

**MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION
Federal State Autonomous Educational Institution of Higher Education National Research.
Lobachevsky State University of Nizhny Novgorod.
N.I. Lobachevsky State University of Nizhny Novgorod**

APPROVED

by the decision of the Academic
Council of the UNN Minutes of
16.01.2024 г. № 1

**Working program of the discipline
Data/Information management**

Level of higher education
Training of scientific and scientific-pedagogical personnel

Graduate program
Sociology of Management

Scientific specialty
5.4.7 Sociology of Management

Form of training
Full-time

Nizhny Novgorod
2024

1. Place and purpose of the discipline in the structure of the HPE

The discipline "Information management" belongs to the elective disciplines of the educational component of the graduate program and is studied in the second year of study in the third semester.

The purpose of the discipline - to deepen knowledge about the development of information management, practical implementation of management decisions based on data science.

Planned learning outcomes for the discipline

A graduate who has mastered the program must

Know:

- study basic data collection and analysis techniques;
- study the basic terms of information systems subject area;
- studying the methods of forming requirements and selecting information systems for management automation of management information systems;
- studying methods of information system and information technology market analysis

To be able to:

- study the evolution of information systems and concepts of informatisation management activities;
- to form an idea of the methodological basis for the creation of management structures based on information technologies;
- studying the methodology of creating a subsystem of information support in the management system of an enterprise management system of an enterprise

Own:

- the ability to formulate requirements for a company management information system;
- the ability to conduct a comparative analysis and selection of software tools management informatization;
- to gain experience in the use of information systems in the activities of the enterprise;
- acquiring the skills of working with specific information systems management accounting.

3. Structure and content of the discipline

The volume of the discipline (module) is 2 s.e., total - 72 hours, of which 35 hours of contact work of a student with a teacher (seminar type classes - 35 hours), 37 hours is independent work of a student.

Table 2

Name and brief content of the sections and topics of the discipline, the form of intermediate attestation on the discipline	Total (hours)	Including:				
		Contact work (work in interaction with the teacher), hours among them				Independent work of the
		Lecture-type classes	Classes of the Seminar type	Lab-type classes	Total	
Topic 1. Structure and functions information systems management	12	6	3			2
Topic 2. Classes of information management systems	12	6	3			4

Topic 3. Specifics of implementation integrated information systems management	12	6	2			4
Including current control measures - 1 Intermediate attestation -credit						

Table 3
Content of the discipline

No · n/a	Name of the discipline division	Contents of the section	Form of the lesson	Form of curre nt con- trol
1	Theme 1. Structure and functions information systems management	General characteristics of the information system and their generalized structure Functional features of the information system, specifics of automation control functions	Seminar	Test
		The concept of a management information system. Goals and objectives of implementing information systems. Classes of information systems. Structure Single-user and multi-user, small and corporate information system, local and distributed information system, the composition and the composition and purpose of subsystems. Main the composition and purpose of modern projects information systems. Modular structure of management information systems. Basic functional subsystems. Functions and tasks, solved by management information systems. Features of the automation of control functions of management.		
2	Theme 2: Classes of information management systems	Automation managing human resources. The customer relationship management subsystem.	Seminar	Test
		The MRP requirement planning concept. The concept of MRP requirement planning. Tasks solved by MRP systems. The evolution of the MRP concept - MRPII. Differences between MRPII and MRP. The emergence of the term ERP. The concept of integrated manufacturing management production. Functions of ERP systems. Basic modules of ERP systems. Development of the concept of ERP. Concept of customer relationship management (CRM). Emergence of the term ERPII. The shift from an inward orientation to a customer-centric approach.		
3	Theme 3: Specifics of implementation integrated information systems	Choosing information system for implementation in organisation	Seminar	Test, pre- clade

	management			
		The process of selecting an information system Selection criteria. Methodologies enterprise survey and definition of functional requirements for the information system. Stages of implementing information systems implementation stages. The cost and the duration of the process implementation. Barriers in implementing information systems. Effects of implementation of information systems		

4. Forms of organization and control of students' independent work

The process of studying the discipline "Information management" provides for the following types of independent work: test, preparation of reports, preparation for the seminars and preparation for the test.

Topic 1: Test

Topic 2: Test

Topic 3. Test, report.

A complete list of test options is given in the Fund of assessment tools (Appendix 2)

According to the results of the study of Topic 3, students must prepare a report describing the specific mechanisms of adoption and execution of public decisions / methods of assessment of management decisions / the algorithm of execution of management decisions decisions (at the choice of the graduate student in accordance with the topic of the dissertation). Papers are discussed and defended by graduate students in the final seminars.

5. Assessment tools for certification of the discipline

5.1. Criteria and procedures for assessing learning outcomes in the discipline

The following basic criteria are taken into account for all work:

- the level of theoretical knowledge (not only the formal reproduction of information, but also the understanding of the subject, which is confirmed by correct answers to additional, clarifying questions posed by the committee members);
- Ability to use theoretical knowledge in the analysis of specific problems and situations;
 - quality of presentation, i.e. the validity, clarity, and logic of an answer, as well as its completeness (i.e. its content, not excluding conciseness);
- the ability to make intra- and interdisciplinary connections,
- originality of thought, familiarity with additional literature, and other factors.

Description of the grading scale at the interim certification in the form of credit

Evaluation	The level of preparedness, characterized by the assessment
Credit	mastery of program material, understanding of the essence of the processes and phenomena under consideration, ability to independently identify problem situations in the organization of scientific research, ability to critically analyze and compare existing approaches and methods to assess the effectiveness of scientific activity, fluent knowledge of- The main points of this paper are the ability to clearly and concisely present the results of one's own work and to follow the norms of scholarly discourse.

<i>Not credited</i>	Misunderstanding the meaning of key problems, insufficient knowledge of scientific terminology, inability to independently identify problem situations, inability to analyze and compare existing concepts, approaches and methods, inability to clearly present the results of their own work, to follow the standards accepted in scientific-of the discussion.
---------------------	---

5.2. Examples of typical control tasks or other materials used to assess the learning outcomes of the discipline

Topic 1: TestExamples of Questions

A cybernetic system is:

- 1) a set of objects capable of perceiving, remembering and processing information as well as exchanging information;
- 2) a system characterised by self-organisation and self-learning;
- 3) a system with feedback and adaptability.

Highlight the requirements for information systems:

- 1) Flexibility;
- 2) Reliability;
- 3) Efficiency;
- 4) Security
- 5) All answers are correct

Topic 2: TestExamples of Questions

Information systems are aimed at:

- 1) the end user, who is not highly qualified
- 2) a programmer
- 3) database specialist
- 4) company manager.

An integral part of any information system is:

- 1) a database
- 2) a program created in the Delphi development environment
- 3) an ability to transfer information via the Internet
- 4) a programme created using a high-level programming language

Topic 3: TestExamples of Questions

All components of the company's information system, in which personal data are collected and processed are:

- 1) personal data information system
- 2) database
- 3) centralised data storage
- 4) Statexpress system
- 5) server

The most common mistakes made in the initial phases of information system development are the following:

- 1) mistakes in defining the customer's interests
- 2) wrong choice of programming language

- 3) incorrect selection of databases
- 4) incorrect selection of programmers

Literature for preparation:

1. Berezhnaya, E.V. Methods and models of managerial decision-making: textbook. / E.V. Berezhnaya, V.I. Berezhnoi. - M. : INFRA-M, 2019. - 384 c. - Text: electronic. - URL: (available. в EBS "Znaniy", mode access mode: <https://znaniy.com/catalog/product/1012452>)
2. Zvonnikov V.I. State and Municipal Governance (Academic Bachelor's Degree). Programs of academic disciplines: textbook / ed. by V.I. Zvonnikov. - Moscow : INFRA-M, 2019. - 352 c. - (Higher education: Bachelor's degree). - Text: electron. - URL: (available in EBS "Znaniy", access mode: <https://znaniy.com/catalog/product/1039050>)
3. Kiselev, M.V. (1994) PolyAnalyst—a machine discovery system inferring functional programs, In: *Proceedings of AAAI Workshop on Knowledge Discovery in Databases '94*, Seattle, pp. 237–249.
4. Laudon, K. C. & Laudon, J. P. Management Information Systems: Managing the Digital Firm. 10th ed. Prentice Hall and Pearson Education, 2006.

A complete list of test options is given in the Fund of assessment tools (Appendix 2)

Topic 3: Report.

According to the results of Theme 3 students should prepare a report describing specific mechanisms of adoption and execution of public decisions / methods of assessment of management decisions / algorithm of execution of management decisions (at the choice of the graduate student in accordance with the subject of the thesis). The reports are discussed and defended by graduate students at the final seminars.

Control questions:

1. Basic concepts of information systems
2. Information and reference systems: concept, types of EIS.
3. Generalised scheme of information system and purpose of its elements.
4. The main tasks to be solved in the information system.
5. Information and reference systems.
6. History of the development of information systems testing.
7. Prospects for the development and use of information systems in professional activities.
8. Legal and organisational support for information security
9. Information processing in information systems.
10. Functional part of information system.
11. Threats to security and information processing in information systems.
12. Supporting part of information system.

6. Educational and methodological and informational support of the discipline

Basic Literature:

1. Berezhnaya, E.V. Methods and models of managerial decision-making: textbook. / E.V. Berezhnaya, V.I. Berezhnoi. - M. : INFRA-M, 2019. - 384 c. - Text: electronic. - URL: (available. в EBS "Znaniy", mode access mode: <https://znaniy.com/catalog/product/1012452>)
2. Zvonnikov V.I. State and Municipal Governance (Academic Bachelor's Degree). Programs of academic disciplines: textbook / ed. by V.I. Zvonnikov. - Moscow : INFRA-M, 2019. - 352 c. - (Higher education: Bachelor's degree). - Text: electron. - URL: (available in EBS "Znaniy", access mode: <https://znaniy.com/catalog/product/1039050>)
3. Kiselev, M.V. (1994) PolyAnalyst—a machine discovery system inferring functional

programs, In: *Proceedings of AAAI Workshop on Knowledge Discovery in Databases '94*, Seattle, pp. 237–249.

4. Laudon, K. C. & Laudon, J. P. *Management Information Systems: Managing the Digital Firm*. 10th ed. Prentice Hall and Pearson Education, 2006.

Additional literature

1. Post, Gerald V., *Management Information Systems: Solving Business Problems with Information Technology*, Third edition, Tata McGraw-Hill Publishing Company Limited, New Delhi, 2003.
2. Scott, George M., *Principles of Management Information Systems*, McGraw-Hill Book Company, Singapore, 2003

Recommended sites: www.znaniy.com

digital library <http://e.lanbook.com> digital library <http://www.fom.ru>

<http://www.vciom.ru> <http://www.isras.ru>

<http://www.isras.ru/socis.html> - Journal of Sociological Research <http://www.isras.ru/Polis.html>

- Journal of Political Research <http://www.socjournal.ru/>

7. Material and technical support of the discipline

- Rooms for seminars, group and individual consultations, current control and interim certification, as well as rooms for storage and preventive maintenance of equipment and rooms for students' independent work, equipped with computer equipment with the ability to connect to the Internet and access to the electronic information and educational environment of UNN;
- material and technical support necessary for the implementation of the discipline, including laboratory equipment;
- licensed software: *Windows, Microsoft Office*;
- Students with disabilities are provided with electronic and/or printed educational resources in forms adapted to their disabilities.

The working program of the discipline is drawn up in accordance with the curriculum, the Regulations on the training of scientific and scientific-pedagogical personnel in graduate school (Adjuncture) (Russian Federation Government Decree of 30.11.2021, № 2122), the federal state requirements for the structure of training programs for scientific and scientific-pedagogical personnel in graduate school (Adjunct) (Order of the Ministry of Education and Science of Russia from 20.10.2021). № 951).

Author: Professor, The Head of Department of Subject and Applied, FSN Petrova I.E.

Reviewer

Head of the Department of Social Security and Humanitarian Technologies Golubin R.V.

Program approved at the meeting of the educational-methodical commission of the Faculty of Social Sciences 15.12.2023, protocol №7.