Structure and content of the discipline

The total labor intensity of the discipline is 6 credit units (216 hours).

3.1 Types of educational work and labor intensity

(according to forms of study)

3.1.2. Part-time education

No.	**Type of educational work**	**Quantity hours**	**Semesters**	
			4	**5**
1	**Auditory lessons**	**90**	54	36
	Including:			
1.1	Lectures	36	18	18

1.2	Seminars/practical sessions	54	36	18
2	**Independent work**	**126**	72	54
3	**Interim certification**			
	Test/differential test/exam	**Test, exam**	Test	Exam
	Total	**216**	126	90

3.2 Thematic plan for studying the discipline

(according to forms of study)

3.2.2. Part-time education

No. p/p	Sections/topics disciplines	Labor intensity, hour				
		Total	Classroom work			Independent work
			Lectures	Seminars/practical sessions	Laboratory exercises	Practical training
1.1	Topic 1. Project management: basic concepts		4	6			14
1.2	Topic 2. Project management		4	6			14
1.3	Topic 3. Basics of organizing the project management process.		4	6			14
1.4	Topic 4. Project team		4	6			14
1.5	Topic 5. Start of the project		4	6			14
1.6	Topic 6. Project life cycle		4	6			14
1.7	Topic 7. Basics of project business planning		4	6			14
1.8	Topic 8. Project risk management		4	6			14
1.9	Topic 9. Completion of the project		4	6			14
Total			**36**	**54**			**126**

3.3 Contents of the discipline

Topic 1. Project management: basic concepts

Project as the basic concept of the discipline “Project Management”. Classification of projects.

Topic 2. Project management

Project management: project requirements. Project concept: basic concepts and characteristics.

Topic 3. Basics of organizing the project management process.

Initializing the project. Project charter. The project as a socio-economic system.

Topic 4. Project team

Fundamentals of team building. Team life cycle.

Topic 5. Start of the project

Project charter. External and internal environment of the project. Psychology of small social groups.

Topic 6. Project life cycle

Project life cycle: basic concepts. Project life cycle models. Project marketing.

Subject7. Basics of project business planning
Business plan: basic concepts. Effects and classification of effects.
Subject8. Project risk management
Project risk management: basic concepts. Project risk portfolio.
Topic 9. Completion of the project
Project time management. Completion of the project. Project effectiveness assessment

3.4 Topics of seminars/practical and laboratory classes

3.4.1. Seminars/practical sessions

Topic 1. Project management: basic concepts	Seminar session 1
Topic 2. Project management	Seminar session 2
Topic 3. Basics of organizing the project management process.	Seminar session 3
Topic 4. Project team	Seminar session 4
Topic 5. Start of the project	Seminar session 5
Topic 6. Project life cycle	Seminar session 6
Topic 7. Basics of project business planning	Seminar session 7
Topic 8. Project risk management	Seminar session 8
Topic 9. Completion of the project	Seminar session 9

4. Educational, methodological and information support

4.1 Main literature

1 Project management: textbook and workshop for universities / A. I. Balashov, E. M. Rogova, M. V. Tikhonova, E. A. Tkachenko; under the general editorship of E. M. Rogova. - Moscow: Yurayt Publishing House, 2023. - 383 p. - (Higher education). — ISBN 978-5-534-00436-6. — Text: electronic // Educational platform Urayt [website]. — URL:https://urait.ru/bcode/510590

2 Chekmarev, A. V. Management of IT projects and processes: a textbook for universities / A. V. Chekmarev. - Moscow: Yurayt Publishing House, 2023. - 228 p. - (Higher education). — ISBN 978-5-534-11191-0. — Text: electronic // Educational platform Urayt [website]. — URL:https://urait.ru/bcode/516193

3 Polyakov, N. A. Management of innovative projects: textbook and workshop for universities / N. A. Polyakov, O. V. Motovilov, N. V. Lukashov. — 2nd ed., rev. and additional - Moscow: Yurayt Publishing House, 2023. - 384 p. - (Higher education). — ISBN 978-5-534-15534-1. — Text: electronic // Educational platform Urayt [website]. — URL:https://urait.ru/bcode/511434

4.2 Additional literature

4 Software project management: textbook for universities / V. E. Gvozdev [et al.]; edited by R. F. Malikov. - Moscow: Yurayt Publishing House, 2023. - 167 p. - (Higher education). — ISBN 978-5-534-14329-4. — Text: electronic // Educational platform Urayt [website]. — URL:https://urait.ru/bcode/519678

5 Chernysheva, A. M. Product policy management: textbook and workshop for universities / A. M. Chernysheva, T. N. Yakubova. - Moscow: Yurayt Publishing House, 2023. - 187 p. - (Higher education). — ISBN 978-5-534-01142-5. — Text: electronic // Educational platform Urayt [website]. — URL:https://urait.ru/bcode/511984

4.3 Electronic educational resources

1. An electronic educational resource on the discipline is under development.

5. Logistics support

Auditorium for lectures and seminars of the general fund. Study tables with benches, a blackboard, a portable multimedia complex (projector, projection screen, laptop). Teacher's workplace: table, chair.

6. Guidelines

6.1 Methodological recommendations for teachers on organizing training

A presentation (from the English word - presentation) is a set of color pictures-slides on a specific topic, which is stored in a special format file with the PP extension. The term “presentation” (sometimes called “slide film”) is associated primarily with the information and advertising functions of pictures, which are designed for a certain category of viewers (users).

In order for the presentation to be well received by the audience and not cause negative emotions (subconscious or fully conscious), it is necessary to follow the rules of its design.

A presentation involves a combination of information of various types: text, graphics, music and sound effects, animation and video clips. Therefore, it is necessary to take into account the specifics of combining pieces of information of different types. In addition, the design and display of each of the listed types of information is also subject to certain rules. So, for example, the choice of font is important for textual information, brightness and color saturation are important for graphic information, and optimal relative position on the slide is necessary for the best possible perception of them together.

In addition to the correct arrangement of text blocks, we must not forget about their content - the text. Under no circumstances should it contain spelling errors. You should also take into account the general rules of text formatting.

After creating a presentation and its design, you need to rehearse its presentation and your speech, check how the presentation as a whole will look (on a computer screen or projection screen), how quickly and adequately it is perceived from different places in the audience, under different lighting, noise, in an environment as close as possible to real performance conditions.

6.2 Guidelines for students on mastering the discipline

A lecture is a systematic, consistent, monologue presentation by a teacher of educational material, usually of a theoretical nature. When preparing a lecture, the teacher is guided by the work program of the discipline. During lectures, it is recommended to take notes, which will allow you to subsequently recall the studied educational material, supplement the content when working independently with literature, and prepare for the exam.

You should also pay attention to categories, formulations that reveal the content of certain phenomena and processes, scientific conclusions and practical recommendations, positive experience in oratory. It is advisable to leave margins in your working notes in which to make notes from the recommended literature, supplementing the material of the lecture you listened to, as well as emphasizing the special importance of certain theoretical positions.

Conclusions from the lecture summarize the teacher’s thoughts on educational issues. The teacher provides a list of used and recommended sources for studying a specific topic. At the end of the lecture, students have the opportunity to ask questions to the teacher about the topic of the lecture. When delivering lectures on the discipline, electronic multimedia presentations can be used.

Guidelines for students when working at the seminar

Seminars are implemented in accordance with the working curriculum with sequential study of the topics of the discipline. In preparation for the seminars, the student is recommended to study the basic literature, familiarize himself with additional literature, new publications in periodicals: magazines, newspapers, etc. In this case, you should take into account the recommendations of the teacher and the requirements of the curriculum. It is also recommended to finalize your lecture notes by making appropriate notes from the literature recommended by the teacher and provided for by the curriculum. Abstracts should be prepared for presentations on all educational issues brought up for the seminar.

Since the student's activity in seminar classes is the subject of monitoring his progress in mastering the course, preparation for seminar classes requires a responsible attitude. During interactive classes, students must be active.

Guidelines for students on organizing independent work

Independent work of students is aimed at independent study of a separate topic of the academic discipline. Independent work is mandatory for each student, its volume is determined by the curriculum. When working independently, the student interacts with the recommended materials with the participation of the teacher in the form of consultations. To perform independent work, methodological support is provided. The electronic library system (electronic library) of the university provides the possibility of individual access for each student from any point where there is access to the Internet.

7. Appraisal Fund

7.1 Methods for monitoring and assessing learning outcomes

Indicator of the level of competence development

Project management					
Federal State Educational Standard of Higher Education 38.03.02 "MANAGEMENT"					
In the process of mastering this discipline, the student forms and demonstrates the following: **competencies**:					
COMPETENCIES		**List of components**	**Technology for developing competencies**	**Form of assessment tool****	**Degrees of levels of mastering competencies**
INDEX	**FORMULATION**				

UK-2	Able to determine the range of tasks within the framework of the set goal and choose the best ways to solve them based on current legal norms, available resources and limitations	IUC-2.1. Formulates a set of tasks within the framework of the set goal of the project, the solution of which ensures its achievement IUC-2.2. Determines the connections between the assigned tasks, the main components of the project and the expected results of its implementation IUC-2.3. Selects the optimal methods of planning, distributing areas of responsibility, solving problems, analyzing results, taking into account current legal norms, existing conditions, resources and limitations, possibilities of use	independent work, seminars	DS, Z, T, E	**A basic level of:** the ability to work within the project together with other participants at all stages of its life cycle has been developed, taking into account the direction of the student's professional activity. **Increased level:** successful and systematic application of skills in organizing and implementing projects to meet specified requirements and on time.

7.2 Scale and criteria for assessing learning outcomes

Scales for assessing the results of intermediate certification and their description:

Interim certification form: test.

Interim certification of students in the form of a test is carried out based on the results of completing all types of academic work provided for by the curriculum for a given discipline (module), while taking into account the results of ongoing monitoring of progress during the semester. Assessment of the degree to which students have achieved the planned learning outcomes in the discipline (module) is carried out by the teacher leading classes in the discipline (module) using the method of expert assessment. Based on the results of the interim assessment, the student is given a "pass" or "fail" rating.

Only students who have completed all types of academic work provided for in the work program for the discipline "Project Management" (passed the intermediate control) are allowed to take part in the intermediate certification.

Grading scale	Description
Passed	All types of educational work provided for by the curriculum have been completed. The student demonstrates compliance with the knowledge, skills and abilities given in the tables of indicators, operates with acquired knowledge, skills and abilities, and applies them in situations of increased complexity. In this case, minor errors, inaccuracies, and difficulties during analytical operations and the transfer of knowledge and skills to new, non-standard situations may be made.
Not accepted	One or more types of educational work provided for by the curriculum have not been completed. The student demonstrates incomplete compliance of knowledge, abilities, and skills with those given in the tables of indicators; significant mistakes are made; a lack of knowledge, abilities, and skills is evident in a number of indicators; the student experiences significant difficulties in operating knowledge and skills when transferring them to new situations.

Form of intermediate certification: exam.

Interim certification of students in the form of an exam is carried out based on the results of completing all types of academic work provided for by the curriculum for a given discipline (module), while taking into account the results of ongoing monitoring of progress during the semester. Assessment of the degree to which students have achieved the planned learning outcomes in the discipline (module) is carried out by the teacher leading classes in the discipline (module) using the method of expert assessment. Based on the results of the intermediate certification for the discipline (module), a grade of "excellent", "good", "satisfactory" or "unsatisfactory" is given.

Only students who have completed all types of academic work provided for in the work program for the discipline "Project Management" (passed the intermediate control) are allowed to take part in the intermediate certification.

Grading scale	Description
Great	All types of educational work provided for by the curriculum have been completed. The student demonstrates compliance of knowledge, abilities, and skills with those given in the tables of indicators, operates with acquired knowledge, abilities, skills, and applies them in situations of increased complexity. In this case, minor errors, inaccuracies, and difficulties during analytical operations and the transfer of knowledge and skills to new, non-standard situations may be made.
Fine	All types of educational work provided for by the curriculum have been completed. The student demonstrates incomplete, correct compliance of knowledge, skills and abilities with those given in the tables of indicators, or if 2-3 insignificant errors were made.
Satisfactorily	All types of educational work provided for by the curriculum have been completed. The student demonstrates the consistency of knowledge, which covers the main, most important part of the material, but at the same time one significant error or inaccuracy was made.
Unsatisfactory	One or more types of educational work provided for by the curriculum have not been completed. The student demonstrates incomplete compliance of knowledge, abilities, skills with those given in the tables of indicators, significant mistakes are made, a lack of knowledge, abilities, skills is manifested in a number of indicators, the student experiences significant difficulties in operating knowledge and skills when transferring them to new situations.

7.3 Evaluation tools

List of assessment tools for the discipline "Project Management"

OS No.	Name of the assessment tool	Brief description of the evaluation tool	Submission of the assessment tool to the Federal Fund
1	Report, message (DS)	A product of a student's independent work, which is a public speech presenting the results obtained in solving a specific educational, practical, educational, research or scientific topic	Topics of reports, messages

2	Test (T)	A system of standardized tasks that allows you to automate the procedure for measuring the level of knowledge and skills of a student.	Test task fund
3	Test (G)	Final form of knowledge assessment. In higher education institutions they are held during examination sessions.	Questions for testing
4	Exam (E)	Final form of knowledge assessment. In higher educational institutions they are held during the session.	Questions for the exam

7.3.1. Current control

Topics of reports on the discipline
"Project Management"
(formation of competenceK-2)

1. Relevance and novelty of the project.
2. Practical significance of the project.
3. Analysis of analogues of the project being developed.
4. Analysis of the target audience for the project.
5. Requirements for the final result of the project.
6. Alternative concepts for the project.
7. Project implementation plan.
8. Message on the project passport.
9. Message based on the results of the substeps.
10. A message about the resources used in the project.
11. A message on the tools used to implement the project.
12. Project indicators: aesthetic, ergonomic, economic, technical.
13. Organization of teamwork within the project.
14. Indicators for assessing project performance.
15. Discussion of the project results

Report evaluation criteria

No.	Criterion	Grade			
		ex.	chorus	satisfaction	unsatisfactory
1	Structure of the report	The report contains semantic parts balanced in volume	The report contains three semantic parts, unbalanced in volume	One of the semantic parts is missing from the report	The report does not show the presence of semantic parts
2	Contents of the report	The content reflects the essence of the problem under consideration and the main results obtained	The content does not fully reflect the essence of the problem under consideration or the main results obtained	The content does not fully reflect the essence of the problem under consideration and the main results obtained	The content does not reflect the essence of the problem under consideration or the main results obtained
3	Mastery of the material	The student has complete	The student knows the material	The student is not fluent enough in the	The student does not know the

		command of the material presented, is problem oriented, and answers questions freely	presented, is oriented in the problem, finds it difficult to answer some questions	material being presented and is poorly oriented in the problem	material being presented and has poor understanding of the problem
4	Matching theme	The presented material fully corresponds to the stated topic	The presented material contains elements that are not relevant to the topic	The material presented contains a large number of elements that are not related to the topic.	The material presented is slightly relevant to the topic

Tests by discipline
"Project Management"
(formation of competenceK-2)

How many stages can there be in the project life cycle?
A) 4 or 5, depending on life cycle model
B) 4 stages
C) 5 stages
ANSWER: A
"Combining the functional elements of the socio-economic system to achieve the main goal of the project" is:
A) external project environment
B) internal project environment
C) project staging environment
ANSWER: B
The organization's mission, project goals, strategic resources, organizational culture, organizational structure, psychological climate, technology relate to:
A) the external environment of the project
B) the internal environment of the project
C) project staging environment
ANSWER: B
"Stakeholder, involved party, participant in the work, role in the project - a person or organization that has rights, shares, claims or interests regarding the system or its properties" is:
A) project stakeholder
B) project investor
C) project procrastinator
ANSWER: A
The resource availability of the project is its:
A) organizational culture
B) organizational structure
C) strategic resources
ANSWER: C
Small groups, having an official origin and structure given from the outside, refer to:
A) formal groups
B) informal groups
C) to both, depending on the situation
ANSWER: A
Small groups that are formed based on personal preferences include:
A) formal groups

B) informal groups
C) to both, depending on the situation
ANSWER: B
The system (set) of collectively shared values, beliefs, traditions, principles and norms of behavior of employees within the organization includes:
A) organizational culture
B) organizational structure
C) strategic resources
ANSWER: A
The principle of relationships in a small group (team), which is realized through the manifestation of sensitivity, tolerance, empathy, humanity in all interpersonal relationships between members of a small group, is called:
A) the principle of cohesion
B) the principle of subordination and respect
C) the principle of humanism
ANSWER: B
This project environment refers to all factors that are outside the project and have a direct impact on it:
A) external project environment
B) internal project environment
C) project staging environment
ANSWER: A
A document that can be considered as a justification for the financial and economic part of the project, determining the sequence of work on the project, their cost (work estimate), and key management decisions, is called:
A) project charter
B) project business plan
C) project regulations
ANSWER: B
Are the concepts “economic effect” and “economic efficiency” identical:
A) no
B) yes
C) depending on the context
ANSWER: A
Risks for the project may be:
A) negative
B) positive
C) both negative and positive
ANSWER: C
Risk management (or risk management) is part of:
A) financial management
B) project management
C) social management
ANSWER: A
The totality of all project risks is called:
A) risk library
B) risk base
C) risk portfolio
ANSWER: C
The deadline, deadline, date or time by which a task must be completed is:
A) time pressure
B) deadline

C) motivation
ANSWER: B
The relationship between the achieved result and the resources used (costs) is described by:
A) effectiveness
B) showiness
C) efficiency
ANSWER: C
The essence of this method is that achieving a global goal occurs by dividing it into smaller goals (subgoals), which can be considered as tasks, the solution of which will lead to the achievement of a global (complex) goal:
A) goal tree
B) problem tree
C) work tree
ANSWER: A
The classic formula of the triple constraint of a project, which has long existed in project management, relied on a balance between:
A) volume of work, cost, quality
B) volume of work, quality, time
C) volume of work, cost, time
ANSWER: C
Within the framework of the classification of projects "according to the scale of participants or consumers of the results," projects that affect or protect the national interests of the country (security, development, integration, etc.) are classified as:
A) international
B) national
C) regional
ANSWER: B
Within the framework of the classification of projects "by duration of implementation", projects that require large time expenditures for implementation (from 3 years or more) are classified as:
A) long term
B) medium term
C) short term
ANSWER: A
Within the framework of the classification of projects "by spheres of life", projects that make changes in the social sphere of society in order to solve problems or improve social interaction are classified as:
A) social
B) cultural
C) economic
ANSWER: A
The project approach to management is an integral part of:
A) functional approach
B) resource approach
C) process approach
ANSWER: C
Project management allows an organization to:
A) implement several projects simultaneously
B) concentrate all efforts on one project
C) have a flexible organizational structure
ANSWER: C
The process of developing and creating a project concept is called:

A) a startup
B) project initialization
C) project mission
ANSWER: B

The control that is carried out to identify possible deviations from the project goals, the causes of these deviations and finding possible ways to eliminate them is called:

A) preliminary control
B) current control
C) final control
ANSWER: B

Select from the following points the main characteristics of the "project":

A) "a project is a temporary undertaking"
B) "project - to create unique products"
C) "a project is any process in business"
ANSWER: B

The "problem-target diamond" consists of two "trees", mark them among the answer points:

A) goal tree
B) problem tree
C) work tree
ANSWER: B

What justification for the project contains a description of the main production processes, necessary resources, characteristics of the participants in its implementation and their functions?

A) legal
B) economic
C) organizational
ANSWER: C

One of the main documents in the project documentation, which sets out the goals and objectives, as well as the functions and powers of project managers, is:

A) project estimate
B) project regulations
C) project charter
ANSWER: C

The strategic goals of the project are determined by:

A) project idea
B) project mission
C) project task
ANSWER: B

To which component of the socio-economic system do the resources of the organization (project) belong?

A) social
B) economic
C) legal
ANSWER: B

What quality of a socio-economic system is characterized by the statement "the system as a whole has properties that are not present in its constituent elements, however, elements of the system may also have properties that are not inherent in the system as a whole"?

A) integrity
B) hierarchy
C) integrativeness
ANSWER: C

Is it true that "Team spirit cannot be created by decree or order; it is formed (formed) gradually as a result of the joint work of people aimed at achieving one goal, united by this goal"?

A) yes, that's right
B) no, that's not true
C) depends on the situation
ANSWER: A

7.3.2. Interim certification

Questions for testing in the discipline
"Project Management"
(formation of competenceK-2)

1. Define the project. Give different formulations of the definition. Indicate the difference between the traditional definition of a project and the definition adopted in the discipline "Project Management".
2. What are the main characteristics of the project and the dependencies between them?
3. Indicate the main participants in the project and their functions. What are the main functions of a project manager and project team.
4. By what criteria can projects be classified?
5. Describe the factors of the distant environment of the project, the factors of the near environment of the project, and the internal environment of the project. What is the consideration of the project environment during planning and management?
6. Indicate the main phases of the project life cycle. How is the life cycle defined from the point of view of various project participants (customer, investor, project team)?
7. Describe the conceptual phase of the project and give the main stages of this phase.
8. Describe the project planning phase and give the main stages of this phase.
9. Describe the project implementation phase and provide the main functions of project management in this phase.
10. What are the completion, operation and abandonment phases of a project and the main project management functions during these phases?
11. What are the main objectives, purpose and principles of drawing up a business plan?
12. Describe the approximate structure of a business plan.
13. What is the content of the financial and economic section of the business plan?
14. Indicate the approximate composition of cash flows from the investment, operating, and financing activities of the project. How calculation steps and cash flow balances are determined.
15. Draw a typical financial profile of the project. What is the condition for the financial feasibility of the project?
16. What are the basic principles of analyzing the effectiveness of projects. Why is it necessary to take into account the time factor when analyzing efficiency?
17. The concept of the value of money over time and the need to take into account the value of money over time when analyzing the effectiveness of projects. What are the main factors that influence the time value of money?
18. The concept of capital accumulation and its economic meaning. How to determine the future value of cash flow and annuity.
19. What is cash flow discounting and what is the economic meaning of discounting? How to determine the present value of a cash flow and an annuity?
20. Name the main criteria for project effectiveness. What is their relationship?
21. Net present value of a project (NPV), its definition, formulas for calculation, economic meaning, advantages and disadvantages. The nature of the dependence of NPV on the discount rate.
22. Project profitability index (PI), its definition, formulas for calculation, economic meaning, advantages and disadvantages.
23. Project internal rate of return (IRR), definition of this criterion, equation for its

calculation, economic meaning, advantages and disadvantages.

24. Project payback period (PB), its definition, calculation formula, economic meaning, advantages and disadvantages. Discounted payback period (DPB) and its definition.

25. Project investment performance ratio (ARR) and its definition.

26. Modified project internal rate of return (MIRR), definition of this criterion, and its economic meaning, situations in which its use is necessary.

27. What are the basic principles for determining the discount rate when analyzing projects. What is the concept of weighted average cost of capital (WACC) and how to determine the weighted average cost of capital?

28. Types of project efficiency and features of their calculation.

29. Features of determining the effectiveness of the project as a whole, social and commercial effectiveness.

30. Features of determining efficiency for enterprises - project participants, for shareholders, regional, federal and budgetary efficiency of projects.

Questions for the discipline exam
"Project Management"
(formation of competenceK-2)

31. Define the project. Give different formulations of the definition. Indicate the difference between the traditional definition of a project and the definition adopted in the discipline "Project Management".

32. What are the main characteristics of the project and the dependencies between them?

33. Indicate the main participants in the project and their functions. What are the main functions of a project manager and project team.

34. By what criteria can projects be classified?

35. Describe the factors of the distant environment of the project, the factors of the near environment of the project, and the internal environment of the project. What is the consideration of the project environment during planning and management?

36. Indicate the main phases of the project life cycle. How is the life cycle defined from the point of view of various project participants (customer, investor, project team)?

37. Describe the conceptual phase of the project and give the main stages of this phase.

38. Describe the project planning phase and give the main stages of this phase.

39. Describe the project implementation phase and provide the main functions of project management in this phase.

40. What are the completion, operation and abandonment phases of a project and the main project management functions during these phases?

41. What are the main objectives, purpose and principles of drawing up a business plan?

42. Describe the approximate structure of a business plan.

43. What is the content of the financial and economic section of the business plan?

44. Indicate the approximate composition of cash flows from the investment, operating, and financing activities of the project. How calculation steps and cash flow balances are determined.

45. Draw a typical financial profile of the project. What is the condition for the financial feasibility of the project?

46. What are the basic principles of analyzing the effectiveness of projects. Why is it necessary to take into account the time factor when analyzing efficiency?

47. The concept of the value of money over time and the need to take into account the value of money over time when analyzing the effectiveness of projects. What are the main factors that influence the time value of money?

48. The concept of capital accumulation and its economic meaning. How to determine the future value of cash flow and annuity.

49. What is cash flow discounting and what is the economic meaning of discounting? How to determine the present value of a cash flow and an annuity?

50. Name the main criteria for project effectiveness. What is their relationship?

51. Net present value of a project (NPV), its definition, formulas for calculation, economic meaning, advantages and disadvantages. The nature of the dependence of NPV on the discount rate.

52. Project profitability index (PI), its definition, formulas for calculation, economic meaning, advantages and disadvantages.

53. Project internal rate of return (IRR), definition of this criterion, equation for its calculation, economic meaning, advantages and disadvantages.

54. Project payback period (PB), its definition, calculation formula, economic meaning, advantages and disadvantages. Discounted payback period (DPB) and its definition.

55. Project investment performance ratio (ARR) and its definition.

56. Modified project internal rate of return (MIRR), definition of this criterion, and its economic meaning, situations in which its use is necessary.

57. What are the basic principles for determining the discount rate when analyzing projects. What is the concept of weighted average cost of capital (WACC) and how to determine the weighted average cost of capital?

58. Types of project efficiency and features of their calculation.

59. Features of determining the effectiveness of the project as a whole, social and commercial effectiveness.

60. Features of determining efficiency for enterprises - project participants, for shareholders, regional, federal and budgetary efficiency of projects.

61. Name the main groups of financial indicators of the base enterprise and the project as a future enterprise (indicators, liquidity, capital structure (solvency), business activity (turnover), profitability.), Explain their economic meaning. For what purpose is it necessary to determine these indicators?

62. By what criteria are projects compared, ranked and selected for further funding? What types of dependencies exist between projects? What contradictions between different criteria may arise when comparing projects?

63. What contradictions may arise when comparing and ranking projects of different sizes? When there is a discrepancy between the timing of cash receipts of projects? When project durations do not match? What recommendations can you give to eliminate these contradictions?

64. What is the “Fisher point”, how to determine it and how its position affects the decision to choose a more effective project.

65. The concept of project sustainability. How to determine the break-even point of a project, how does its position affect the risk and sustainability of the project?

66. Give a classification of project risks. Name the main methods of risk management.

67. Name the methods for qualitative analysis of project risks.

68. Name the main methods for quantitative analysis of project risks.

69. The concept of project sustainability. How to determine the break-even point of a project, how does its position affect the risk and sustainability of the project?

70. What is the sensitivity analysis of the project, how is the elasticity of the project performance indicators determined.

71. What is project scenario analysis as a risk analysis method? What probabilistic risk measures do you know?

72. Explain the essence of the Monte Carlo method (simulation modeling method) and its use for project risk analysis.

73. How to assess project risk by building a project decision tree.

74. Risk accounting methods that use discount rate adjustment (adding a “risk premium” to the discount rate). Name the main factors influencing the project risk and the amount of the “risk premium”.

75. What is the Capital Asset Pricing Method (CAPM) and how is this method used to

assess the risk of a project. What is the relationship between the profitability and risk of the project.

76. Name the main types of inflation and the main parameters of inflation (price index and inflation rate, basic and chain price index) How does inflation affect interest rates on loans and deposits, How are nominal and real interest rates determined.

77. What methods do you know of taking inflation into account when designing?

78. Name the main sources of financing for the project. Describe your own, external and attracted sources of financing.

79. The concept of leasing as a source of financing. The concept of venture financing of projects.

80. Autonomous project financing.

81. Name the main organizational structures of project management. Organization of project management within a functional structure. Advantages and disadvantages of this form of management.

82. Organization of project management based on the principle of independent teams. Advantages and disadvantages of this form of management.

83. The concept of a project-type organization.

84. Matrix organizational structures for project management. Weak, balanced and strong matrix structures. Advantages and disadvantages of matrix organizational structures in project management.

85. What are the basic principles of forming a project team, the approximate composition of the project team, the basic requirements for a project manager.

86. How is a project decomposed (work breakdown structure, WBS)? State the basic principles of a project breakdown structure (WBS). How the WBS and the development of the project organizational structure (OBS) are related.

87. What is a project network diagram, what is its purpose? Basic rules for constructing network diagrams, main types of connections between operations.

88. Concept of the critical path method (CPM). Calculation of the critical path. Direct and reverse analysis and determination of the project completion time as a whole and operational time reserves. The importance of the critical path and operational slack for planning and management.

89. Additional possibilities for constructing network graphs (time delays between operations (lags), types of connections between operations: from end to beginning (finish-start), from beginning to beginning (start-start), from end to end (finish-finish) from beginning towards the end (start-finish)).

90. The concept of the PERT method for calculating probable project completion times.

91. Scheduling budget and project resources using network methods.

92. What is management and regulation in the phases of project implementation and completion (project domain management, work completion time management, project budget and resource management, quality management, project information flow management, project team management, supply and contract management).

93. The concept of the earned value method when managing a project in the implementation phase. The main indicators that are calculated by this method.

94. What is the project's cumulative cost baseline (S-curve)?

95. What methods do you know for prompt assessment (monitoring) of time and cost indicators of work during project implementation?

96. How are the basic indicators of the earned value method determined: planned volume (PV, BCWS), actual volume (EV, BCWP), earned value (AC, ACWP)?

97. How is the current state of a project analyzed using the earned value method? What is the meaning of the schedule variance (SV) and cost variance (CV) indicators?

98. How is the current state of a project analyzed using the earned value method? What is the meaning of Schedule Performance Index (SPI) and Budget Performance Index (CPI)?

99. How is the project budget forecasted using the earned value method? How to calculate project expected cost (EAC) and project variance at completion (VAC).

100. Audit and completion of the project. Project closure process. Assessing the success of the project. Evaluation of the work of the project manager, individual team members and the team as a whole.

Ticket form

MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION
FEDERAL STATE AUTONOMOUS EDUCATIONAL INSTITUTION
HIGHER EDUCATION
"MOSCOW POLYTECHNIC UNIVERSITY"
(MOSCOW POLYTECH)

Faculty of Economics and Management, Department of Management
Discipline: Project management
Direction of training: 38.03.02 “Management”
Course: _, group _____, form of study: full-time, part-time and part-time

TICKET No. 1.

1. Question assessing the competence of UK-2
2. Question assessing competence of UK-2

Approved at the department meeting “___” _____ 202_, minutes No. __.

Head Department of Management _____ /Alenina E.E./