IT Project Management Syllabus

The goal of mastering the discipline

- Formation of theoretical knowledge, skills and practical skills in solving problems arising in project management (PM) and IT projects in particular
- Development of skills and practical skills for effective management of IT projects, including using automated information systems, ensuring the achievement of the results defined in the project in terms of the scope and scope of work, cost, time, quality and satisfaction of the project participants

Planned learning outcomes

- Formulates the formal criteria for the project.
- Identifies the stakeholders of the project.
- Can choose an organizational structure appropriate to the specifics of the project.
- Formulates the goal of the project in accordance with the SMART criteria.
- Identifies the key success factors for IT projects.
- Selects a life cycle model that matches the specifics of a specific IT project
- Knows the main international and national project management standards.
- Formulates principles for the development of a corporate project management standard.
- Develops the structure of the corporate standard for IT project management.
- Determines the composition of the "toolbox" in accordance with the specifics of the performed IT projects.
- Develops a hierarchical structure of the project's work.
- Applies project time management tools.
- Optimizes the duration of the project.
- Uses Microsoft Project 2016 to manage the content and timing of an IT project.
- Develop Project Charter, Project Stakeholder Matrix.
- Apply project knowledge management tools.
- Selects and practically applies the tools and techniques required to manage the resources of an IT project.
- Selects and practically applies the tools and techniques required to manage communications in an IT project.
- Uses Microsoft Project 2016 to manage IT project resources.
- Identify risks of IT projects
- Conduct a qualitative risk assessment
- Develop adequate responses to the risks of IT projects
- Justifies the business benefits of implementing an IT project.
- Can prepare a project status report
- Calculates earned value metrics

- Selects and practically applies tools and methods of IT project change management
- Uses Microsoft Project 2016 to monitor the progress of an IT project
- Forms a system of criteria for the selection of components of the portfolio of IT projects
- Formulates the main features of project-oriented activities and illustrates them with specific examples.
- Knows the main types of software products used to automate IT project management.

Content of the discipline

Basic concepts of project management

Project and project activities. Comparison of operating and project activities. Purpose and main limitations of the project. Stakeholders and organizational structure of the project. Organizational structures of project activities.

Distinctive features and success factors of IT projects

Basic concepts in the field of information technology. Features of IT projects. Why Not All IT Projects Are Successful. Success factors for IT projects. Projects of the type "Brains", "Gray hair", "Procedures".

Choosing the life cycle of an IT project. Using flexible approaches in IT project management

Project life cycle concept. Types of life cycles of IT projects. Choosing the life cycle of an IT project according to the Agile Practice Guide model (examples).

Project Management Standards

Design standards. System of international and national project management standards. Russian standards for project management. GOST series 34. Project Management Institute (PMI) standards. Corporate standard for project management. Maturity levels of project management. Agile Software Development Manifesto. Scrum framework.

IT project management tools

Classification of project management tools. Project management tools and competitive strategy. Formation of a "toolbox" depending on the scale of the project. The most "popular" tools. Project charter.

Content and timing management of IT projects

The main stages and processes of planning the scope of the project. Work breakdown structure. Features of content management in Agile projects. Definition of operations and their sequence. Building and analyzing network diagrams. Critical path. PERT method. GERT method.

Human Resource Management and IT Project Communications

Types of resources in project activities. Loading of labor resources. Load alignment. The rate of utilization of labor resources. Team development stages. Command roles according to R.M. Belbin.

IT project risk management
Basic concepts of risk management. Strategies for responding to negative risks. Opportunity Response Strategies. Risk identification. Qualitative and quantitative risk analysis. Response planning, risk monitoring. IT Risk Management in accordance with COBIT5.

Evaluation of the effectiveness of IT projects
Project management business documents. Types of economic effects from the implementation of IT projects. Existing approaches to quantifying the economic benefits of IT projects. IT project budget. Total cost of ownership of IP. The specifics of calculating the financial indicators of an IT project.
Monitoring the progress of an IT project and managing changes
Project status. Control points. Control Tools and Techniques: Life Cycle Progress Matrix, Slide Chart, Tracking Gantt Chart, Earned Value Method. Change management tools and methods: Change coordination matrix, change request, Change log.

IT project portfolio management
Portfolios of projects and programs. The structure of the corporate portfolio of projects. Portfolio management tasks. Project portfolio as a tool for implementing corporate strategy. Project portfolio management processes. Methods for selecting components of a portfolio of projects. Priorities and ranked classes of projects. Multiple Weighted Criteria Model. Applying COBIT5 to IT Portfolio Management.

Features of management of companies that carry out contract IT projects
Project-oriented and project-dependent organizations. Organizational structure of a project-oriented organization. The financial structure of a project-oriented organization. Features of the formation of the contract portfolio of projects. Project office. Goals and objectives of the Project Office. Types of Project Offices. Typical roles of the Project Office employees.

Automated corporate project management system
Types of IS for the automation of the processes of UP and SCP. Specialized software for the automation of PM processes. Task trackers. Portfolio management software. Possibilities of ERP-systems for PM automation.

Control elements

- Testing on the Open Education platform based on the results of passing topics 1-8, 10-11, 13
- Mutual Assessment Task on the Open Education Platform
- Exam

Exam form: *The exam is conducted in (oral) form. Platform: The exam is conducted on the MS Teams platform. You must connect to the exam 15 minutes before the start. The student's computer must meet the requirements:*
https://docs.microsoft.com/ru-ru/microsoftteams/hardware-requirements-for-the-teams-app

equipment required to pass the exam and make sure that the existing equipment meets the requirements for the computer to participate in the exam on the MS Teams platform; Log in to the MS Teams platform using a personal account (using the student account @ edu.hse.ru); Before starting the exam, check the functionality of the microphone, speakers or headphones for transmitting sound and a video camera, the speed of the Internet (for the best result, it is recommended to connect the computer to the network via a cable); Prepare the tools necessary for the exam: a pen, sheets of paper, a calculator, etc.); Disable applications other than the MS Teams application or the browser that will log into the MS Teams platform in Task Manager on your computer. If one of the necessary conditions for participation in the exam cannot be fulfilled, it is necessary to inform the teacher or an employee of the study office about this 2 weeks before the date of the exam in order to make a decision on the student's participation in the exams. During the exam, students are prohibited from: Turning off the video camera; Use notes, textbooks, and other educational materials; Leave the place of the examination task (go beyond the camera's angle of view); Look away from the computer screen, desktop; Use smart gadgets (smartphone, tablet, etc.); Involve outsiders to help with the exam, talk with outsiders while completing assignments; Read the assignments aloud. During the exam, students are allowed to: Use paper, pen for taking notes, calculations; Use a calculator for making calculations; Turn on the microphone during the exam to answer the teacher's questions; Ask the teacher for additional information related to the implementation of the examination task; Interact with other students with the permission of the teacher. Communication failures: A short-term communication failure during the exam is considered a student's loss of network communication with the MS Teams platform for no more than 1 minute. A long-term interruption during the exam is considered a student's loss of network communication with the MS Teams platform for more than 1 minute. If there is a long-term communication failure, the student cannot continue to participate in the exam. The retake procedure is the same as for the exam. In the event of a long-term disruption of communication with the MS Teams platform during the execution of the exam task, the student must notify the teacher about this, record the fact of loss of connection with the platform (screenshot, response from the Internet provider) and contact the training office with an explanatory note about what happened to make a decision about retaking the exam.

Intermediate certification

Intermediate certification (1 module)

*Based on the results of current control on the Open Education platform, the cumulative score is calculated: Ooo = (Otest1 ... Ost8 + Ost10 + Ost11 + Ost11 + Ost13) * 0.8 + (Ovz9 + Ost12) * 0.2 where OstN is the score for the test on the topic the corresponding number; OvzN - score for mutual evaluation on the topic of the corresponding number. The resulting score is calculated according to the formula: Orez = 0.35 * Oeks + 0.3 * Ooo + 0.2 * Oaud + 0.15 Oprakt where Oeks is the score obtained on the exam; Ooo - the grade obtained from the results of passing the online course on the Open Education platform. Oaud - an assessment of the attendance of face-to-face lectures. It is calculated as the ratio of the number of face-to-face lectures attended by a student to the total number of face-to-face lectures planned for the course. Oprach - evaluation of work in practical classes. Opract = 0.35 * Oact + 0.65 * Alert. Oact - mark for*

active work in practical training. Oposesh - score for attending practical classes. It is calculated as the number of practical sessions attended by the student to the total number of practical sessions.