MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION
Federal State Budgetary Educational Institution of Higher Education
"IRKUTSK STATE UNIVERSITY"
SAF, Baikal International Business School (Institute)
Strategic and Financial Management Department

APPROVED:
Dean of SAF, Baikal International Business School (institute)
_____ N.B. Grosheva
April 14, 2025

Syllabus

Discipline Б1.В.ДВ.02.01 Management of Technical Innovations

Major 27.03.05 Innovatics

Specialization: Management of Innovative and IT Projects and Products

University Degree: Bachelor

Full time

Approved by the Academic and Methodological Council of Baikal International Business School (institute)
Protocol № 4 of March 26, 2025

Chairperson V.M. Maksimova

Recommended by the Strategic and Financial Management Department
Protocol № 9 of March 21, 2025

Department Chair N.B. Grosheva

Irkutsk 2025

Contents

I. GOAL AND OBJECTIVES OF THE DISCIPLINE (MODULE)

Goal: Formation of knowledge and practical skills related to the planning, implementation and management of technical innovations in organizations, including the evaluation of innovative projects, the development of strategies for innovative development and the use of modern innovation management tools to increase competitiveness.

Objectives:

— Familiarization of students with the basic concepts, types and stages of technical innovations, their role in the development of organizations and the economy as a whole;

— Development of skills in analyzing innovative processes, assessing the technical and economic indicators of innovative projects;

— Training in methods of planning and managing the implementation of innovations, including the organization of innovation teams and monitoring the implementation of projects;

— Formation of skills to use modern tools and methods of innovation management, including digital and information technologies;

— Development of strategic thinking and decision-making ability in the face of uncertainty and a dynamically changing technological environment.

II. PLACE OF THE DISCIPLINE IN THE CPEP STRUCTURE

Academic discipline (module) _Б1.В.ДВ.02.01 Management of Technical Innovations refers to the elective part of the bachelor's program of Block 1 Disciplines (modules) in accordance with the Federal State Educational Standard of Higher Education (FSES HE) and Core Professional Educational Program of Higher Education (CPEP HE) in the field of study (specialty) 27.03.05 "Innovatics".

List of subsequent academic disciplines that require knowledge, skills and abilities formed by this academic discipline:

Б1.В.ДВ.03.01 Product Innovations, Б1.В.ДВ.03.02 Project Innovations, Б2.О.02(Пд) Industrial Practice. Pre-graduation Practice, Б3.01(Д) Preparation of Final Qualification Paper and its Defense.

III. REQUIREMENTS FOR THE DISCIPLINE LEARNING OUTCOMES

The process of mastering the discipline is aimed at the formation of competencies of PC-3.1 and PC-3.2 in accordance with the Federal State Educational Standard of Higher Education (FSES HE) and Core Professional Educational Program of Higher Education (CPEP HE) in the field of study (specialty) 27.03.05 "Innovatics".

List of Planned Learning Outcomes for the Discipline, Mapped to Competency Achievement Indicators

Competency	Competency Achievement Indicator	Learning Outcomes
PC-3 Is able to promote innovative and	PC 3.1 Knows the fundamentals of public relations management and media relations when promoting innovative	Knows: —the main stages of the life cycle of technical innovation and product.

IT products	and IT products; the tools and methods for developing and presenting when promoting innovative and IT products	—methods and tools for managing innovative projects. —principles of planning, control and reporting in innovative developments. Is able to: —form and manage a team of innovation developers. —possess and minimize risks in the development of new products. —monitor the progress of project stages and track deviations from the plan. Possesses: — methods and tools of project management. — skills in working with project documentation and reporting. — technologies for assessing and managing innovation risks.
	PC 3.2 Is able to convincingly demonstrate the advantages of innovative and IT products; organize advertising campaigns; conduct public presentations to introduce the features of innovative and IT products	Knows: — trends in technological development and new areas of innovation. — methods for identifying consumer preferences and demand for products. — modern technologies and production processes. Is able to: —analyze the market and user needs to identify promising areas of innovation. —generate and implement innovative ideas that meet current market requirements. Possesses: — tools for creative thinking and generation of innovative ideas. — practical skills of technical analysis and design. — methods for assessing the economic feasibility of innovations.

IV. CONTENTS AND DISCIPLINE STRUCTURE

The volume of the discipline is __3____ credits, _108_ hours,
including **__5__** hours for summative assessment
Practical training in the discipline is not provided for by the curriculum.
Form of summative assessment: _____credit_____

4.1. Discipline Contents, Structured by Topics, with Indicated Types of Classes and Allocated Academic Hours

№	Discipline Section/ Theme	Semester	Total hrs	Of these, student practical preparation	Types of Educational Activities, Including Self-Study, Practical Sessions, and Workload (in hrs)				Formative Assessment Formats; Summative Assessment Formats
					Teacher Contact Hrs			Self-Study	
					Lectures	Practical Sessions	Consultations, Self-Study Monitoring, Summative Assessment		
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1	Topic 1. The concept of technical innovations and their classification.	5	18	-	5	5		5	Test/oral questioning/
2	Topic 2. The process of creating and implementing technical innovations.	5	18	-	5	5		5	Test/oral questioning/
3	Topic 3. Management of innovative projects.	5	18	-	5	5	3	6	Test/oral questioning/
4	Topic 4. Economic Evaluation and Efficiency of Innovations.	5	18	-	9	9		5	Test/oral questioning/
5	Topic 5. Tools and technologies to support innovations.	5	18	-	5	5	3	5	Test/oral questioning/
6	Topic 6. Strategies of innovative development.	5	18	-	5	5	3	5	Test/oral questioning/
	Summative assessment								**Credit**

	Total Hours		**108**		34	34	9	**31**	

4.2. Plan for Out-of-Class Student Self-Study of the Discipline

Semester	Section, Themes	Self-Study			Assessment Tool	Self-Study Educational and Methodological Support
		Type of Self-study	Deadlines	Load		
5	Topic 1. The concept of technical innovations and their classification.	Study of literature and methodological materials for the section of the course. Problem solving.	1-2 weeks	5	Test, oral survey	References from the list (section V)
5	Topic 2. The process of creating and implementing technical innovations.	Study of literature and methodological materials for the section of the course. Problem solving.	2-4 weeks	5	Test, oral survey	References from the list (section V).
5	Topic 3. Management of innovative projects.	Study of literature and methodological materials for the section of the course. Problem solving.	4-6 weeks	6	Test, oral survey	References from the list (section V).
5	Topic 4. Economic Evaluation and Efficiency of Innovations.	Study of literature and methodological materials for the section of the course. Problem solving.	6-8 weeks	5	Test, oral survey	References from the list (section V)
5	Topic 5. Tools and technologies to support innovations.	Study of literature and methodological materials for the section of the course. Problem solving.	8-10 weeks	5	Test, oral survey	References from the list (section V).

Semester	Section, Themes	Self-Study			Assessment Tool	Self-Study Educational and Methodological Support
		Type of Self-study	Deadlines	Load		
5	Topic 6. Strategies of innovative development.	Study of literature and methodological materials for the section of the course. Problem solving.	10-12 weeks	5	Test, oral survey	References from the list (section V).
Total amount of independent work in the discipline (hour)				**31**		

4.3. Learning Content

Topic 1. The concept of technical innovations and their classification.

1.1. Definition of the concepts of innovation and features of technical innovations 1.2. Classification of innovations: product, process, organizational, marketing 1.3. The importance of innovations for the development of organizations and the economy 1.4. Indicators of innovation efficiency and their economic importance 1.5. Examples of innovative projects and their impact on the competitiveness of companies

Topic 2. The process of creating and implementing technical innovations.

2.1. Stages of the innovation process 2.2. Methods for evaluating innovative projects at different stages of development 2.3. Tools for managing the innovation process: SWOT analysis, innovation roadmap, risk management 2.4. Successful examples of innovation implementation in industry and business

Topic 3. Management of innovative projects.

3.1. Fundamentals of project management of technical innovations: setting goals, resources, deadlines and budget 3.2. Team organization and personnel management of an innovative project 3.3. Methods of monitoring and control of the implementation of innovative projects 3.4. Adaptation of innovative projects to changes in external conditions and internal factors 3.5. Practice of effective management of innovative projects

Topic 4. Economic assessment and efficiency of innovations.

4.1. Calculation of indicators of economic efficiency of innovations: NPV, ROI, payback period, internal rate of return 4.2. Analysis of risk and uncertainty in the implementation of innovative projects 4.3. Assessment of the impact of innovations on productivity, profit, competitiveness and market position of the company 4.4. Real examples of calculating the economic efficiency of innovative initiatives

Topic 5. Tools and technologies for supporting innovations.

5.1. Modern digital innovation management tools: CRM, ERP, BI systems, cloud services 5.2. Collaboration platforms and methods for analyzing large amounts of data 5.3. Application of modeling and forecasting methods in the process of innovation management 5.4. Examples of practical application of digital technologies in innovation management in Russian companies

Topic 6. Strategies of innovative development.

6.1. Development of a strategy for innovative growth of organizations 6.2. Formation of innovation policy and creation of a corporate culture of innovation 6.3. Selection of key directions and priorities of innovative development 6.4. Impact of innovation strategy on the overall strategy of the company and its interaction with the external environment 6.5. Examples of successful strategic decisions in the field of innovation and their consequences for business

4.3.1. List of Seminars, Practical Sessions and Laboratory Work

№	Theme Number	Seminars, Practical Sessions and Laboratory Work	Load (hr.)		Assessment Tools	Developed Competencies (Indicators)
			Total hrs	Including Practical Sessions		
1	2	3	4	5	6	7
1	1	1.1. Definition of the concepts of innovation and features of technical innovations 1.2. Classification of innovations: product, process, organizational, marketing 1.3. The importance of innovations for the development of organizations and the economy 1.4. Innovation Efficiency Indicators and Their Economic Significance 1.5. Examples of innovative projects and their impact on the competitiveness of companies	5	---	Test, oral survey	PC 3.1 PC 3.2
2	2	2.1. Stages of the innovation process 2.2. Methods for evaluating innovative projects at different stages of development 2.3. Tools for managing the innovation process: SWOT analysis, innovation roadmap, risk management 2.4. Successful Examples of Innovation in Industry and Business	5	---	Test, oral survey	PC 3.1 PC 3.2
3	3	3.1. Fundamentals of project management of technical innovations: setting goals, resources,	5	---	Test, oral survey	PC 3.1 PC 3.2

№	Theme Number	Seminars, Practical Sessions and Laboratory Work	Load (hr.)		Assessment Tools	Developed Competencies (Indicators)
			Total hrs	Including Practical Sessions		
		deadlines and budget 3.2. Team organization and personnel management of an innovative project 3.3. Methods of monitoring and control of the implementation of innovative projects 3.4. Adaptation of innovative projects to changes in external conditions and internal factors 3.5. Practice of effective management of innovative projects				
4	4	4.1. Calculation of indicators of economic efficiency of innovations: NPV, ROI, payback period, internal rate of return 4.2. Analysis of risk and uncertainty in the implementation of innovative projects 4.3. Assessment of the impact of innovations on the productivity, profit, competitiveness and market position of the company 4.4. Real examples of calculating the economic efficiency of innovative initiatives	9		Test, oral survey	PC 3.1 PC 3.2
5	5	5.1. Modern digital tools for innovation management: CRM, ERP, BI systems, cloud services 5.2. Collaboration	5		Test, oral survey	PC 3.1 PC 3.2

№	Theme Number	Seminars, Practical Sessions and Laboratory Work	Load (hr.)		Assessment Tools	Developed Competencies (Indicators)
			Total hrs	Including Practical Sessions		
		Platforms and Big Data Analysis Methods 5.3. Application of modeling and forecasting methods in the process of innovation management 5.4. Examples of practical application of digital technologies in innovation management in Russian companies				
6	6	6.1. Development of a strategy for innovative growth of organizations 6.2. Formation of innovation policy and creation of a corporate culture of innovation 6.3. Selection of key areas and priorities for innovative development 6.4. Influence of the innovation strategy on the overall strategy of the company and its interaction with the external environment 6.5. Examples of successful strategic decisions in the field of innovation and their implications for business	5		Test, oral survey	PC 3.1 PC 3.2

4.3.2. List of Topics (Questions) Assigned for Independent Work as Part of Student Self-Study

№	Theme	Task	Competency	Indicators
1	**2**	**3**	**4**	**5**
1	Topic 1. The concept of	Reading literature	**PC 3**	**PC 3.1**

№	Theme	Task	Competency	Indicators
	technical innovations and their classification.	and methodological materials on the topic, studying the basic concepts and tools, solving problems.		**PC 3.2**
2	Topic 2. The process of creating and implementing technical innovations.	Reading literature and methodological materials on the topic, studying the basic concepts and tools, solving problems.	**PC 3**	**PC 3.1** **PC 3.2**
3	Topic 3. Management of innovative projects.	Reading literature and methodological materials on the topic, studying the basic concepts and tools, solving problems.	**PC 3**	**PC 3.1** **PC 3.2**
4	Topic 4. Economic Evaluation and Efficiency of Innovations.	Reading literature and methodological materials on the topic, studying the basic concepts and tools, solving problems.	**PC 3**	**PC 3.1** **PC 3.2**
5	Topic 5. Tools and technologies to support innovations.	Reading literature and methodological materials on the topic, studying the basic concepts and tools, solving problems.	**PC 3**	**PC 3.1** **PC 3.2**
6	Topic 6. Strategies of innovative development.	Reading literature and methodological materials on the topic, studying the basic concepts and tools, solving problems.	**PC 3**	**PC 3.1** **PC 3.2**

4.4. Guidelines for Organizing Student Self-Study

Students' self-study is carried out using e-learning and distance learning technologies. Educational and methodological materials for self-study are available to students through electronic library systems and the Hecadem Internet learning system, which presents materials of lectures and practical tasks, interactive forms of training, examples of tasks. Each student receives authorized access to the system. The Hecadem Internet Learning System is a platform for distance learning and learning using digital technologies of the Baikal International Business School of ISU. Available at: https://edu.buk.irk.ru.

Self-study consists of:

– in the student's independent preparation for the lecture – reading the notes of the previous lecture, watching the video version of the lecture (if any). This helps to better understand the material of the new lecture, relying on previous knowledge;

– in preparation for practical classes on the main and additional sources of literature;

– independent study of individual topics or issues from textbooks or manuals, from sources on the Internet and on the electronic portal of the university;

– in preparation for current control and summative assessment.

Control over self-study is carried out when the student performs tasks from the fund of assessment materials of the discipline. When performing independent work, the student must also take into account the criteria for evaluating the completed task (section 8 of this program). In the course of self-study control, both the actual knowledge, skills and abilities of students are assessed, as well as the depth of understanding and the ability to isolate and interpret integral semantic structures, as well as the skills of independent search for the necessary information on the topic of the lesson and its critical assessment.

V. EDUCATIONAL, METHODOLOGICAL, AND INFORMATION SUPPORT FOR THE DISCIPLINE

a) List of references

1. Polyakov, N. A. Management of innovative projects: a textbook and a workshop for universities / N. A. Polyakov, O. V. Motovilov, N. V. Lukashov. - 2nd ed., ispr. Moscow: Yurayt Publishing House, 2025. — 384 p. — (Higher Education). — ISBN 978-5-534-15534-1. — Text : electronic // Educational platform Yurayt [site]. — URL: https://urait.ru/bcode/560561
2. Polyakov, N. A. Management of innovative projects: a textbook and a workshop for universities / N. A. Polyakov, O. V. Motovilov, N. V. Lukashov. - 2nd ed., ispr. Moscow: Yurayt Publishing House, 2025. — 384 p. — (Higher Education). — ISBN 978-5-534-15534-1. — Text : electronic // Educational platform Yurayt [site]. — URL: https://urait.ru/bcode/560561
3. Sosnin, E. A. Technical creativity. Methodology for solving creative problems: a textbook for secondary professional education / E. A. Sosnin. — Moscow : Yurayt Publishing House, 2025. — 223 p. — (Professional education). — ISBN 978-5-534-10062-4. — Text : electronic // Educational platform Yurayt [site]. — URL: https://urait.ru/bcode/577343

We also recommend:

1. http://edu.buk.irk.ru are electronic course materials posted in the system of differentiated Internet learning of the Baikal International Business School.
2. http://www.mathnet.ru/ej.phtml?option_lang=rus – All-Russian portal Math-Net.Ru (electronic journals, information system)
3. Dunaeva Y.O., Yudalevich. Solving Economic Problems Using the MS Excel Add-in "Search for a Solution": Method. Instructions / Y.O. Dunaeva, N.V. Yudalevich. – Irkutsk : ISU Publishing House, 2019. – 44 p.
4. Chernyshev, V. M. Vysshaya matematika dlya resheniya ekonomicheskikh zadach [Higher mathematics for solving economic problems]. Manual / V. M. Chernyshev. - Irkutsk : ISU Publ., 2015. - 198 p.- ISBN 9785962412443

b) Databases, reference and retrieval systems

1. ELS "Bibliotech". State Contract No. 019 dated 22.02.2011, LLC "Bibliotech". License Agreement No. 31 dated 22.02.2011. Access address: https://isu.bibliotech.ru/ Validity period: from 22.11.2011, indefinite.
2. ELS "Rukont". Contract No. 98 dated 13.11.2020; Certificate No. bK-5415 dated 14.11.20. Validity period until 13.11.2021. Access: http://rucont.ru/
3. ELS "Lan Publishing House". LLC "Lan Publishing House". Information letter No. 128 dated 09.10.2017. Validity period: indefinite. Access address: http://e.lanbook.com/
4. ELS "National Digital Resource 'Rukont'". CCB "Bibkom". Contract No. 04-E-0343 dated 12.11.2021. Access address: http://rucont.ru/

5. ELS "Aibooks.ru/ibooks.ru". LLC "Aibooks". Contract No. 04-E-0344 dated 12.11.2021; Certificate dated 14.11.2021. Access address: http://ibooks.ru
6. Electronic Library System "ELS Urait". LLC "Urait Electronic Publishing House". Contract No. 04-E-0258 dated 20.09.2021. Access address: https://urait.ru/

VI. MATERIAL AND TECHNICAL SUPPORT FOR THE DISCIPLINE

6.1. Educational and Laboratory Equipment

Name of Specialized Premises and Self-Study Premises	Equipment of Specialized Premises and Self-Study Premises	List of Licensed Software. Details of Supporting Document
Lecture hall for lecture-type classes	The hall is equipped with specialized (educational) furniture for 48 students and technical teaching aids for presenting educational information to a large audience. The demonstration equipment set includes: 1. PC HP Elite 8300 SFF i5 3470/4Gb/1Tb/DVDRV/ kb/m/DOS/Solenoid Lock and Hood Sensor (RUS) 2. Monitor Viewsonic TFT 20" VA2014WM glossy-black 5ms 20 00:1 250cd M/M 3. Projector Epson EB-1830 4. Active speakers Genius SP-S110 black 5. Video signal splitter Aten VS92A 2-port VGA It is equipped with educational visual aids and electronic presentations that provide thematic illustrations for all topics specified in the discipline's syllabus.	BASE INSTALLATION KIT FOR: Office 2007 Russian OpenLicensePack NoLevel AcademicEdition – contract with CJSC "Softline Trade" Tr026664 dated 17.05.2007 Project Standard 2007, Access 2007 - Microsoft DreamSpark Premium Electronic Software Delivery academic collaboration programs. – contract with CJSC "Softline Trade" Tr000023480 dated 19.05.2015 Windows operating systems under OEM pre-installation licensing programs, Microsoft MSDN AA academic collaboration programs. – contract with CJSC "Softline Trade" Tr017431 dated 15.05.2008 Windows operating systems under OEM pre-installation licensing programs, Microsoft DreamSpark Premium Electronic Software Delivery academic collaboration programs. – contract with CJSC "Softline Trade" Tr000031723 dated 05.08.2015 Antivirus software - Software rights for dr.Web Server Security comprehensive protection for 120 PCs (1 license per year) migration with additional purchase (LBW-BC-12M-120:119-C4) – contract with CJSC "Softline Trade" 13982/MOS2957 dated 22.01.2016 Archivers WinRAR: 3.x: Standard Licence - for legal entities, 100-199 licenses – contract with CJSC "Softline Trade" No. 15422/IRK11 dated 05.02.2010 Network client part: Software rights for Windows Server CAL 2012 Russian OLP NL Academic Edition Device CAL, 120 licenses – contract with CJSC "Softline Trade" 13512/MOS2957 dated 29.10.2015 Firewall, Proxy functionality - Software usage rights for Traffic Inspector GOLD discounted – contract with CJSC "Softline Trade" Tr044356 dated 27.08.2013 Software usage rights for Traffic Inspector GOLD Special renewal for 1 year – contract with CJSC "Softline Trade" Tr000112196 dated 29.09.2016
Room for seminar-type classes	The room is equipped with specialized (educational) furniture for 48 students and technical teaching aids for presenting educational information to a large audience. The demonstration equipment set includes: 1. HP Elite 8300 SFF PC (i5 3470/4GB/1TB/DVDRV /keyboard/mouse/DOS/S	BASE INSTALLATION KIT FOR: Office 2007 Russian OpenLicensePack NoLevel AcademicEdition – contract with CJSC "Softline Trade" Tr026664 dated 17.05.2007 Project Standard 2007, Access 2007 - Microsoft DreamSpark Premium Electronic Software Delivery academic collaboration programs. – contract with CJSC "Softline Trade" Tr000023480 dated 19.05.2015 Windows operating systems under OEM pre-installation licensing programs, Microsoft MSDN AA academic collaboration programs. – contract with CJSC "Softline Trade" Tr017431 dated 15.05.2008 Windows operating systems under OEM pre-installation licensing programs, Microsoft DreamSpark Premium Electronic Software Delivery academic collaboration programs. – contract with CJSC "Softline Trade" Tr000031723 dated 05.08.2015

	olenoid Lock and Hood Sensor (RUS)) 2. Viewsonic TFT 20" VA2014WM glossy-black monitor (5ms, 20:1 contrast ratio, 250 cd/m², M/M) 3. Epson EB-1830 projector 4. Genius SP-S110 black active speakers 5. Aten VS92A 2-port VGA video signal splitter	Antivirus software - Software rights for dr.Web Server Security comprehensive protection for 120 PCs (1 license per year) migration with additional purchase (LBW-BC-12M-120:119-C4) – contract with CJSC "Softline Trade" 13982/MOS2957 dated 22.01.2016 Archivers WinRAR: 3.x: Standard Licence - for legal entities, 100-199 licenses – contract with CJSC "Softline Trade" No. 15422/IRK11 dated 05.02.2010 Network client part: Software rights for Windows Server CAL 2012 Russian OLP NL Academic Edition Device CAL, 120 licenses – contract with CJSC "Softline Trade" 13512/MOS2957 dated 29.10.2015 Firewall, Proxy functionality - Software usage rights for Traffic Inspector GOLD discounted – contract with CJSC "Softline Trade" Tr044356 dated 27.08.2013 Software usage rights for Traffic Inspector GOLD Special renewal for 1 year – contract with CJSC "Softline Trade" Tr000112196 dated 29.09.2016
Hall for group and individual consultations, formative and summative assessment	The hall is equipped with specialized (educational) furniture for 11 students, 5 workstations equipped with computers connected to the Internet and providing access to the Electronic Information and Educational Environment (EIOS) of FSBEI HE "ISU". Equipment: 1. 5 workstations: System unit HP Compaq dc7800SFF Dual Core PE-2180, 4 Gb DDR2 PC6400, 160GB SATA 3.0 HDD 2. 17.0" ViewSonic "VA703m" LCD display, 1280x1024, 8ms, TCO'03, silver-black (D-Sub, MM) 3. One Hewlett-Packard LaserJet 3055 All-in-One multifunction printer.	BASE INSTALLATION KIT FOR: Office 2007 Russian OpenLicensePack NoLevel AcademicEdition – contract with CJSC "Softline Trade" Tr026664 dated 17.05.2007 Project Standard 2007, Access 2007 - Microsoft DreamSpark Premium Electronic Software Delivery academic collaboration programs. – contract with CJSC "Softline Trade" Tr000023480 dated 19.05.2015 Windows operating systems under OEM pre-installation licensing programs, Microsoft MSDN AA academic collaboration programs. – contract with CJSC "Softline Trade" Tr017431 dated 15.05.2008 Windows operating systems under OEM pre-installation licensing programs, Microsoft DreamSpark Premium Electronic Software Delivery academic collaboration programs. – contract with CJSC "Softline Trade" Tr000031723 dated 05.08.2015 Antivirus software - Software rights for dr.Web Server Security comprehensive protection for 120 PCs (1 license per year) migration with additional purchase (LBW-BC-12M-120:119-C4) – contract with CJSC "Softline Trade" 13982/MOS2957 dated 22.01.2016 Archivers WinRAR: 3.x: Standard Licence - for legal entities, 100-199 licenses – contract with CJSC "Softline Trade" No. 15422/IRK11 dated 05.02.2010 Network client part: Software rights for Windows Server CAL 2012 Russian OLP NL Academic Edition Device CAL, 120 licenses – contract with CJSC "Softline Trade" 13512/MOS2957 dated 29.10.2015 Firewall, Proxy functionality - Software usage rights for Traffic Inspector GOLD discounted – contract with CJSC "Softline Trade" Tr044356 dated 27.08.2013 Software usage rights for Traffic Inspector GOLD Special renewal for 1 year – contract with CJSC "Softline Trade" Tr000112196 dated 29.09.2016
Room for student self-study work	It is equipped with specialized (educational) furniture for 10 students and computer hardware connected to the Internet with access to the ISU Electronic Information and Educational Environment (EIOS). 1. 10 units: ThinkCentre M80 Series SFF system unit kit: Intel® Core™	BASE INSTALLATION KIT FOR: Office 2007 Russian OpenLicensePack NoLevel AcademicEdition – contract with CJSC "Softline Trade" Tr026664 dated 17.05.2007 Project Standard 2007, Access 2007 - Microsoft DreamSpark Premium Electronic Software Delivery academic collaboration programs. – contract with CJSC "Softline Trade" Tr000023480 dated 19.05.2015 Windows operating systems under OEM pre-installation licensing programs, Microsoft MSDN AA academic collaboration programs. – contract with CJSC "Softline Trade" Tr017431 dated 15.05.2008 Windows operating systems under OEM pre-installation licensing programs, Microsoft DreamSpark Premium Electronic Software

	i3-540 Clarkdale 2.93GHz / 1333MHz / Dual Core™ / 4M/73W / LGA 1156/32nm / 4GB PC3-10600 SDRAM x 2 / 250 GB, 7200RPM SATA / DVD RW 2. 10 units: 20.0" ViewSonic "VA2013w" LCD monitor, 1600x900, 5ms, TCO 03, black (D-Sub) 3. HP LaserJet 5000N printer, A3, 22ppm, 32 MB, 250 & 500 sheet feeder, JetDirect 615n print server 4. HP LaserJet 5100th printer, A3, 22ppm, 32 MB, 250 & 500 sheet feeder, JetDirect 615n print server	Delivery academic collaboration programs. – contract with CJSC "Softline Trade" Tr000031723 dated 05.08.2015 Antivirus software - Software rights for dr.Web Server Security comprehensive protection for 120 PCs (1 license per year) migration with additional purchase (LBW-BC-12M-120:119-C4) – contract with CJSC "Softline Trade" 13982/MOS2957 dated 22.01.2016 Archivers WinRAR: 3.x: Standard Licence - for legal entities, 100-199 licenses – contract with CJSC "Softline Trade" No. 15422/IRK11 dated 05.02.2010 Network client part: Software rights for Windows Server CAL 2012 Russian OLP NL Academic Edition Device CAL, 120 licenses – contract with CJSC "Softline Trade" 13512/MOS2957 dated 29.10.2015 Firewall, Proxy functionality - Software usage rights for Traffic Inspector GOLD discounted – contract with CJSC "Softline Trade" Tr044356 dated 27.08.2013 Software usage rights for Traffic Inspector GOLD Special renewal for 1 year – contract with CJSC "Softline Trade" Tr000112196 dated 29.09.2016

6.2. Software

The university is provided with the necessary set of licensed and freely distributed software, including domestic production:

1. Basic installation kit for: Office 2010 Services for granting the right to use the Microsoft Desktop Edu ALNG LicSAPk OLV E 1Y Acdmc Ent. program, 39 licenses for the ISU BMBSh. Contract No. 03-K-1131 dated November 29, 2021 KOSGU 226.4
2. Project Standard 2007, Access 2007 – ISU Azure Dev Tools for Teaching subscription (Visio, Project) 1 Year. Microsoft Corporation, One Microsoft Way, Redmond, WA 98052. Expiration Date March 31, 2023.
3. Microsoft Project Professional 2010, ISU Azure Dev Tools for Teaching subscription (Visio, Project) 1 Year. Microsoft Corporation, One Microsoft Way, Redmond, WA 98052. Expiration Date March 31, 2023.
4. Windows 7, Windows 10 operating systems – Services for granting the right to use the Microsoft Desktop Edu ALNG LicSAPk OLV E 1Y Acdmc Ent. program, 39 licenses for the ISU BMBSh. Contract No. 03-K-1131 dated November 29, 2021 KOSGU 226.4
5. Antivirus software - Dr.Web renewal Contract No. Tr000582689/03-E-0043 dated February 5, 2021, invoice No. Tr000582689 dated February 8, 2021
6. WinRAR archivers: 3.x: Standard Licence - for legal entities 100-199 licenses – Appendix No. 1 to contract No. 15422/IRK11 CJSC "Softline Trade" dated February 5, 2010
7. Network client part – Software rights for Windows Server CAL 2012 Russian OLP NL Academic Edition Device CAL 120 licenses - invoice Tr000051059 CJSC "Softline Trade" dated October 27, 2015
8. Firewall, Proxy functionality – Software usage rights for Traffic Inspector GOLD discounted invoice Tr005456 CJSC "Softline Trade" dated August 27, 2013
9. Traffic Inspector GOLD Special* for 5 years Contract RSZ-0000276 dated November 16, 2021 KOSGU 226.4 License renewal

6.3. Technical and Electronic Learning Tools

Multimedia Equipment and Other Technology for Presentation of Educational Material:

1. Desktop PC HP EliteDesk 800 G4 SFF Intel Core i5 8500 (3Ghz)/8192Mb/1000Gb/DVDrw/warranty 3y/W10Pro +V
2. ViewSonic 21.5" VA2245a monitor - LED [LED, 1920x1080, 10M:1, 5ms, 170° horizontal, 160° vertical, D-Sub]
3. NEC M420X LCD projector, 4200 ANSI Lumens, XGA, 2000:1 contrast, lamp 3500h (Eco mode), HDMI, USB Viewer, RJ-45, 10W, 3.6 kg
4. Jetbalance JB-115U 2.0 black speakers (4W)
5. Aten VS92A 2-port VGA video signal splitter

List of Licensed Software Used:

1. Office 2010 under the academic collaboration program with Russian Microsoft Desktop Education AllLng License/Software Assurance Pack Academic OLV 1License LevelE Enterprise.
2. Project Standard 2007, Access 2007 – under the Microsoft DreamSpark Premium Electronic Software Delivery academic collaboration program.
3. Microsoft Project Professional 2010, Microsoft Visio Professional 2010 under the Microsoft Imagine Standard Electronic Software Delivery academic collaboration program with the assistance of the ISU Computer Center (CNIT ISU).

VII. EDUCATIONAL TECHNOLOGIES

Educational technologies used in teaching the discipline:
— lecture and seminar credit system;
— analysis of situations (tasks, examples);
— learning in cooperation (teamwork, group work);
— information and communication.

Distance learning technologies used in teaching the discipline are implemented with the help of the differentiated Internet learning system of the BIBS ISU "Hekadem".

List of Topics with Corresponding Teaching Forms/Methods/Technologies

№	Class Topic	Session Type	Teaching Format / Methods / Technologies (Distance & Interactive)	Hours
1	**2**	**3**	**4**	**5**
1	Topic 1. The concept of technical innovations and their classification.	Lecture	presentation, Discussion	5
2	Topic 1. The concept of technical innovations and their classification.	Practical lesson	test, oral questioning	5
3	Topic 2. The process of creating and implementing technical innovations.	Lecture	presentation, Discussion	5
4	Topic 2. The process of creating and implementing technical innovations.	Practical lesson	test, oral questioning	5

5	Topic 3. Management of innovative projects.	Lecture	presentation, Discussion	5
6	Topic 3. Management of innovative projects.	Practical lesson	test, oral questioning	5
7	Topic 4. Economic Evaluation and Efficiency of Innovations.	Lecture	presentation, Discussion	9
8	Topic 4. Economic Evaluation and Efficiency of Innovations.	Practical lesson	test, oral questioning	9
9	Topic 5. Tools and technologies to support innovations.	Lecture	presentation, Discussion	5
10	Topic 5. Tools and technologies to support innovations.	Practical lesson	test, oral questioning	5
11	Topic 6. Strategies of innovative development.	Lecture	presentation, Discussion	5
12	Topic 6. Strategies of innovative development.	Practical lesson	test, oral questioning	5
Total hours:				**68**

VIII. MATERIALS FOR FORMATIVE AND SUMMATIVE ASSESSMENT

Materials for formative and summative assessment of students' knowledge are as follows:

№	**Type of control**	**Supervised topics (sections)**	**Controllable competencies / indicators**
1	**2**	**3**	**4**
1	**Current control**		
1.1	Online test in the Hecadem system of differentiated Internet learning	Topic 1. The concept of technical innovations and their classification.	**PC 3.1** **PC 3.2**
1.2	Online test in the Hecadem system of differentiated Internet learning	Topic 2. The process of creating and implementing technical innovations.	**PC 3.1** **PC 3.2**
1.3	Online test in the Hecadem system of differentiated Internet learning	Topic 3. Management of innovative projects.	**PC 3.1** **PC 3.2**
1.4	Online test in the Hecadem system of differentiated Internet learning	Topic 4. Economic Evaluation and Efficiency of Innovations.	**PC 3.1** **PC 3.2**
1.5	Online test in the Hecadem system of differentiated Internet learning	Topic 5. Tools and technologies to support	**PC 3.1** **PC 3.2**

		innovations.	
1.6	Online test in the Hecadem system of differentiated Internet learning	Topic 6. Strategies of innovative development.	**PC 3.1** **PC 3.2**
2	**Summative assessment**		
2.1	Credit	All course topics	**PC 3.1** **PC 3.2**

Materials for formative assessment:

Sample questions from online tests

1. What is technical innovation?
(a) Development of a new advertising slogan
(b) Introduction of a new product to the market
c) Office redevelopment
d) Organization of a corporate event
Correct answer: b
2. The main feature of innovation is:
(a) Novelty and usefulness
(b) Cheapness
(c) Implementation period
(d) Availability of staff
Correct answer: a
3. The classification of innovations includes:
a) Product, process, organizational, marketing
(b) Short-term and long-term
c) Internal and external only
(d) Financial and non-financial
Correct answer: a
4. At what stage of the innovation process is a prototype created?
(a) Idea generation
b) Testing
(c) Concept development
d) Prototyping
Correct answer: d
5. What is not related to the stages of the innovation process?
(a) Idea generation
(b) Budgeting
(c) Implementation
(d) Personnel management
Correct answer: d
6. The SWOT analysis tool is used to:
(a) Project risk and opportunity assessments
(b) Budget planning
(a) Recruitment
d) Conducting a marketing campaign
Correct answer: a
7. Innovation Roadmap is used to:
(a) Development of financial statements
b) Planning the stages of an innovative project

(c) Recruitment of staff
d) Creation of advertisements
Correct answer: b
8. The main goal of innovation project management is:
(a) Tax Reductions
b) Achieving project objectives with minimal resources
c) Organization of a corporate event
(d) Increase in the number of staff
Correct answer: b
9. Which of the methods is used to assess the economic efficiency of an innovation?
a) SWOT analysis
b) ROI
c) Scrum
(d) Benchmarking
Correct answer: b
10. What is NPV (Net Present Value)?
(a) Net present value of the project
(b) Internal rate of return
(c) Payback period
(d) Cost of production
Correct answer: a
11. Internal rate of return (IRR) shows:
a) Maximum project risk
b) Percentage of return at which NPV = 0
(c) Average salary of staff
(d) Payback period
Correct answer: b
12. Digital innovation support tools include:
(a) Project management systems
b) Market research only
c) Office furniture
(d) Legal advice
Correct answer: a
13. Modeling and forecasting of innovation processes is necessary for:
(a) Staff monitoring
(b) Making informed decisions
c) Reducing the cost of the project
(d) Increase in staff
Correct answer: b
14. The economic assessment of innovations includes:
a) Assessment of profits, payback, risks
(b) Current taxes
(c) Weather conditions
(d) Number of participants in meetings
Correct answer: a
15. The main objective of the innovative development strategy is:
(a) Identification of innovation priorities and directions
b) Corporate event planning
(c) Monitoring of staff working hours
(d) Vacation management

Materials for summative assessment in the form of an exam

Approximate list of questions on theory

1. The concept of technical innovation management: what is technical innovation, goals and objectives of innovation management, types of innovations (technical, technological, organizational) and the main approaches to their implementation.
2. Sequence of the innovation process: determination of the stages of innovation implementation, planning and organization of innovation activities, logical sequence of actions from idea to implementation.
3. Small and large innovation projects: their definitions, differences and the relationship between the scale of innovation.
4. Limits of innovation: assessment of the maximum achievable results of implementation, analysis of limitations and risks, interpretation of the potential of innovation.
5. Application of innovative sequences: formulation of tasks for the development and implementation of new technologies, testing of prototypes, repeated verification of the effectiveness of solutions.
6. Analysis of technical and economic results: methods for assessing the effectiveness of implementation, the use of indicators of productivity, quality and payback of innovations.
7. Functions of innovation management: setting goals and objectives of an innovative project, allocation of resources, building a management structure, interaction of project participants.
8. Evaluation of the results of the innovation process: definition of success criteria, verification of compliance of planned and actual results, analysis of deviations and causes.
9. Continuity of the innovation process: ensuring the stability of implementation, control of intermediate stages, identification and elimination of problems at all stages.
10. Methods of analysis and optimization of innovations: use of technical and economic indicators, forecasting of technology development, modeling of implementation scenarios.
11. The basic rules of innovation management are: application of best practices, standardization of processes, documentation and visualization of innovation stages.
12. Study of the effectiveness of innovation implementation: identification of key success factors, identification of bottlenecks, assessment of the impact of innovations on production and business processes.
13. Generalization and systematization of information on innovations: collection of data on implemented projects, analysis of results, identification of patterns and success factors.
14. Methods of processing and analyzing data of an innovative project: the use of monitoring software, comparison of different approaches, synthesis of information from different sources.
15. Evaluation of the results of the innovative project: determination of the significance of the implemented technology, formation of recommendations for further projects, assessment of the impact on the competitiveness and development of the company.

Evaluation criteria for formative and summative assessment:

Evaluation criteria	**Grade**
Less than 60% of correct answers	2 (unsatisfactory)
Correct answers are at least 60% and at least 70%	3 (satisfactory)
Correct answers are more than 70% and at least 85%	4 (good)
More than 85% of correct answers	5 (excellent)

Developer:

Senior Lecturer Y.O. Dunaeva

(signature) (position) (FULL NAME)

The program is developed in accordance with the requirements of the Federal State Educational Standards of Higher Education for the major 27.03.05 Innovatics, specialization "Management of Innovative and IT Projects and Products".

The program was considered at a meeting of the Department of Strategic and Financial Management on March 21, 2025, Minutes No 9.

Head of the Department N.B. Grosheva