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

ЗАТВЕРДЖЕНО
на засіданні кафедри
інформаційних систем
Протокол № 1 від 22.08.2023 р.

ПОГОДЖЕНО
Проректор з навчально-методичної роботи

_____ Каріна НЕМАШКАЛО

КОРПОРАТИВНІ ІНФОРМАЦІЙНІ СИСТЕМИ
робоча програма навчальної дисципліни (РПНД)

Галузь знань	**12 "Інформаційні технології"**
Спеціальність	**121 "Інженерія програмного забезпечення"**
Освітній рівень	**перший (бакалаврський)**
Освітня програма	**"Інженерія програмного забезпечення"**

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

Розробник:
ст. викладач _____ Людмила ЗНАХУР

Завідувач кафедри
інформаційних систем _____ Дмитро БОНДАРЕНКО

Гарант програми _____ Олег ФРОЛОВ

Харків
2024

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

APPROVED
at the meeting of the department
information system
Protocol № 1 of 22.08.2023

AGREED
Vice-rector for educational and methodical work

_____ Karina NEMASHKALO

CORPORATE INFORMATION SYSTEMS

Program of the course

Field of knowledge	**12 "Information Technology"**
Specialty	**121 "Software engineering"**
Study cycle	**first (bachelor)**
Study programme	**"Software engineering"**

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

Developer:
lecturer _____ Liudmyla ZNAKHUR

Head of information system
Department _____ Dmytro BONDARENKO

Head of Study Programme _____ Oleg FROLOV

Kharkiv
2024

INTRODUCTION

In today's world, where a large number of business processes are carried out with the help of computer technologies, understanding and effective use of information systems becomes a key success factor for enterprises. The course "Corporate Information Systems" (CIS) is designed to acquaint applicants with the basic concepts, methods and tools related to the development, implementation and management of information systems in a corporate environment. The course includes a wide range of topics: strategic planning and development of information systems, information systems architecture, data management, e-commerce, CRM (Customer relationship management), ERP (Enterprise Resource Planning), BI (Business Intelligence), SCM (Supply Chain Management) and other aspects of information technologies in the context of corporate business.

The course "Corporate Information Systems" aims to form a system of theoretical knowledge and practical abilities and skills in the basics of building information systems, the company's management system, the integration of software, and the use of modern information technologies in the organization's activities.

The tasks of the course are:

- learning by students of the main terms of the course;
- studying the principles of building information systems (IS); definition of information resources, and IS architecture;
- the exploration of a process approach for the development of corporate IS.

The course will help applicants to become effective specialists in the field of information technologies, able to implement innovative solutions and ensure the competitiveness of enterprises (organizations) on the market.

The subject of the course is the design and development of components of corporate information systems.

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

Table 1

Learning outcomes and competencies formed by the course

Learning outcomes	Competencies
LO 3	GC6, SC11
LO 9	GC2, SC1
LO 23	GC6, SC2, SC8

where, LO03. Know the basic processes, phases, and iterations of the software lifecycle.

LO09. Know and be able to use methods and tools for collecting, formulating and analyzing software requirements.

LO23. Be able to document and present the results of software development.

GC02.Ability to apply knowledge in practical situations.

GC06. Ability to search, process and analyze information from various sources.

SC01. Ability to identify, categorize and formulate software requirements.

SC02. Ability to participate in the design of software, including modelling (formal description) of its structure, behaviour and processes of operation.

SC08. Ability to apply fundamental and interdisciplinary knowledge to successfully solve software engineering problems.

SC 11. Ability to implement phases and iterations of the life cycle of software systems and information technologies based on appropriate software development models and approaches.

COURSE CONTENT

Content module 1. Basics of building corporate information systems

Topic 1. Introduction to the course"Corporate Information Systems"

1.1. Course structure and results.

1.2. Basic concepts.

1.3. The history of the development of KIS.

Topic 2. Corporate information systems and their role in the management of organizations

2.1. Determination of business goals and objectives.

2.2. Determination of the main tasks of the CIS.

2.3. Peculiarities of developing the organization's business strategy and CIS.

Topic 3. Information resources of the organization

3.1. Information resources of the organization.

3.2. Classification of information resources of the organization.

3.3. Basics of legislation regarding information resources.

Topic 4. Classification of automated corporate information systems

4.1. Classification of CIS by functional purpose.

4.2. Classification of CIS according to the scope of application.

4.3. Classification of CIS by specialization.

4.4. Classification of CIS by technological platforms.

Topic 5. Architecture and Structure of CIS

5.1. An overview of the CIS architecture.

5.2. The structure of the CIS.

5.3. Enterprise Architecture Description Standard (TOGAF).

Topic 6. Process approach to the development of CIS

6.1. Basic principles of the process approach.

6.2. Stages of development of CIS according to the process approach.

6.3. Pros and cons of the process approach.

Content module 2. Use of CIS and information technologies in the management of business processes of the organization

Topic 7. MRP, ERP systems and their use

7.1. Definition of MRP (Material Requirements Planning) systems and their main functionality.

7.2. Modern MRP systems and examples of successful use of MRP.

7.3. Definition of ERP (Enterprise Resource Planning) system and their main components.

7.4. Modern ERP systems. Examples of successful use of ERP systems.

Topic 8. CRM systems and their use

8.1. Definition of CRM (Customer Relationship Management) basic concepts in the field of customer interaction management.

8.2. Basic functions of CRM.

8.3. Types of CRM systems.

8.4. Integration with other systems.

8.5. Examples of successful CRM implementation.

Topic 9. SCM systems and their use

9.1. Definition of SCM (Supply Chain Management), basic concepts in supply chain management.

9.2. The main components of SCM.

9.3. SCM technologies and tools.

9.4. Innovation in SCM.

9.5. Examples of successful implementation of the SCM strategy.

Topic 10. Electronic commerce and marketing

10.1. Definition of e-commerce.

10.2. The main types of electronic commerce.

10.3. Marketing strategies in electronic commerce.

10.4. Optimizing conversion and increasing sales.

Topic 11. Business Intelligence

11.1. Definition of Business Intelligence and its main components.

11.2. The importance of BI for strategic management and decision-making at various levels of the organization.

11.3. BI technologies and tools.

11.4. Implementation of BI in the business environment.

11.5. Examples of successful use of BI in various areas of business.

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

Table 2

The list of laboratory studies

Name of the topic and /or task	Content
Topic 1-2. Task 1.	Development of a MindMap of requirements for a CIS specialist
Topic 3-4. Task 2.	Development and filling of document templates for describing companies' briefs. Implementation in Confluence
Topic 5. Task 3.	Determination of functional and non-functional requirements

	for the corporate system. Implementation in Confluence
Topic 6. Task 4	Using Zoho CRM to manage interaction with customers. Creating and configuring a company profile in the Zoho CRM system
Topic 8-10. Task 5.	Sales management and relationships with customers in the Zoho CRM system
Topic 10. Task 6.	Task management in the Zoho Project system
Topic 11. Task 7.	Implementation of Business intelligence based on Google Analytics

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 - 11	Studying lecture material
Topic 1 - 11	Preparation for laboratory classes
Topic 1 - 11	Preparation for current control works
Topic 1 - 11	Preparation for the exam

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

Verbal (lecture-discussion (Topic 1–11), small group work (Topic 2), provocative lecture (Topic 1)).

Visual (demonstration (Topic 1–11)).

Practical (laboratory work (Topic 1–10), case studies (Topic 8-9).

ASSESSMENT FORMS AND METHODS

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

Current control is carried out during lectures, laboratory classes and is aimed at checking the level of readiness of the student to perform a specific job and is evaluated by the amount of points scored:

– for courses with a form of semester control as an exam: maximum amount is 60 points; minimum amount required is 35 points.

The final control includes current control and an exam.

Semester control is carried out in the form of a semester exam.

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

The final grade in the course is determined:

– for disciplines with a form of exam, the final grade is the amount of all points received during the current control and the exam grade.

During the teaching of the course, the following control measures are used:

Current control: defense of laboratory work (50 points), written control work (10 points).

Semester control: Exam (40 points)

More detailed information on the assessment system is provided in technological card of the course.

An example of an exam card and assessment criteria.

Example of an exam ticket

Simon Kuznets Kharkiv National University of Economics
First (bachelor) study cycle
Specialty "Software engineering"
Study program "Software engineering"
Semester V
Course "Corporate information systems"

EXAM TICKET 1

TASK 1 (diagnostic, 8 points).
Describe the architecture of the corporate information system.
TASK 2 (diagnostic, 8 points).
Describe the business problem that the MRP module of the corporate information system aims to solve.
Describe the business problem in the following sequence:

2.1. Business problem (formulate what the business problem is): ...
2.2. The problem affects the work of units...
2.3. The consequence of the problem is...
2.4. A successful solution to the problem is achieved…
2.5. A brief description of the IT solution and its results: …

TASK 3 (heuristic, 24 points).

1. Fill out directories in the CRM system. Complete the task in the Zoho CRM system.
   1.1. Add new customers to the CRM system (personal data, address, phone, e-mail, etc.) The number of customers is at least 2.

1.2. Add Products (add information about the product - price, unit of measurement, tax and description). The number of products is at least 3.

2. Create the following documents:

2.1. "Agreement" dated 01.02. of the current year for each client.

2.2. On the basis of the "Agreement" create a "Proposal" document dated 02.02. of the current year

2.3. Create a "Payment invoice" from 03.03 of the current year.

3. Create reports on customer activity and sales results (general analysis, sales funnel, managers' effectiveness).

Add screenshots of customer cards, goods, agreement, offer, payment invoice to the report.

Approved at the meeting of the Department of Information Systems № ___ of "___"_____20___.

Examiner Liudmyla ZNAKHUR

Head of Department, Phd Dmytro BONDARENKO

Evaluation criteria

Final scores for the exam consist of the sum of points for each task.

The algorithm for solving each task includes separate stages that differ in complexity, time-consumingness, and importance for solving the task. Therefore, individual tasks and stages of their solution are evaluated separately from each other as follows :

Task 1 (diagnostic, 8 points)

This task is evaluated from 0 to 8 points according to the following criteria:

8 points. The theoretical question is described in full, with a statement of the conclusions obtained on the basis of the program, additional material, legislative acts and regulatory documents. Conclusions to the theoretical question are reasoned and substantiated.

7 points. The theoretical question is described in full, the material is presented in accordance with the program material of the course. When performing the comparison, in-depth knowledge of the material provided by the curriculum is used. However, the student assumes certain inaccuracies.

6 points. The theoretical question is fully disclosed, the program material is presented in accordance with the material of the course. When completing the task, the student applies the basic knowledge of the educational material provided by the curriculum. The comparison is generally performed correctly, while the student makes some minor errors.

5 points. The theoretical question is fully disclosed, but minor mistakes were made in the presentation of the material. The student applies the basic knowledge of the educational material provided by the curriculum. When performing it, the student makes minor mistakes.

4 points. The theoretical question is incompletely disclosed, with significant errors. When performing a theoretical task, the student applies the educational material without sufficient understanding, makes a significant number of mistakes, faces significant difficulties in analyzing and interpreting situations.

3 points. The theoretical question is incompletely disclosed or not disclosed at all. When completing the task, the student makes quite a large number of gross mistakes, faces significant difficulties in analyzing and interpreting situations, and shows the ability to express an opinion at an elementary level.

2 points. The student cannot explain a theoretical question, faces significant difficulties in analyzing and interpreting the situation, shows the ability to express an opinion at an elementary level. The theoretical question is not disclosed.

1 point The student cannot explain a theoretical question, he faces significant difficulties in analyzing and interpreting the situation. The theoretical question is not disclosed.

0 points are given for an uncompleted task at all.

Task 2 . ***(diagnostic, 8 points)***

This task is evaluated from 0 to 8 points according to the following criteria:

8 points. The theoretical question is described in full, with a statement of the conclusions obtained on the basis of the program, additional material, legislative acts and regulatory documents. Conclusions to the theoretical question are reasoned and substantiated.

7 points. The theoretical question is described in full, the material is presented in accordance with the program material of the course. When performing the comparison, in-depth knowledge of the material provided by the curriculum is used. However, the student assumes certain inaccuracies.

6 points. The theoretical question is fully disclosed, the program material is presented in accordance with the material of the course. When completing the task, the student applies the basic knowledge of the educational material provided by the curriculum. The comparison is generally performed correctly, while the student makes some minor errors.

5 points. The theoretical question is fully disclosed, but minor mistakes were made in the presentation of the material. The student applies the basic knowledge of the educational material provided by the curriculum. When performing it, the student makes minor mistakes.

4 points. The theoretical question is incompletely disclosed, with significant errors. When performing a theoretical task, the student applies the educational material without sufficient understanding, makes a significant number of mistakes, faces significant difficulties in analyzing and interpreting situations.

3 points. The theoretical question is incompletely disclosed or not disclosed at all. When completing the task, the student makes quite a large number of gross mistakes, faces significant difficulties in analyzing and interpreting situations, and shows the ability to express an opinion at an elementary level.

2 points. The student cannot explain a theoretical question, faces significant difficulties in analyzing and interpreting the situation, shows the ability to express an opinion at an elementary level. The theoretical question is not disclosed.

1 point The student cannot explain a theoretical question, he faces significant difficulties in analyzing and interpreting the situation. The theoretical question is not disclosed.

0 points are given for an uncompleted task at all.

Task 3. (heuristic, 24 points).

This task is evaluated on a 24-point scale.

The first task is evaluated from 0 to 12 points according to the following criteria:

12 points . The task was completed in full accordance with the individual task.

0 points. Task not completed

In the event that the task is completed in full, but mistakes were made during its execution, a part of the points proportional to the completed in the examination paper is deducted from the maximum score for the task, namely:

for each insignificant error, up to 0.5 points are deducted, but no more than 1.5 points for each group of homogeneous insignificant errors;

up to 2 points are deducted for each group of homogeneous significant errors (for example, the absence of filled-in reference book elements, etc.).

The second task is evaluated from 0 to 6 points according to the following criteria:

6 points. The task was completed in full accordance with the individual task.

0 points. Task not completed

In the event that the task is completed in full, but mistakes were made during its execution, a part of the points proportional to the completed in the examination paper is deducted from the maximum score for the task, namely:

for each insignificant error, up to 0.5 points are deducted, but no more than 1.5 points for each group of homogeneous insignificant errors;

up to 2 points are deducted for each group of homogeneous significant errors.

The third task is evaluated from 0 to 6 points according to the following criteria:

6 points . Correct creation of routes (in accordance with the task)

0 points. The task was not completed or was completed incorrectly

In the event that the task is completed in full, but mistakes were made during its execution, a part of the points proportional to the completed task in the examination work, up to 0.5 points, is deducted from the maximum score for the task.

RECOMMENDED LITERATURE

Main

1. Загорулько Є. Корпоративні комунікації: свіжий погляд / Є. Загорулько, Д. Олтаржевський. – Вид.: Арт Економі, 2023. – 360 с.
2. Коваленко О.С. Проектування інформаційних систем: Загальні питання теорії проектування ІС (конспект лекцій) /О. С. Коваленко, Л. М. Добровська. – Київ : КПІ ім. Ігоря Сікорського, 2020. – 192 с.
3. Круш П. В. Теоретичні основи управління матеріальними запасами підприємств. / П. В. Круш, Ю. В. Орлюк. – Економічний вісник НТУУ «Київський політехнічний інститут». – 2017. – Випуск №14 – [Електронний ресурс].– Режим доступу: https://ev.fmm.kpi.ua/article/view/108775
4. Марусей Т. В. Особливості програмного рішення SAP Business One в управлінні сучасним підприємством / Т. В. Марусей, Т. Л. Білик // Економіка та суспільство. – 2018. – Випуск № 15. – С. 956–959.
5. Микитенко Н.В. Можливості використання автоматизованих інформаційних систем в операційній діяльності. Наукові записки Національного університету «Острозька академія», серія «Економіка», № 7(35), грудень, 2017 р. С. 132-136.
6. Мищишин О.Я. Опорний конспект лекцій з дисципліни "Ефективність інформаційних систем" з освітньо-кваліфікаційного рівня "Магістр" для спеціальності "Інформаційні технології в бізнесі". – Львів:, 2017. – 98 с.
7. Нікітіна А. В. Вплив глобалізаційних процесів на розвиток корпоративного середовища міжнародних ІТ-компаній / А. В. Нікітіна, О. М. Шершенюк. // Східна Європа: економіка, бізнес та управління. – 2020. – № 4 (27). http://www.repository.hneu.edu.ua/handle/123456789/24320
8. Новаківський І.І. Інформаційні системи в менеджменті: адаптивний підхід: підручник. / Новаківський І.І., Грибик І.І., Смолінська Н.В. – К. : Видавничий дім «Кондор», 2019. – 440 с.

Additional

9. S.Orenga-Roglá, and R.Chalmeta, "Methodology for the implementation of knowledge management systems 2.0", Business & Information Systems, Springer,vol.61,iss.2,pp 195-213, 2019.

10. Григорків В.С. Моделювання економіки: практикум: навч. посіб. / В.С. Григорків, М.В. Григорків. – Чернівці: Чернівец. нац. ун-т ім. Ю.Федьковича. 2023. 208 с.

11. Сазонець О. Інформаційні системи і технології в управлінні зовнішньоекономічною діяльністю./ О. Сазонець. – Центр навчальної літератури, 2017. – 256 с.

12. Орлова Н.С. Впровадження інформаційних технологій у систему корпоративного управління / Н. С. Орлова, Л. Ю. Мохова // Відкрите освітнє середовище сучасного університету. – 2017. – № 3. – С. 355-365. – Режим доступу: https://elibrary.kubg.edu.ua/id/eprint/20078/1/N_Orlova_IKT_KU_FITU.pdf

13. Павлиш В. А. Основи інформаційних технологій і систем. / В.А. Павлиш, Л. К. Гліненко, Н. Б. Шаховська. – Львів: Вид-во «Львівська політехніка», 2018. – 620 с.

14. Тарасова К. І. Еволюція інформаційних систем в економіці. Бізнес Інформ. 2020. №4. С. 289-295.

Information resources

15. Ultimate Guide to Improving Your Supply Chain Process. URL : https://innovecs.com/blog/supply-chain-process/

16. Корпоративні інформаційні системи. URL : https://pidru4niki.com/74260/informatika/korporativni_informatsiyni_sistemi

17. CRM-система для вашого бізнесу. URL : https://crm.ua/

18. Що таке MRP система: ключові функції та переваги. – Режим доступу: https://wezom.com.ua/ua/blog/mrp-sistemy-chto-eto-takoe