

Educational Institution  
"Belarus State Economic University"

APPROVE

First Vice-Rector of the Educational  
Institution "Belarusian State  
Economic University"

 E.F. Kireeva

04.04

2023

Registration number

UD 5375-13 / account.

## **INFORMATION TECHNOLOGY MANAGEMENT**

The curriculum of the institution of higher education

by academic discipline for the specialty

1-26 80 03 "Business Administration"

The curriculum is based the curriculum of the institution of higher education in the specialty 1-26 80 03 "Business Administration" approval date 25.03.2019, Registration № 51MFP-19.

**COMPILERS:**

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**RECOMMENDED FOR APPROVAL:**

By the Department of Economic Informatics of the educational institution «Belarusian State Economic University»  
(Protocol no. 8 of " 27.12.2022 );

By the Scientific and Methodological Council of the Educational Institution «Belarusian State Economic University»  
(Protocol no. \_\_\_\_\_ of " \_\_\_\_\_ " \_\_\_\_\_ 2023).

## EXPLANATORY NOTE

The academic discipline «Information Technology Management» is intended for mastering by undergraduates studying in the specialty 1-26 80 03 "Business Administration", specialization "Positive business leadership", modern methods of finding solutions based on the use of network and cloud technologies in solving problems of information systems management in the field in which they specialize.

Objectives of the discipline:

- formation of analytical abilities that allow making an informed choice of the studied methods, tools and languages when solving problems from the problem area;
- preparation for the development and formation of ideas about the formalization of decision-making procedures, as well as taking into account the conditions of risk and uncertainty in decision-making;
- preparation for the use of modern information technologies and instrumental methods based on them as a tool for managing information systems.

The tasks of studying the discipline are reduced to the following:

- obtaining knowledge about modern means of automation of management activities;
- mastering the theoretical foundations of the use of modern tools in management;
- familiarity with the basics and methods of knowledge management;
- development of skills to improve the management business processes of the enterprise using information systems in the conditions of the formation of the digital economy.

As a result of studying the discipline "Management of information systems", the following competencies are formed:

- UC-11. Be equipped with the skills of using modern information technologies to solve research and innovation tasks.
- DPC-2. Be able to use modern technologies and application software in solving business and management problems.

As a result of studying the discipline, the student must:

*know:*

- the place and role of the enterprise in the information society;
- the impact of technological transformations on the economic development of the enterprise;
- the essence and purpose of information technologies, their impact on business;
- the main types and characteristics of e-business;
- principles of knowledge management;

- software products for the automation of the business office of the enterprise;
- basic concepts of business process reengineering;
- principles and tools for modeling business processes.

*be able to:*

- determine the level and quality of the information system on a specific business entity;
- prepare proposals for the development of the information system at the enterprise;
- improve the management of the electronic business of the enterprise;
- improve their knowledge using e-learning tools and methods;
- use knowledge management systems in practical activities;
- evaluate the effectiveness and quality of software products for the automation of the business office of the enterprise;
- simulate managerial business processes using Case tools;
- analyze business processes, simplify them and re-develop (business reengineering).

*own;*

- skills of analysis and optimization of management processes using specialized software;
- skills in the use of technologies and specialized software for the automation of enterprise activities, project management, business process modeling.

The total number of hours is 100 (3 credits), of which 54 are classroom hours.

Distribution of classroom time by type of classes:

- full-time education: lectures - 20 hours, practical classes - 34 hours.
- by correspondence education: lectures — 6 hours, practical classes - 6 hours.

The recommended forms of control are oral questioning, laboratory work protection, control work, individual tasks.

Forms of current certification in the academic discipline - credit.

The knowledge and skills acquired in the course "Management of information systems" can be used in the performance of scientific papers and master's theses.

## **THE CONTENT OF THE TRAINING MATERIAL**

### **Topic 1. Informatization of the company's activities**

Network economy. Classification of enterprises based on the use of network technologies.

Digital economy. A digital platform for the company's activities. Transformation of the organizational structure of the enterprise in the digital economy.

Electronic business. Virtual business.

State policy and legislation of the Republic of Belarus in the field of informatization and digital economy.

### **Topic 2. Network technologies in enterprise management**

Information and communication technologies, their classification.

Computer network: classification, main components and protocols. Computer network of the enterprise.

Blockchain technology and its application in business.

Technologies and services of the Internet, their use in the enterprise.

Web-representation of the company. Services and tools for analyzing the effectiveness of web representation.

Search engines. Search engine query languages. Search engine-marketing services. Search engine optimization of the company's web representation.

Social networks, their use in the company's activities.

### **Topic 3. Cloud services in enterprise management**

The concept of cloud architecture.

Architecture and Infrastructure-as-a-Service (IaaS) services. Advantages and risks associated with IaaS. The use of IaaS services in the company's activities.

Software-as-a-Service (SaaS) architecture and services. SaaS solutions. Advantages and risks associated with SaaS. The use of SaaS services in the company's activities.

Platform-as-a-Service (PaaS) architecture and Services The main platforms of Amazon EC2. Google Apps. Windows Azure. Advantages and disadvantages. The use of PaaS services in the company's activities.

Transformation of the enterprise infrastructure in terms of using cloud services.

Enterprise e-commerce in a cloud environment.

Ecosystem, the integration of the enterprise into the ecosystem.

#### **Topic 4. Business office as an element of enterprise infrastructure in the digital economy**

The concept of a business office of an enterprise. Electronic and virtual business office. Business office in the architecture of the enterprise.

Software for solving practical tasks of a business office: automation of electronic document management (electronic document management systems - EDMS), project management, customer relationship management (CRM, Customer Relationship Management), financial analysis, preparation of business plans, etc.

Enterprise collective work organization systems (corporate portal, groupware class systems, electronic exhibitions, forums, conferences, monitoring and public relations systems, webinars).

#### **Topic 5. Reengineering of enterprise information systems**

Information systems in enterprise management. Components of the information system. The concept of strategic, tactical and operational management of enterprise information systems.

Reengineering of business processes as a means of adapting an enterprise to the external environment. The content of reengineering in the digital economy. Forms of reengineering. Participants and stages of business process reengineering.

The essence and stages of information systems reengineering.

Information system reengineering project, automation tools for reengineering project management.

Trends and prospects for the development of enterprise information systems in the context of the implementation of the Strategy for the Development of Informatization in the Republic of Belarus for 2016-2022.

#### **Topic 6. Enterprise information security**

Types of threats to information security. Methods and means of information system protection. Ensuring information security in computer networks. Security of personal data.

Information security policy of the enterprise. Creation of an enterprise information security system. Information security audit.

**EDUCATIONAL AND METHODOLOGICAL MAP OF THE DISCIPLINE "INFORMATION TECHNOLOGY MANAGEMENT" FOR FULL-TIME HIGHER EDUCATION**

Section number, topics	Section name, topics	Number of classroom hours						Other*	Form of knowledge control	
		Lectures	Practical exercises	Seminar classes	Laboratory classes	Number of classroom hours				
						L	P			Lab.
1	Informatization of the company's activities	2	2					[1-15]		
2	Network technologies in enterprise management	2	4			2	2	[1-15]	Report on the work performed	
3	Cloud services in enterprise management	4	6			2	2	[1-3,13-15]	Report on the work performed	
4	Business office as an element of the enterprise infrastructure in the digital economy	2	6			2	4	[1-3,13-15]	Report on the work performed	
5	Reengineering of enterprise information systems	2	4				2	[13,15]	Report on the work performed	
6	Enterprise information security	2	4				2	[13,15]	Report on the work performed	
	<b>Total hours</b>	<b>14</b>	<b>22</b>			<b>6</b>	<b>12</b>			

**EDUCATIONAL AND METHODOLOGICAL MAP OF THE ACADEMIC DISCIPLINE "INFORMATION TECHNOLOGY MANAGEMENT" FOR THE CORRESPONDENCE FORM OF HIGHER EDUCATION**

Section number, topics	Section name, topics	Number of classroom hours						Other*	Form of knowledge control	
		Lectures	Practical exercises	Seminar classes	Laboratory classes	Number of classroom hours				
						L	P			Lab.
1	Informatization of the company's activities	2					[1-15]			
2	Network technologies in enterprise management	0,5					[1-15]	Report on the work performed		
3	Cloud services in enterprise management	0,5	2				[1-3,13-15]	Report on the work performed		
4	Business office as an element of the enterprise infrastructure in the digital economy	1	2				[1-3,13-15]	Report on the work performed		
5	Reengineering of enterprise information systems	1					[13,15]	Report on the work performed		
6	Enterprise information security	1	2				[13,15]	Report on the work performed		
	<b>Total hours</b>	<b>6</b>	<b>6</b>							



## INFORMATION AND METHODOLOGICAL PART

Methodological recommendations on the organization of independent work of undergraduates in the academic discipline "Information Technology Management".

In mastering the knowledge of the discipline, an important stage is the independent work of undergraduates. It is recommended to budget time for independent work on average 2-2.5 hours for a 2-hour classroom session.

The main directions of the student's independent work are:

- a detailed introduction to the curriculum of the discipline;
- familiarization with the list of recommended literature on the discipline as a whole and its sections, its availability in the library and other available sources, study of the necessary literature on the topic, selection of additional literature;
- study and expansion of the lecturer's lecture material through special literature, consultations;
- preparation for practical classes according to specially developed plans with the study of basic and additional literature;
- independent performance of individual tasks on the specified topics;
- preparation for the implementation of diagnostic forms of control (tests, oral surveys, etc.);
- preparation for the test.

## LIST OF RECOMMENDED LITERATURE

### Main literature:

1. Information systems in the economy: a textbook for students of higher education institutions in economic specialties / [M.N. Sadovskaya and others; under total ed. M.N. Sadovskaya]. - Minsk: BSEU, 2018. - 316 p.

2. Markova, V.D. Digital economy: a textbook for students of higher educational institutions studying in the areas of training 03/38/02 "Management", 03/38/01 "Economics" (qualification (degree) "bachelor") / V. D. Markova. – M.: INFRA-M, 2019. – 246 p.

3. Mogayar, W. Blockchain for business / W. Mogayar; foreword V. Buterin: [transl. from English. D. Shalaeva]. - M. : Bombora, 2018. - 215 p.

4. Golovenchik, G. G. Digital Economy: a textbook for students of higher education institutions in the specialties "World Economy", "Business Administration", "Economics of Electronic Business" / G. G. Golovenchik. - Minsk: Higher School, 2022. - 311 p.

### Additional literature:

5. Robachevsky, A. Internet from within: Ecosystem of the global network. – M.: Alpina Publisher, 2015. – 223 p.

6. Shih, K. Era of Facebook. How to use the power of social networks to develop your business / K. Shih. - M.: Mann, Ivanov and Ferber, 2016. - 304 p.

7. Kovalev, M.M. Digital economy - a chance for Belarus: monograph / M. M. Kovalev, G. G. Golovenchik; Belarusian state un-t. - Minsk: BSU Publishing Center, 2018. - 327 p.

8. Baldin, K.V. Information systems in the economy / K.V. Baldin. - M. : INFRA-M, 2018. - 224 p.

9. Vdovenko, L. A. Enterprise information system: Uch. settlement / L.A. Vdovenko-2nd ed., translated. and add.-M. : Vuzovsky uch. / L.A. Vdovenko. - Moscow: Mashinostroenie, 2016. - 143 p.

10. Ivasenko, A.G. Information technologies in economics and management. Textbook / A.G. Ivasenko. - M.: KnoRus, 2017. - 354 p.

11. Isaev, G.N. Information systems in the economy / G.N. Isaev. - M.: Omega-L, 2018. - 464 p.

12. Kulemina, Yu. V. Information systems in the economy. Short course / Yu.V. Kulemina. - M.: Okay-book, 2015. - 112 p.

13. Liechtenstein, VE Information technologies in business. Workshop / V.E. Liechtenstein, G.V. Ross. - M.: Finance and statistics, 2017. - 512 p.

14. Utkin, V.B. Information systems in the economy / V.B. Utkin, K.V. Baldin. - M.: Academia, 2018. - 288 p.

15. Chernikov, B.V. Information management technologies / B.V. Chernikov. - M.: Infra-M, Forum, 2017. - 368 p.

**PROTOCOL OF APPROVAL OF THE CURRICULUM OF THE  
HIGHER EDUCATION INSTITUTION**

The name of the academic discipline with which approval is required	Name of the department	Proposals for changes in the content of the curriculum of a higher education institution in an academic discipline	The decision taken by the department that developed the curriculum (with the date and number of the protocol)
Applied quantitative methods in management	Mathematical methods in economics	There are no offers <i>G.O. Chitaya</i> G.O. Chitaya	Protocol No. <u>8</u> of 27.12.2022