МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
ХАРКІВСЬКИЙ НАЦІОНАЛЬНИЙ ЕКОНОМІЧНИЙ УНІВЕРСИТЕТ
ІМЕНІ СЕМЕНА КУЗНЕЦЯ

ЗАТВЕРДЖЕНО
на засіданні кафедри
кібербезпеки та
інформаційних технологій
Протокол № 2 від 31.08.2023 р.

ПОГОДЖЕНО
Проректор з навчально-методичної роботи

_____ Каріна НЕМАШКАЛО

ІНФОРМАЦІЙНІ СИСТЕМИ В МЕНЕДЖМЕНТІ

робоча програма навчальної дисципліни (РПНД)

Галузь знань	**07 Управління та адміністрування**
Спеціальність	**073 Менеджмент**
Освітній рівень	**перший (бакалаврський)**
Освітня програма	**Логістика**

Статус дисципліни	**вибіркова**
Мова викладання, навчання та оцінювання	**англійська**

Розробник:
д.т.н., проф. _____ Ольга СТАРКОВА

Завідувач кафедри
кібербезпеки та
інформаційних технологій _____ Ольга СТАРКОВА

Гарант програми _____ Тетяна КОЛОДІЗЄВА

Харків
2023

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
SIMON KUZNETS KHARKIV NATIONAL UNIVERSITY OF ECONOMICS

APPROVED
at the meeting of the department
of cybersecurity and
information technologies
Protocol № 2 of 31.08.2023.

AGREED
Vice-rector for educational and methodical
work

_____ Karina NEMASHKALO

INFORMATION SYSTEMS IN MANAGEMENT
Program of the course

Field of knowledge	**07 Management and administration**
Specialty	**073 Management**
Study cycle	**first (bachelor)**
Study programme	**Logistics**

Course status	**elective**
Language	**English**

Developer:
Dr. Sc. (Engineering), prof.   _____   Olha STARKOVA

Head of Cybersecurity and
Information Technologies
Department   _____   Olha STARKOVA

Head of Study Programme   _____   Tatiana KOLODIZIEVA

Kharkiv
2023

INTRODUCTION

In today's globalized economic space, the successful operation of enterprises and organizations depends on whether they can generate new ideas, translate them into practical activities, and become leaders in the competition.

Studying the course "Information systems in management" allows you to get a basic understanding of the theoretical and practical principles of creating information systems, focused on the application of modern scientific methods and information technology tools, to acquire the skills of developing, using and adapting these systems.

The course, in particular, considers general issues regarding the types and structure of economic information, development of best practices and mastering the basics of using information systems and technologies for the development of applications that make it possible to automate the processing and analysis of information by modern information systems used in management.

The purpose of the course is to form a system of fundamental theoretical knowledge and practical skills in the field of identification of management problems; mastering methods and means of creation, technological support of automated information systems in management in general and in its various branches.

The task of the course is to obtain the theoretical and practical foundations of creating information systems, focused on the application of modern scientific methods and means of information technology, acquiring the skills to develop, use and adapt these systems.

The subject of the course is information systems and technologies in management.

The object of the course is knowledge of the basics of information technologies and systems in the economy in general and in management in particular.

The learning outcomes and competencies formed by the course are defined in table 1.

Table 1

Learning outcomes and competences formed by the course

Learning outcomes	Competencies
LO4	GC8, SC12
LO6	GC8, SC12

where, GC8. Skills in the use of information and communication technologies;

SC12. Ability to analyze and structure the problems of the organization, to formulate reasonable solutions;

LO4. Demonstrate skills in identifying problems and justifying management decisions;

LO6. Demonstrate skills in searching, collecting and analyzing information, calculating indicators to justify management decisions.

<center>**COURSE CONTENT**</center>

Topic 1. Information as a product and object of object management.
    1.1 The essence and features of economic information.
    1.2 Structure and properties of information.
    1.3 Information as a management resource.

Topic 2. The essence of the information system .
    2.1 Purpose and role of IS in management.
    2.2 Structure and functions of IS management.

Topic 3. Information process in management as an object of automation .
    3.1 Automation of document flow in IS.
    3.2 Organization of the information process based on new information technologies.
    3.3 Organization of automated systems in management based on modern computer technology.

Topic 4. Organization of automated information systems in management based on modern computer technology.
    4.1 General features of automated information systems.
    4.2 Structure of automated information systems. Architecture of automated information systems.

Topic 5. Organization of the information fund of the management object.
    5.1 Features and structure of information support of the automated information system.
    5.2 Organization of automated IS databases. Formulation and analysis of database requirements.

Topic 6. Organization of technological support of the automated information system.
    6.1 Information technology and its place in the information system of the enterprise. The essence of technological support.
    6.2 Modes of information processing and their impact on information technology. Hypertext and multimedia technologies.
    6.3 Network technologies for economic information processing. Peculiarities of economic information processing in corporate information systems.

Topic 7. Organization of an automated system in the intra-company management of the enterprise.
    7.1 General characteristics and structure of the system. Automation of management of technical preparation of production.
    7.2 Methods of risk analysis when assessing the feasibility of innovative projects.

Topic 8. Organization of an automated accounting system at the enterprise.
8.1 Characteristics of the system.
8.2 Automation of problem solving.

Topic 9. Organization of an automated system in the management of banking activities.
9.1 Characteristics of the system. Features of functional subsystems.
9.2 Organization of an information system for the analysis of economic norms of banking activity.

Topic 10. Organization of an automated system in the management of financial and credit bodies and insurance institutions.
10.1 Characteristics of the system.
10.2 Organization of an automated system in the management of insurance institutions.

Topic 11. Organization of an automated system in the management of tax institutions.
11.1 General characteristics of the information system of the State Tax Service of Ukraine.
11.2 Organization of the automated information and analytical system of the state tax administration.

Topic 12. Expert systems in automated information systems.
12.1 Features and scope of application of expert systems.
12.2 Structure of the expert system. Components of the expert system.

Topic 13. Decision support systems.
13.1 Prerequisites for the emergence of decision support systems. Management decisions and methods of their support.
13.2 Advances in computer technologies that ensure the development of decision support systems.
13.3 Application of decision support systems.

The list of laboratory studies in the course is given in Table 2.

Table 2

List of laboratory studies

Name of the topic and / or task	Content
Topic 1. Laboratory work 1.	Information as a product and object of object management
Topic 2. Laboratory work 2.	The essence of the information system
Topic 3. Laboratory work 3.	Information process in management as an object of automation

Topic 4. Laboratory work 4.	Organization of automated information systems in management based on modern computer technology
Topic 5. Laboratory work 5.	Organization of the information fund of the management object
Topic 6. Laboratory work 6.	Organization of technological support of the automated information system.
Topic 7. Laboratory work 7.	Organization of an automated system in intra-firm enterprise management
Topic 8. Laboratory work 8.	Organization of an automated accounting system at the enterprise
Topic 9. Laboratory work 9.	Organization of an automated system in the management of banking activities
Topic 10. Laboratory work 10.	Organization of an automated system in the management of financial and credit agencies and insurance institutions
Topic 11. Laboratory work 11.	Organization of an automated system in the management of tax institutions
Topic 12. Laboratory work 12.	Expert systems in AIS
Topic 13. Laboratory work 13.	Decision support systems

The list of self-studies in the course is given in Table 3.

Table 3

List of self-studies

Name of the topic and / or task	Content
Topic 1. Task 1	Information as a product and object of object management
Topic 2. Task 2.	The essence of the information system in management
Topic 3. Task 3.	Information process in management as an object of automation
Topic 4. Task 4.	Organization of automated information systems in management based on modern computer technology
Topic 5. Task 5.	Organization of the information fund of the management object
Topic 6. Task 6.	Organization of technological support of the automated information system
Topic 7. Task 7.	Organization of an automated system in intra-firm enterprise management
Topic 8. Task 8.	Organization of an automated accounting system at the enterprise
Topic 9. Task 9.	Organization of an automated system in the management of banking activities
Topic 10. Task 10.	Organization of an automated system in the management of financial and credit agencies and insurance institutions
Topic 11. Task 11.	Organization of an automated system in the management of tax institutions
Topic 12. Task 12.	Expert systems in AIS
Topic 13. Task 13.	Decision support systems

The number of hours of lectures, laboratory studies and hours of self-study is given in the technological card of the course.

TEACHING METHODS

In the process of teaching an course, in order to acquire certain learning outcomes, to activate the educational process, it is envisaged to use such learning methods as:

Verbal (lectures 1-13), problematic lecture (Topic 6).

In person (demonstration (Topic 1-13)).

Practical (laboratory work (Topics 1-13)).

FORMS AND METHODS ASSESSMENT

The University uses a 100-point cumulative system for assessing the learning outcomes of students.

Current control is carried out during lectures and laboratory classes and is aimed at checking the level of preparedness of the student of higher education to perform specific work and is evaluated by the sum of points scored:

`- for disciplines with a form of semester control examination (exam): the maximum amount is 60 points; the minimum amount that allows a student of higher education to pass an exam (examination) is 35 points in.`

The final control includes the semester control and certification of the student of higher education.

Semester control is conducted in the form of a semester exam (exam). The semester exam (exam) is taken during the exam session.

The maximum number of points that a student of higher education can receive during the examination (examination) is 40 points. The minimum amount for which the exam is considered passed is 25 points.

The final grade by academic discipline is determined for disciplines with the form of semester control exam (exam) - the summation of points for the current and final control.

During the teaching of the academic discipline, the following control measures are used:

Current control: Laboratory work (50 points), written control work (10 points).

Semester control: Grading including Exam (40 points).

More detailed information about the evaluation system is given in the work plan (technological map) for the academic discipline.

An example of an examination ticket and evaluation criteria for an academic discipline

An example of an examination ticket

SIMON KUZNETS KHARKIV NATIONAL UNIVERSITY OF ECONOMICS
First (bachelor) level of higher education

Specialty "Management"
Study programme "Logistics"
Course "Information systems in management"

Examination ticket No. 1
1. Characteristics of information procedures (10 points).
2. Describe the management levels and their corresponding automated IS. Give examples of decisions at different levels of management (10 points).
3. Automate the process of solving the next problem using the means chosen at the discretion of the acquirer.

The company received an offer to collect 20,000 calculators at a price of UAH 220. apiece. The company estimated that variable costs for one calculator amount to UAH 170.

As an alternative solution, you can conclude a subcontract and entrust the assembly to another company, which will reduce variable costs to UAH 140. The company must pay UAH 420,000 for the subcontract.

Another option is to rent a robot, the use of which will reduce costs to UAH 77. The company must pay UAH 900,000 for renting the robot.

Create a gross profit forecasting model for each of the options.

At what level of production are the indifference points between subcontracting and available capacity, subcontracting and hiring a robot? (20 points).

EVALUATION CRITERIA
performance of examination tasks during the examination
The exam ticket contains three questions: the first two are theoretical, the third is practical. The final grade for the exam is the sum of the marks for each task. In general, the completed examination work is evaluated on a 40-point scale. Answers to questions must be clear, reasoned, with unambiguous interpretation. Ambiguously interpreted answers are not counted as correct.

Answers to the first two questions are evaluated as follows:

Maximum number of points	Requirements
10 points	A correct, complete and comprehensive answer to the question, a complete description of the content of the problem, a sufficient number of examples.
8 points	Correct and complete definition of terms, full description of the content of the problem, insufficient number of examples.
6 points	Incomplete definition of terms, incomplete description of the content of the problem, insufficient number of examples.
4 points	Lack of definition of the term or incomplete description of the content of the problem, no examples.

2 points	There is no definition of the term or description of the content of the problem, the available part of the answer is incomplete, there are no examples.
0 points	No response.

The answer to the third question is evaluated as follows:

Maximum number of points	Requirements
20 points	A correct, complete and comprehensive answer to the question, an economic-mathematical model was developed, an information system was developed for the automation of calculations, the calculations were carried out correctly, the developed information system was flexible.
18 points	A correct, complete and comprehensive answer to the question, an economic-mathematical model has been developed, an information system has been developed to automate calculations, the calculations have been carried out correctly, the developed information system cannot be developed.
16 points	A complete answer to the question, an economic-mathematical model was developed, an information system was developed to automate calculations, the calculations were partially correct, the developed information system cannot be developed.
14 points	An incomplete answer to the question, an economic-mathematical model was developed, an information system for the automation of calculations was partially developed, the calculations were performed partially correctly.
12 points	Incomplete answer to the question, partially developed economic-mathematical model, developed information system for automating calculations, calculations were carried out.
10 points	An incomplete answer to the question, an economic-mathematical model has been developed, an information system for the automation of calculations has been partially developed, calculations have not been carried out.
8 points	An incomplete answer to the question, an economic-mathematical model has been developed, an information system for automating calculations has not been developed, calculations have not been carried out.
6 points	Incomplete answer to the question, partially developed economic-mathematical model, partially developed information system for automating calculations, calculations not carried out.

4 points	An incomplete answer to the question, a partially developed economic-mathematical model, an information system for automating calculations has not been developed, calculations have not been carried out.
2 points	An incomplete answer to the question, a partially developed economic-mathematical model, an information system for automating calculations has not been developed, calculations have not been carried out.
0 points	No response.

RECOMMENDED LITERATURE

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