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.04 Business Process Management: Digital Technologies

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

Department Chair N.B.Grosheva

Irkutsk 2025

CONTENTS

I. Goals and objectives of the discipline (module)

The purpose of teaching the academic discipline "Б1.В.04 Business Process Management: Digital Technologies" is to study the theoretical and practical aspects of business process modeling by students majoring in "Innovatics", as well as to gain practical skills in the use of software products for modeling business processes.

Based on the goal, the following tasks are solved in the process of studying the discipline:

- to study the methodological foundations of business process modeling;
- to gain practical skills in modeling business processes, taking into account possible risks;
- to learn how to use specialized software products to build business process models taking into account possible risks.

II. Place of the Discipline in the CPEP Structure

Academic discipline (module) Б1.В.04 “Business Process Management: Digital Technologies” is part of the curriculum component formed by the participants in the educational process.

To study this academic discipline (module), it is necessary to have knowledge, skills and abilities formed by the previous disciplines: "Management", "Economics (microeconomics and macroeconomics)".

List of subsequent academic disciplines for which knowledge, skills and abilities formed by this academic discipline are required: Pre-Graduation Practice, Preparation of Final Qualification Paper.

III. Requirements for the Discipline Learning Outcomes

The process of mastering the discipline is aimed at developing competencies (elements of the following competencies) in accordance with the Federal State Educational Standard of Higher Education (FSES HE) and Core Educational Program of Higher Education (CEP HE) in the field of study 27.03.05 "Innovatics”.

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

Competency	Competency Achievement Indicator	Learning outcomes
PC-5 Capable of developing proposals for the acquisition and sale of technology, product, and other intellectual assets	PC-5.3 Proficient in researching market-available technologies, IT products, and organizations; formulating proposals for acquiring attractive external assets to develop a series of innovative and IT products; and monitoring the effectiveness of organizational asset utilization for the series of innovative and IT products.	Possesses: skills of researching organizations existing on the market; monitoring the effectiveness of the use of the organization's assets; basic skills in modeling business processes.

IV. Contents and Discipline Structure

The volume of the discipline is 4 credits, 144 hours, including 26 hours for summative assessment.
Form of summative assessment: exam

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

№	Discipline Section/ Theme	Semester	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	Seminars (practical classes)	Consultations, Self-Study Monitoring, Summative Assessment		
	Modern system of views on the management of the organization		4	4	0/1		Reports, questions for colloquiums, interviews, test, exam
	Business Process as an Object of Research		4	4	0/1		Reports, questions for colloquiums, interviews, test, exam
	System analysis of the organization's activities		4	4	0/1		Reports, questions for colloquiums, interviews, test, exam
	Modern Approaches to Business Process Modeling		4	4	0/1		Reports, questions for colloquiums, interviews, test, exam
	SADT Functional Modeling Methodology		4	4	0/1		Reports, questions for colloquiums, interviews, test, exam
	ARIS Business Process Modeling Methodology		4	4	0/1		Reports, questions for colloquiums, interviews, test, exam
	BPMN Business		6	6	1/2		Reports, questions for

№	Discipline Section/ Theme	Semester	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	Seminars (practical classes)	Consultations, Self-Study Monitoring, Summative Assessment		
	Process Modeling Methodology						colloquiums, interviews, test, exam
	Balanced scorecard and key performance indicators		6	6	1/2	/2	Reports, questions for colloquiums, interviews, test, exam
Total Hours			**36**	**36**	**2/10**	**2/2**	Exam 26

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

Semester	Section, Theme	Self-Study			Assessment tool	Self-Study Educational and Methodological Support
		Type of self-study	Deadlines	Load (hours)		
1.	Modern system of views on the management of the organization	Study of theoretical material, preparation for a practical lesson	1-2	4	Reports, reports, questions for colloquiums, interviews, test, exam	1,2,3,4
2.	Business Process as an Object of Research	Study of theoretical material, preparation for a practical lesson	3-4	4	Reports, reports, questions for colloquiums, interviews, test, exam	1,2
3.	System analysis of the organization's activities	Study of theoretical material, preparation for a practical lesson	5-6	4	Reports, reports, questions for colloquiums, interviews, test, exam	1,2

Semester	Section, Theme	Self-Study			Assessment tool	Self-Study Educational and Methodological Support
		Type of self-study	Deadlines	Load (hours)		
4.	Modern Approaches to Business Process Modeling	Study of theoretical material, preparation for a practical lesson	7-8	4	Reports, reports, questions for colloquiums, interviews, test, exam	1,2
5.	SADT Functional Modeling Methodology	Study of theoretical material, preparation for a practical lesson	9-10	4	Reports, reports, questions for colloquiums, interviews, test, exam	1,2
6.	ARIS Business Process Modeling Methodology	Study of theoretical material, preparation for a practical lesson	11-12	4	Reports, reports, questions for colloquiums, interviews, test, exam	1,2
7.	BPMN Business Process Modeling Methodology	Study of theoretical material, preparation for a practical lesson	13-14	4	Reports, reports, questions for colloquiums, interviews, test, exam	1,2
8.	Balanced scorecard and key performance indicators	Study of theoretical material, preparation for a practical lesson	15-17	4	Reports, reports, questions for colloquiums, interviews, test, exam	1,2
Total load of self-study in the discipline (hours)				**32**		

4.3. Learning Content

Topic 1. Modern system of views on the management of the organization

Organization management system. Basic approaches to the management of the organization. Assessment of the level of maturity of business process management.

Topic 2. Business Process as an Object of Research

Business process: characteristics and classification. Study of business processes of the organization. Fundamentals of Business Process Management.

Topic 3. System analysis of the organization's activities

System analysis: organization as a system, goals of the organization, system of processes. Basic methodologies for classifying business processes of an organization.

Topic 4. Modern Approaches to Business Process Modeling

Goals and objectives of business process modeling. Ways of describing business processes. Methodologies for modeling business processes.

Topic 5. SADT Functional Modeling Methodology

Method of structural analysis and design: purpose and features. IDEF0 methodology. Software tools for modeling business processes in SADT and IDEF standards.

Topic 6. ARIS Business Process Modeling Methodology

ARIS Modeling Methodology. Main ARIS models. Software Modeling Tools in ARIS Methodology.

Topic 7. BPMN Business Process Modeling Methodology

BPM Business Process Management Concept. Description of BPMN notation. BPMN software support.

Topic 8. Balanced scorecard and key performance indicators

The concept of "Performance Management". Balanced scorecard. Key performance indicators.

4.3.1. List of seminars, practical classes and laboratory work

#	Theme Number	Seminars, Practical and Laboratory Work	Load (hr.)	Assessment tools	Developed Competencies (Indicators)
	1.	Modern system of views on the management of the organization	4	Reports, reports, questions for colloquiums, interviews, test, exam	PC-5.3
	2.	Business Process as an Object of Research	4	Reports, reports, questions for colloquiums, interviews, test, exam	PC-5.3
	3.	System analysis of the organization's activities	4	Reports, reports, questions for colloquiums, interviews, test, exam	PC-5.3
	4.	Modern Approaches to Business Process Modeling	4	Reports, reports, questions for colloquiums, interviews, test, exam	PC-5.3
	5.	SADT Functional Modeling Methodology	4	Reports, reports, questions for colloquiums, interviews, test, exam	PC-5 (IDC PC5.3)
	6.	ARIS Business Process Modeling Methodology	4	Reports, reports, questions for colloquiums, interviews, test, exam	PC-5.3
	7.	BPMN Business Process Modeling Methodology	6	Reports, reports, questions for colloquiums, interviews, test, exam	PC-5.3
.	8.	Balanced scorecard and key performance indicators	6	Reports, reports, questions for colloquiums, interviews, test, exam	PC-5.3

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

№	Theme	Task	Competency	Indicators
.	Business Process as an Object of Research	Consolidation of lecture material on the topic "Business process as an object of research"	PP-5	PC5.3
.	System analysis of the organization's activities	Consolidation of lecture material on the topic "System analysis of the organization's activities"	PC-5	PC5.3
	Modern Approaches to Business Process Modeling	Consolidation of lecture material on the topic "Modern approaches to modeling business processes"	PC-5	PC5.3
	SADT Functional Modeling Methodology	Consolidation of lecture material on the topic "Methodology of functional modeling SADT"	PC-5	PC5.3
	ARIS Business Process Modeling Methodology	Consolidation of lecture material on the topic "ARIS Business Process Modeling Methodology"	PC-5	PC5.3
	BPMN Business Process Modeling Methodology	Consolidation of lecture material on the topic "BPMN Business Process Modeling Methodology"	PC-5	PC5.3
	Balanced scorecard and key performance indicators	Consolidation of lecture material on the topic "Balanced Scorecard and Key Performance Indicators"	PC-5	PC5.3

4.4. Guidelines for Organizing Student Self-Study

Successful mastery of knowledge in business process management involves constant and painstaking independent work of students at lectures, seminars, in preparation for midterm tests and exams.

Students need to acquire the skills and ability to briefly, schematically, consistently and logically record the main provisions of the lecture, conclusions, generalizations, formulations. Investment project management uses its own terminology and categorical apparatus, which the student must learn to use and apply in the learning process. At the end of the lecture, the teacher leaves time (5 minutes) for students to have the opportunity to ask clarifying questions on the material being studied.

In order to develop students' skills of teamwork, interpersonal communication, decision-making, leadership qualities, most classes are held in an interactive form: group discussions and projects, analysis of specific situations based on simulation models, reading interactive lectures.

Preparation for a practical lesson requires familiarization and work of the student with the recommended scientific, educational and periodical scientific literature. At the practical lesson, each student has the opportunity to show knowledge of the categories, provisions and tools of business process management, the ability to apply them in the assessment of the main processes and

phenomena occurring in the modern business environment.

Methodical instructions for the organization of self-study. Obtaining in-depth knowledge in the discipline under study is achieved through additional hours to classroom work - self-study of students. When working independently, special attention should be paid to the following issues:

- Organization management system.
- Basic approaches to the management of the organization.
- Assessment of the level of maturity of business process management.
- Business process: characteristics and classification.
- Study of business processes of the organization.
- Goals and objectives of business process modeling.
- Ways of describing business processes.
- Methodologies for modeling business processes.
- Method of structural analysis and design: purpose and features.
- IDEF0 methodology.
- ARIS Modeling Methodology.
- Main ARIS models.
- BPM Business Process Management Concept.
- The concept of "Performance Management".
- Balanced scorecard.
- Key performance indicators.

V. EDUCATIONAL, METHODOLOGICAL AND INFORMATION SUPPORT OF THE DISCIPLINE (MODULE)

a) Required reading:

1. Kamennova, M. S. Business process modeling. V 2 ch. Part 1 : textbook and workshop for universities / M. S. Kamennova, V. V. Krokhin, I. V. Mashkov. — Moscow : Urait Publishing House, 2022. — 282 p. — (Higher Education). — ISBN 978-5-534-05048-6. — Text : electronic // Educational platform Urait [site]. — URL: https://urait.ru/bcode/489260. Unlimited access.
2. Kamennova, M. S. Business process modeling. V 2 ch. Part 2 : textbook and workshop for universities / M. S. Kamennova, V. V. Krokhin, I. V. Mashkov. — Moscow : Urait Publishing House, 2022. — 228 p. — (Higher Education). — ISBN 978-5-534-09385-8. — Text : electronic // Educational platform Urait [site]. - URL: https://urait.ru/bcode/494859 Unlimited access.
3. Kuptsova, E. V. Business Planning: Textbook and Practicum for Higher Educational Institutions / E. V. Kuptsova, A. A. Stepanov. — Moscow : Urait Publishing House, 2022. — 435 p. — (Higher Education). — ISBN 978-5-9916-8377-7. — Text : electronic // Educational platform Urait [site]. - URL: https://urait.ru/bcode/489327 Unlimited access.

We also recommend

4. Frolov, Y. V. Strategic management. Formation of strategy and design of business processes: a textbook for universities / Y. V. Frolov, R. V. Seryshev; edited by Y. V. Frolov. - 2nd ed., ispr. Moscow: Urait Publishing House, 2020. — 154 p. — (Higher Education).
5. Chekmarev, A. V. Management of IT Projects and Processes: A Textbook for Higher Educational Institutions. — Moscow : Urait Publishing House, 2022. — 228 p. — (Higher Education).

b) databases, information and reference and search systems

1. EBS ECZ "Bibliotech". State Contract No 019 dated 22.02.2011 Bibliotech LLC. License Agreement No 31 dated 22.02.2011 Access address: https://isu.bibliotech.ru/ Validity: from 22.11.2011 indefinitely.

2. EBS "Rukont" Contract No 98 dated 11/13/2020; Act No bK-5415 dated 11/14/20 Valid until 11/13/2021. access: http://rucont.ru/

3. EBS "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. EBS "National Digital Resource "Rukont". Central Design Bureau "Bibkom". Contract No 04-E-0343 dated 12.11.2021 Access address: http://rucont.ru/

5. EBS "Ibuks.ru/ibooks.ru". LLC "Ibux". Contract No 04-E-0344 dated 12.11.2021; Act dated 14.11.2021. Access address: http://ibooks.ru

6. Electronic Library System "EBS Urait". LLC "Electronic Publishing House Urait". Contract No 04-E-0258 dated 20.09.2021. Available at: https://urait.ru/

VI. MATERIAL AND TECHNICAL SUPPORT OF THE DISCIPLINE (MODULE)

6.1. Educational and laboratory equipment

Special rooms and rooms for self-study	Equipment of special rooms and rooms for self-study	List of licensed software. Details of the supporting document
Classroom for lecture-type classes	The classroom is equipped with specialized furniture for 48 students and technical teaching aids that serve to present educational information to a large audience. 1.PC HP Elite 8300 SFF i5 3470/4Gb/1Tb/DVD RV/kb/m/DOS/Solenoid Lock and Hood Sensor (RUS)2. Monitor Viewsonic TFT 20" VA2014WM glossy-black 5ms 20 00:1 250cd M/M3. Projector Epson EB-18304. Genius SP-S110 Active Speakers Black5. Aten VS92A Video Splitter 2-port VGA It is equipped with educational and visual aids and	BASIC SOFTWARE INSTALLATION KIT:Office 2007 Russian OpenLicensePack NoLevel AcademicEdition – agreement with SoftLine Trade Tr026664 dated 17.05.2007Project Standard 2007, Access 2007 – Academic cooperation programs with Microsoft DreamSpark Premium Electronic Software Delivery. – Agreement with CJSC "SoftLine Trade" Tr000023480 dated 19.05.2015 Windows Operating Systems for Licensed OEM Pre-Installation Programs, Academic Cooperation Programs with Microsoft MSDN AA.- Agreement with CJSC "SoftLine Trade" Tr017431 dated 15.05.2008 Windows Operating Systems for Licensed OEM Pre-Installation Programs, Academic Cooperation Programs with Microsoft DreamSpark Premium Electronic Software Delivery. – agreement with CJSC "SoftLine Trade" Tr000031723 dated 05.08.2015Anti-virus programs - Rights to computer programs drWeb Server Security complex protection 120PC (1 license per year) migration with additional purchase(LBW-BC-12M-120:119-C4) – agreement with CJSC "SoftLine Trade" 13982/MOS2957 dated 22.01.2016Archivers WinRAR: 3.x: Standard License - for legal entities 100-199 licenses – agreement with CJSC "SoftLine Trade" No15422/IRK11 dated 05.02.2010Network client part Rights to computer programs Windows Server CAL 2012 Russian OLP NL Akademic Edition Device CAL 120 licenses – agreement with CJSC "SoftLine Trade" 13512/MOS2957 dated 29.10.2015Firewall, Proxy functionality - Right to use computer programs Traffic

	electronic presentations that provide thematic illustrations on all topics specified in the work program of the discipline	Inspector GOLD preferential – agreement with CJSC "SoftLine Trade" Tr044356 dated 27.08.2013Right to use computer programs Extension of Traffic Inspector GOLD Special for 1 year – agreement with CJSC "SoftLine Trade" Tr000112196 dated 29.09.2016
Classroom for seminar-type classes	The classroom is equipped with specialized furniture for 48 students and technical teaching aids that serve to present educational information to a large audience The demonstration kit includes: 1.PC HP Elite 8300 SFF i5 3470/4Gb/1Tb/DVD RV/kb/m/DOS/Solen oid Lock and Hood Sensor (RUS)2. Monitor Viewsonic TFT 20" VA2014WM glossy-black 5ms 20 00:1 250cd M/M3. Projector Epson EB-18304. Genius SP-S110 Active Speakers Black5. Aten VS92A Video Splitter 2-port VGA	BASIC INSTALLATION KIT: Office 2007 Russian OpenLicensePack NoLevel AcademicEdition – agreement with SoftLine Trade Tr026664 dated 17.05.2007Project Standard 2007, Access 2007 – Academic cooperation programs with Microsoft DreamSpark Premium Electronic Software Delivery. – agreement with SoftLine Trade CJSC Tr000023480 dated 19.05.2015 Windows operating systems under licensed OEM preinstallation programs, Academic cooperation programs with Microsoft MSDN AA.- agreement with CJSC "SoftLine Trade" Tr017431 dated 15.05.2008 Windows operating systems under licensed OEM preinstallation programs, Academic cooperation programs with Microsoft DreamSpark Premium Electronic Software Delivery. – agreement with CJSC "SoftLine Trade" Tr000031723 dated 05.08.2015 Anti-Virus Programs - Rights to computer programs drWeb Server Security complex protection 120PC (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 License - for legal entities 100-199 licenses – agreement with CJSC "SoftLine Trade" No15422/IRK11 dated 05.02.2010 Network client part Rights to computer programs Windows Server CAL 2012 Russian OLP NL Akademic Edition Device CAL 120 licenses – agreement with CJSC "SoftLine Trade" 13512/MOS2957 dated 29.10.2015 Firewall, Proxy functionality - Right to use computer programs Traffic Inspector GOLD preferential – agreement with CJSC "SoftLine Trade" Tr044356 dated 27.08.2013Right to use computer programs Extension of Traffic Inspector GOLD Special for 1 year – agreement with CJSC "SoftLine Trade" Tr000112196 dated 29.09.2016
Classroom for group and individual consultations, formative assessment and summative assessment	The classroom is equipped with specialized (educational) furniture for 11 students, 5 workplaces, equipped with	BASIC SOFTWARE INSTALLATION KIT: Office 2007 Russian OpenLicensePack NoLevel AcademicEdition – agreement with SoftLine Trade Tr026664 dated 17.05.2007Project Standard 2007, Access 2007 – Academic cooperation programs with Microsoft DreamSpark Premium Electronic Software Delivery. –Agreement with CJSC "SoftLine Trade" Tr000023480 dated 19.05.2015 Windows Operating

	computers with Internet connection and access to the EIOS of the Federal State Budgetary Educational Institution of Higher Education "ISU". 1. 5 Workstations HP compad dc7800SFF Dual Core PE-2180, 4 Gb DDR2 PC6400, 160GB SATA 3.0 HDD2. LCD Monitor 17.0" ViewSonic "VA703m" 1280x1024, 8mc, TCO"03, Silver-Black (D-Sub, MM)3. Printer Hewlett-Packard LaserJet 3055 All-in-One Multifunction Device, one piece.	Systems for Licensed OEM Pre-Installation Programs, Academic Cooperation Programs with Microsoft MSDN AA.- Agreement with CJSC "SoftLine Trade" Tr017431 dated 15.05.2008 Windows Operating Systems for Licensed OEM Pre-Installation Programs, Academic Cooperation Programs with Microsoft DreamSpark Premium Electronic Software Delivery. – agreement with CJSC "SoftLine Trade" Tr000031723 dated 05.08.2015Anti-virus programs - Rights to computer programs drWeb Server Security complex protection 120PC (1 license per year) migration with additional purchase(LBW-BC-12M-120:119-C4) – agreement with CJSC "SoftLine Trade" 13982/MOS2957 dated 22.01.2016Archivers WinRAR: 3.x: Standard License - for legal entities 100-199 licenses – agreement with CJSC "SoftLine Trade" No15422/IRK11 dated 05.02.2010Network client part Rights to computer programs Windows Server CAL 2012 Russian OLP NL Akademic Edition Device CAL 120 licenses – agreement with CJSC "SoftLine Trade" 13512/MOS2957 dated 29.10.2015Firewall, Proxy functionality - Right to use computer programs Traffic Inspector GOLD preferential – agreement with CJSC "SoftLine Trade" Tr044356 dated 27.08.2013Right to use computer programs Extension of Traffic Inspector GOLD Special for 1 year – agreement with CJSC "SoftLine Trade" Tr000112196 dated 29.09.2016
Room for self-study of students	It is equipped with specialized furniture for 10 students, equipped with computer equipment connected to the Internet and provided with access to the EIOS of ISU 1. Think Centre M80 Series SFF System Unit Included: Intel® Core™ i3-540 Clarkdale 2.93GHz / 1333MHz / Dual Core™ / 4M / 73W / LGA 1156 / 32nm / 4GB PC3-10600 SDRAM x 2 /250 GB, 7200RPM SATA	BASIC SOFTWARE INSTALLATION KIT:Office 2007 Russian OpenLicensePack NoLevel AcademicEdition – agreement with CJSC "SoftLine Trade" Tr026664 dated 17.05.2007 Project Standard 2007, Access 2007 - Academic cooperation programs with Microsoft DreamSpark Premium Electronic Software Delivery. –agreement with CJSC "SoftLine Trade" Tr000023480 dated 19.05.2015Windows operating systems under licensed OEM preinstallation programs, Academic cooperation programs with Microsoft MSDN AA.- Agreement with CJSC "SoftLine Trade" Tr017431 dated 15.05.2008 Windows operating systems for licensed OEM pre-installation programs, Academic cooperation programs with Microsoft DreamSpark Premium Electronic Software Delivery. – Agreement with CJSC "SoftLine Trade" Tr000031723 dated 05.08.2015Anti-Virus Programs - Rights to computer programs drWeb Server Security, complex protection 120PC (1 license per year)

	/DVD RW - 10pcs2. LCD Monitor - 20.0 ViewSonic "VA2013w" 1600x900 Monitor, 5mc, TCO 03, Black (D-Sub) - 10pcs3. HP LaserJet 5000N, A3, 22ppm, 32 MB, 250&500 sheet feeder, JetDirect 615n prn svr4. HP LaserJet 5100th, A3, 22ppm, 32 MB, 250&500 sheet feeder, JetDirect 615n prn svr	migration with additional purchase (LBW-BC-12M-120:119-C4) – agreement with CJSC "SoftLine Trade" 13982/MOS2957 dated 22.01.2016 Archivers WinRAR: 3.x: Standard License - for legal entities 100-199 licenses – agreement with CJSC "SoftLine Trade" No15422/IRK11 dated 05.02.2010 Network client part Rights to computer programs Windows Server CAL 2012 Russian OLP NL Akademic Edition Device CAL 120 licenses – agreement with CJSC "SoftLine Trade" 13512/MOS2957 dated 29.10.2015 Firewall, Proxy functionality - Privileged right to use Traffic Inspector GOLD computer programs – agreement with CJSC "SoftLine Trade" Tr044356 dated 27.08.2013 Right to use computer programs Extension of Traffic Inspector GOLD Special for 1 year – agreement 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 Microsoft Desktop Edu ALNG LicSAPk OLV E 1Y Acdmc Ent., 39-licenses for BMBS ISU. Contract No 03-K-1131 dated 11/29/2021 KOSGU 226.4
2. Project Standard 2007, Access 2007 – ISU Azure Dev Tools for Teaching subscription (Visio, Projekt) 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, Projekt) 1 year. Microsoft Corporation, One Microsoft Way, Redmond, WA 98052. Expiration Date March 31, 2023.
4. Operating systems Windows'7, Windows'10 Services for granting the right to use Microsoft Desktop Edu ALNG LicSAPk OLV E 1Y Acdmc Ent., 39-licenses for BMBS ISU. Contract No 03-K-1131 dated 11/29/2021 KOSGU 226.4
5. Anti-virus programs - Dr.Web renewal Contract No Tr000582689/03-E-0043 dated February 05, 2021 Invoice No Tr000582689 dated February 08, 2021
6. WinRAR Archivers: 3.x: Standard Licence - for legal entities 100-199 licenses - annex. No1 to contract No15422/IRK11 of CJSC "SoftLine Trade" dated 05.02.2010
7. Network client part Rights to computer programs Windows Server CAL 2012 Russian OLP NL Akademic Edition Device CAL 120 licenses - account Tr000051059 CJSC "SoftLine Trade" dated 27.10.2015
8. Firewall, Proxy functionality - Right to use computer programs Traffic Inspector GOLD preferential account Tr005456 CJSC "SoftLine Trade" dated 27.08.2013
9. Traffic Inspector GOLD Special* for 5 years Contract RSZ-0000276 dated 16.11.2021 KOSGU 226.4 License renewal

6.3. Technical and electronic training aids:

Multimedia tools and other equipment for presentations of educational material:

1. HP EliteDesk 800 G4 SFF Intel Core i5 8500(3Ghz)/8192Mb/1000Gb/DVDrw/war 3y/W10Pro +V2 Desktop. ViewSonic 21 Monitor, 5" VA2245a - LED [LED, 1920x1080, 10M: 1

5ms,170gor, 160ver, D-Sub]3. Projector Nec M420X LCD 4200ANSI Lm XGA 2000:1 lamp 3500h. Eco modeHDMI USB Viewer RJ-45 10W 3.6 kg4. Jetbalance JB-115U 2.0 black speakers (4W)5. Video signal splitter Aten VS92A 2-port VGAWead of licensed software used:1. Office 2010 under the program of academic cooperation with Russian Microsoft Desktop Education AllLng License/Software Assurance Pack Academic OLV 1License LevelEEnterprise2. Project Standard 2007, Access 2007 – under the program of academic cooperation with Microsoft DreamSpark Premium Electronic Software Delivery.3. Microsoft Project Professional 2010, Microsoft Visio Professional 2010 under the program of academic cooperation with Microsoft Imagine Standard Electronic Software Delivery with the assistance of the Central Research Center of ISU.

VII. EDUCATIONAL TECHNOLOGIES

In accordance with the requirements of the Federal State Educational Standard of Higher Education in the field of study 27.03.05 Innovatics, specialization "Management of innovative and IT projects and products", the implementation of the competency-based approach provides for the widespread use of active and interactive forms of conducting classes in the educational process (computer simulations, business and role-playing games, analysis of specific situations) in combination with extracurricular work in order to form and develop professional skills students. The training course includes meetings with representatives of Russian companies, state and public organizations, master classes by experts and specialists.

Teaching the discipline "Б1.В.04 Business Process Management: Digital Technologies" involves the use of the following educational technologies:

- conducting classroom classes using multimedia technologies, audio and video materials;
- conducting lectures in the form of a problem lecture, lecture-discussion (if necessary, in the form of a webinar on the MS Teams platform with a recording of the lecture for subsequent viewing);
- the use of a problem-oriented approach through self-study;
- test technologies on the remote platform of the BMBS LMS "Hecadem";
- the use of interactive training technologies, such as group discussion, work in small groups;
- conducting master classes with specialists;
- performance of tests and self-study by students.

Distance technologies used in the implementation of various types of educational work:

- individual communication with students through the teacher's e-mail;
- use of the educational portal of ISU https://educa.isu.ru/ and the platform of the BIBS "Hecadem" to organize current monitoring of progress and attendance.

Distance technologies in the development of disciplines are used using the educational portal of Irkutsk State University (access address: http://educa.isu.ru) and the platform of the BIBS LMS "Hecadem" (access address https://edu.buk.irk.ru/). Texts or video recordings of lectures, tasks for practical classes are posted by disciplines in the relevant sections of the specified information portal of ISU.

List of Topics with Corresponding Teaching Forms/Methods/Technologies

№	Class Topic	Session Type	Teaching Format / Methods / Technologies (Distance & Interactive)	Hours
1.	Business Process as an Object of Research	L, Pr	Problem-based presentation of educational information at lectures and seminars, lectures-presentations, discussion of problematic points.	
2.	System analysis of the organization's activities	L, Pr	Problem-based presentation of educational information at lectures and seminars, lectures-presentations, discussion of problematic points. Work in specialized software.	
3.	Modern Approaches to Business Process Modeling	L, Pr	Problem-based presentation of educational information at lectures and seminars, lectures-presentations, discussion of problematic points. Work in specialized software.	
4.	SADT Functional Modeling Methodology	L, Pr	Problem-based presentation of educational information at lectures and seminars, lectures-presentations, discussion of problematic points. Work in specialized software.	
5.	ARIS Business Process Modeling Methodology	L, Pr	Problem-based presentation of educational information at lectures and seminars, lectures-presentations, discussion of problematic points. Work in specialized software.	
6.	BPMN Business Process Modeling Methodology	L, Pr	Problem-based presentation of educational information at lectures and seminars, lectures-presentations, discussion of problematic points. Work in specialized software.	2
7.	Balanced scorecard and key performance indicators	L, Pr	Problem-based presentation of educational information at lectures and seminars, lectures-presentations, discussion of problematic points. Work in specialized software.	2
Total Hours				2

L. – lectures
Pr. - seminars

VIII. MATERIALS FOR FORMATIVE ASSESSMENT AND SUMMATIVE ASSESSMENT

Assessment materials for formative assessment and summative assessment

The purpose of assessment tools for formative assessment and summative assessment is to identify the formation of competencies in accordance with the table below.

№	Formats of Assessment Tools	Assessed Themes (Sections)	Assessed Competencies/ Indicators
1.	Oral questioning	1. Modern system of views on the management of the organization 2. Business Process as an Object of Research 3. System analysis of the organization's activities 4. Modern Approaches to Business Process Modeling 5. SADT Functional Modeling Methodology 6. ARIS Business Process Modeling Methodology 7. BPMN Business Process Modeling Methodology 8. Balanced scorecard and key performance indicators	PC-5 (PC-5.3)
2.	Reports		
3.	Test		

Types of tools used for formative assessment and summative assessment

The list of assessment tools used to assess competencies at various stages of their formation, as well as a brief description of these tools, is given in the table

	Assessment tool	Brief description of the assessment tool	Assessment materials
1.	Oral questioning	A means of control at a practical lesson, organized as a special conversation between the teacher and the student on topics related to the discipline being studied, and designed to find out the amount of knowledge of the student on a certain section, topic, problem, etc. It can be used to assess the skills, abilities and (or) experience of students.	Questions for oral questioning on the topics (sections) of the discipline
2.	Report	A product of independent work of a student, which is a public presentation of the results of research on a certain educational and practical, educational research or scientific problem It can be used to assess the knowledge, skills, and (or) experience of students' activities	Topics of reports
3.	Test	A system of standardized tasks that allows you to automate the procedure for measuring the level of knowledge and skills of a student. Performed by a student in the LMS "Hecadem"). The number of questions in the test is at least 20, the time for completion is not limited, the number of attempts is 1. It can be used to assess the knowledge and skills of students	List of test tasks
4.	Exam	A means that allows you to assess the knowledge, skills, and (or) experience of a student's activities in a discipline. It can be used to assess the knowledge, skills, and (or) experience of students' activities	List of theoretical questions and practical tasks for the exam

Criteria for assessing the formation of competencies during summative assessment and formative assessment

Oral questioning

Grading scale	Characteristics of the result (answer)	Level of competency development
86 – 100 points	The student's answer reflects the main concepts and theories on this issue, their critical analysis and comparison, the described theoretical provisions are illustrated with practical examples and empirical data. Students formulate and substantiate their own point of view on the stated problems, the material is presented in professional language using the appropriate system of concepts and terms	High
70 – 85 points	In the student's answer, the main modern concepts and theories on this issue are described and compared, the described theoretical provisions are	Basic

	illustrated with practical examples, the student formulates his own point of view on the stated problems, but he experiences some difficulties in its argumentation. The material is presented in professional language using the appropriate system of concepts and terms	
61 - 70 points	The student's answer reflects only some modern concepts and theories on this issue, the analysis and comparison of these theories is not carried out. The student experiences significant difficulties in illustrating theoretical provisions with practical examples. The student does not have his own point of view on the stated problems. The material is presented in professional language using the appropriate system of concepts and terms	Minimum
0 – 60 points	The student's answer does not reflect modern concepts and theories on this issue. The student cannot give practical examples. The material is inconsistent and illogical, the concepts and terms of the relevant scientific field are not used. The answer reflects the system of non-professional ideas of the student to the stated problem, the student cannot name a single scientific theory, does not give a definition of basic concepts.	Competencies are not formed

Report

Grading scale	Characteristics of the result (answer)	Level of competency development
86 – 100 points	The problem on the topic of the report (message) is indicated and its relevance is substantiated, a brief analysis of various points of view on the problem under consideration is made and one's own position is logically stated, conclusions are formulated, the topic is fully disclosed.	High
70 – 85 points	The problem on the topic of the report (message) is indicated and its relevance is substantiated, the analysis of various points of view on the problem under consideration does not reflect all scientifically grounded positions, one's own position is not quite logically stated or conclusions are formulated, the topic is covered in sufficient volume.	Basic
61 - 70 points	The problem on the topic of the report (message) is indicated, but its relevance is not substantiated, there is no analysis of various points of view on the problem under consideration, there is no logic and own position in the formation of conclusions, the topic is partially disclosed.	Minimum
0 – 60 points	The problems of the topic of the report (message) are not disclosed, the existing points of view on the given problem are not given, there is no own point	Competencies are not formed

	of view, conclusions are not formulated.	

Test

Grading scale	Characteristics of the result (answer)	Level of competency development
86 – 100 points	The share of correctly solved test tasks is 86 – 100% of the total volume of tasks in the test.	High
70 – 85 points	The share of correctly solved test tasks is 70 - 85% of the total volume of tasks in the test.	Basic
61 - 70 points	The share of correctly solved test tasks is 55 - 70% of the total volume of tasks in the test.	Minimum
0 – 60 points	The share of correctly solved test tasks is 0 – 54 of the total volume of tasks in the test.	Competencies are not formed

Summative assessment in the form of an exam

Grading scales	Assessment criteria	Level of competency development
86 – 100 points	The student correctly answered the theoretical questions. Showed excellent knowledge within the framework of the educational material. Correctly completed practical tasks. Showed excellent skills and mastery of the skills gained in applying the acquired knowledge and skills in solving problems within the framework of the educational material. Answered all additional questions	High
70 – 85 points	The student answered theoretical questions with minor inaccuracies. Showed good knowledge within the framework of the educational material. With minor inaccuracies, he completed practical tasks. Showed good skills and mastery of the skills gained in applying the knowledge and skills gained in solving problems within the framework of the educational material. Answered most of the additional questions	Basic
61 - 70 points	The student answered theoretical questions with significant inaccuracies. Showed satisfactory knowledge within the framework of the educational material. With significant inaccuracies, he completed practical tasks. Showed satisfactory skills and skills in applying the acquired knowledge and skills in solving problems within the framework of the educational material. Made a lot of inaccuracies when answering additional questions	Minimum
0 – 60 points	The student, when answering theoretical questions and performing practical tasks, demonstrated an insufficient level of knowledge and skills in solving problems within the framework of the educational material. When answering additional questions, many incorrect answers were made	Competencies are not formed

Demonstration versions of assessment tools of formative assessment

Questions for oral questioning

Topic 1. Modern system of views on the management of the organization

1. Organization management system.
2. Basic approaches to the management of the organization.
3. Assessment of the level of maturity of business process management.

Topic 2. Business Process as an Object of Research

1. Business process: characteristics and classification.
2. Study of business processes of the organization.
3. Fundamentals of Business Process Management.

Topic 3. System analysis of the organization's activities

1. System analysis: organization as a system, goals of the organization, system of processes.
2. Basic methodologies for classifying business processes of an organization.

Topic 4. Modern Approaches to Business Process Modeling

1. Goals and objectives of business process modeling.
2. Ways of describing business processes. Methodologies for modeling business processes.

Topic 5. SADT Functional Modeling Methodology

1. Method of structural analysis and design: purpose and features.
2. IDEF0 methodology.
3. Software tools for modeling business processes in SADT and IDEF standards.

Topic 6. ARIS Business Process Modeling Methodology

1. ARIS Modeling Methodology.
2. Main ARIS models.
3. Software Modeling Tools in ARIS Methodology.

Topic 7. BPMN Business Process Modeling Methodology

1. BPM Business Process Management Concept.
2. Description of BPMN notation.
3. BPMN software support.

Topic 8. Balanced scorecard and key performance indicators

1. The concept of "Performance Management".
2. Balanced scorecard.
3. Key performance indicators.

Topics

1. Organization management system.
2. Basic approaches to the management of the organization.
3. Assessment of the level of maturity of business process management.
4. Business process: characteristics and classification.
5. Study of business processes of the organization.
6. Fundamentals of Business Process Management.
7. System analysis: organization as a system, goals of the organization, system of processes.
8. Basic methodologies for classifying business processes of an organization.
9. Goals and objectives of business process modeling.
10. Ways of describing business processes.
11. Methodologies for modeling business processes.
12. Method of structural analysis and design: purpose and features.
13. IDEF0 methodology.
14. Software tools for modeling business processes in SADT and IDEF standards.
15. ARIS Modeling Methodology.
16. Main ARIS models.
17. Software Modeling Tools in ARIS Methodology.

18. BPM Business Process Management Concept.
19. Description of BPMN notation.
20. BPMN software support.
21. The concept of "Performance Management".
22. Balanced scorecard.
23. Key performance indicators.

Example of a test task

1. In what approach to the management of an organization is it considered as a set of interrelated elements that have an input and output, as well as a connection with the environment
   A) Scientific
   B) Functional
   C) Financial
   D) Systemic
   E) Process
   F) Marketing
2. Regulations are
   A) This is a written document that sets out the procedure for carrying out any activity
   B) an organizational and administrative document of a large company (company) containing a set of rules governing the order of a business process or its stages
   C) an internal document of the organization containing requirements for products, raw materials, processes, methods, equipment, services, etc.
3. The impossibility of visual reflection of the duration of the procedures, the lack of taking into account control actions, the need to develop modeling agreements are the shortcomings of modeling in
   A) DFD
   B) WFD
   C) IDEF
   D) ARIS
   E) BPMN

Description of the procedures for conducting summative assessment and assessment of learning outcomes

Summative assessment in the form of an exam is carried out by means of an oral interview (based on exam cards). The questions in the exam cards were drawn up in such a way that each of them included theoretical questions.

The card contains: two theoretical questions for assessing knowledge, the third question in the ticket is a practical question on one of the tasks completed by students during the semester (defined in the card). The distribution of questions on exam cards is closed to students.

At the exam, the student takes a card, and the student is given time (up to 45 minutes) to prepare an answer to the exam card. In the process of answering the student's questions and tasks on the card, the teacher may ask additional questions.

List of questions and tasks for summative assessment

1. Organization management system.
2. Basic approaches to the management of the organization.
3. Assessment of the level of maturity of business process management.
4. Business process: characteristics and classification.
5. Study of business processes of the organization.
6. The Deming-Shewhart Cycle (PDCA) in Process Control. Six Sigma approach.
7. Methodology for the classification of business processes of the PCF APQC organization.
8. Eight-process model of the enterprise.

9. Component business model of the company "IBM".
10. Methodology for modeling the organization's activities based on the analysis of the customer value chain.
11. Multi-level model of eTOM production management business processes.
12. Basic methodologies for classifying business processes of an organization.
13. Goals and objectives of business process modeling.
14. Ways of describing business processes.
15. Basic methodologies for modeling business processes: data flow diagrams (DFDs).
16. Basic business process modeling methodologies: Workflow diagrams (WFDs).
17. Method of structural analysis and design: purpose and features.
18. IDEF0 methodology.
19. Software tools for modeling business processes in SADT and IDEF standards.
20. BP (Process) FlowChart notation.
21. Procedure Notation Cross-functional FlowChart.
22. ARIS Modeling Methodology.
23. The main ARIS models are the Organizational Chart (OS).
24. The main ARIS models are the Function Tree (FT).
25. The main ARIS models are the extended Event-Driven Process Chain (eEPC) model.
26. Software Modeling Tools in ARIS Methodology.
27. BPM Business Process Management Concept.
28. Description of BPMN notation.
29. BPMN software support.
30. The concept of "Performance Management".
31. Balanced scorecard.
32. Key performance indicators.

Developed by:

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Department Chair N.B. Grosheva