

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

**ЗАТВЕРДЖЕНО**  
на засіданні кафедри  
інформаційних систем.  
Протокол № 1 від 27.08.2024 р.

**ПОГОДЖЕНО**  
Проректор з навчально-методичної роботи



Каріна НЕМАШКАЛО

**ІННОВАЦІЇ ТА ПІДПРИЄМНИЦТВО В ІТ**  
робоча програма навчальної дисципліни (РПНД)

|                  |  |
|------------------|--|
| Галузь знань     | 12 "Інформаційні технології"             |
| Спеціальність    | 126 "Інформаційні системи та технології" |
| Освітній рівень  | другий (магістерський)                   |
| Освітня програма | "Інформаційні системи та технології"     |

|   |            |
|---|------------|
| Статус дисципліни                       | вибіркова  |
| Мова викладання, навчання та оцінювання | англійська |

Розробник:  
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підписано КЕП

Олександр КОЛГАТІН

Харків  
2024

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

**APPROVED**

at the meeting of the information systems  
department.  
Protocol № 1 of 27.08.2024

**AGREED**

Vice-rector for educational and methodological  
work



Karina NEMASHKALO

**INNOVATION AND ENTREPRENEURSHIP IN IT**  
**Program of the course**

Field of knowledge                      **12 " Information technologies "**  
Specialty                                      **126 "Information systems and technologies"**  
Study cycle                                   **second (master's)**  
Study programme                         **"Information systems and technologies"**

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

Developer:  
Doctor of Economics,  
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**Kharkiv**  
**2024**

## INTRODUCTION

The management conditions of modern enterprises present new challenges to their management. Small and medium-sized businesses are becoming more and more developed, which requires new knowledge, first of all, regarding marketing, operational and organizational aspects of entrepreneurship, especially in the field of information technologies. In connection with the development of computer information systems and technologies, there is a need to apply new forms and approaches to the development of innovative business in the field of information technologies. The transition from an outsourcing and service business model to a product model requires the management of modern domestic IT companies to adopt new creative approaches to the implementation of innovative business models.

The relevance and necessity of studying the discipline is determined both by the processes of Ukraine's integration into the world community and by the need for further development of the information society. There is an acute shortage of innovative approaches to entrepreneurship among professional personnel. The practical orientation of the educational discipline "Innovations and entrepreneurship" is determined by the need to master the world experience of development, analysis, implementation and management of innovative ideas in the field of development of information systems and software.

The purpose of teaching this educational course is the formation of entrepreneurial thinking and skills in students to substantiate the marketing, organizational, operational (production) and financial aspects of an innovative IT idea and the promotion of innovations.

The tasks of the course are mastering the skills of researching the external and internal environment to substantiate an innovative idea in the field of IT and developing a business plan for an innovative project.

The object of the course is innovative ideas and processes in the field of IT.

The subject of the course is the main approaches and methods of analysis and substantiation of marketing, operational and organizational aspects of entrepreneurship in the field of IT.

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

Table 1

Learning outcomes and competencies formed by the course

| <b>Learning outcomes</b> | <b>Competencies</b> |
|--------------------------|---------------------|
| LO01                     | GC01                |
| LO02                     | GC02                |
| LO05                     | GC03                |
| LO04                     | GC04                |
| LO07                     | SC07                |

where, GC01. Ability to abstract thinking, analysis and synthesis.

- GC02. Ability to communicate in a foreign language.
- GC03. Ability to communicate with representatives of other professional groups at different levels (with experts from other fields of knowledge/types of economic activity).
- GC04. Ability to develop and manage projects.
- SC07. Develop and implement innovative projects in the field of ICT.
- LO01. Searching for necessary information in scientific and technical literature, databases, other sources, analyse and evaluate this information.
- LO02. Communicating freely in national and foreign languages in scientific, industrial and social spheres of activity.
- LO04. Managing ICT development, implementation and operation processes that are complex, unpredictable and require new strategic and team approaches.
- LO05. Determining the requirements for ICT on base of business processes and needs of interested parties' analysis, to develop technical tasks.
- LO07. Making a grounded choice of project solutions and design a service-oriented information architecture of the enterprise (institution, organisation, etc.).

## **COURSE CONTENT**

### **Content module 1. Fundamentals of entrepreneurship and approaches to the development of innovative ideas**

#### **Topic 1. Introduction to innovation and entrepreneurship**

- 1.1. Concepts and types of innovation. Innovative enterprises and innovative entrepreneurship. Concepts of "entrepreneur" and "entrepreneurship".
- 1.2. Personal characteristics and professional skills of a modern entrepreneur.
- 1.3. Review of the legislation regulating business activity.
- 1.4. Identification of the concept of "innovative information products and services" and "information market".
- 1.5. Determination of market conditions. Basic principles and functions of the formation and functioning of the information market, prerequisites for its emergence and factors contributing to its development.

#### **Topic 2. Entrepreneurial thinking, innovation implementation skills and creative problem solving**

- 2.1. Aspects of the entrepreneurial process. Entrepreneurial thinking. Ethics and social responsibility of entrepreneurs.
- 2.2. The role of entrepreneurship in economic development. Product evolution.
- 2.3. Models of entrepreneurial behavior. Types of organizational and legal forms of business. Classification of organizational forms of information business.
- 2.4. Classification groupings of information business enterprises inherent in the information field. Information company founders and their functions.

### **Topic 3. Generation and development of business ideas**

- 3.1. The concept of "innovative business idea". Development of creativity: approaches and techniques.
- 3.2. Processes of generation, analysis, selection and polishing of business ideas.
- 3.3. Development of a business model for an innovative idea.
- 3.4. Overview of existing approaches to business modeling.

### **Topic 4. Development of the Canvas business model**

- 4.1. Business model "Canvas": advantages and disadvantages, sections and rules of construction.
- 4.2. Characteristics of the "Consumer segments" block. Characteristics of the "Value proposition" block. Characteristics of the "Distribution Channels" block. Characteristics of the "Technologies of client relations" block.
- 4.3. Characteristics of the "Income Streams" block. Characteristics of the "Key Resources" block. Characteristics of the block "Key activities". Characteristics of the "Key Partners" block. Characteristics of the "Cost Structure" block.

## **Content module 2. Justification of key aspects of development and implementation of an innovative business idea**

### **Topic 5. Development of a business plan for an innovative project**

- 5.1. The difference between a business model and a business plan. Overview of existing approaches to business planning. Sections of the business plan.
- 5.2. Features of developing a business plan for an innovative idea.
- 5.3. Collection of source information for project development. Determining the need for innovation. Forecasting the market capacity of an innovative product using the example of IT products and services.
- 5.4. Elaboration of legal issues related to project implementation. Marketing analysis. Development of the technical part of the project. Operational analysis. Financial analysis. Risk analysis.

### **Topic 6. Justification of marketing aspects of innovative entrepreneurship**

- 6.1. The content of market research and its features when researching the market of innovative IT products and services.
- 6.2. Marketing information system. Marketing information analysis system. Marketing information environment.
- 6.3. The technology of conducting marketing research of the innovation market: organizational aspects.
- 6.4. Organization of marketing research using computer information processing technologies.
- 6.5. Life cycle of IT products. Characteristics of the main stages of a typical innovative life cycle. Predominant types of consumers at certain stages of the life cycle of IT

products. 6.6. Features of the life cycle of information products and services. The structure of the marketing plan within the business plan.

### **Topic 7. Justification of organizational aspects of innovative entrepreneurship**

7.1. General requirements for the content of founding documents of companies. The procedure for state registration of an enterprise. Determination of strategic needs in information products and services.

7.2. Preparatory stage: making a decision about entrepreneurial activity based on an IT idea; determination of the goals of entrepreneurial activity, development of the enterprise development strategy; choice of organizational and legal form of entrepreneurship; choosing the location of the enterprise.

7.3. Establishment stage: determining the composition of the founders; determining the amount of initial capital; development of the name of the enterprise, preparation of constituent (founding) documents; enterprise registration; registration of enterprise attributes.

7.4. Organizational stage: organization of enterprise management; formation of resource supply and product sales networks; personnel selection; organization of the production process. The structure of the organizational plan within the business plan.

### **Topic 8. Justification of production (operational) aspects of innovative entrepreneurship**

8.1. Justification of the main tasks of the resource provision plan. Determining the main types of resources for creating an innovative IT product and forecasting the need for them.

8.2. Justification of the need for technologies necessary for the creation of an innovative IT product.

8.3. Justification of the need for equipment and software, calculations of costs related to the purchase or rental of equipment, software and premises; information on service periods and depreciation deductions.

8.4. Justification of the need for personnel, assessment of the level of personnel qualifications. Use of MS Project Expert to determine the resource support for the implementation of an innovative project. The structure of the operational plan within the business plan.

### **Topic 9. Justification of financial aspects of innovative entrepreneurship**

9.1. Analysis of the influence of the cost factor on the total amount of financing of the innovative project.

9.2. Calculation and analysis of the main financial indicators for an innovative IT project. Carrying out sensitivity analysis of IT projects.

9.3. Determination of the specifics of the development of a financial plan within the business plan: the presence of a specific list of financial documents of a standard form with a single method of calculating the relevant indicators; availability of financial plans; consistency with other sections of the business project; the expediency of working out several scenarios of the development of events; reliability of information

and financial calculations, as well as explanation of deviation of financial indicators from industry averages.

9.4. Preparation of the business plan of the IT enterprise in Project Expert. Comparative characteristics of the Project Expert and Prime Expert packages.

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

Table 2

### The list of laboratory classes

| Topic name                            | Content   |
|---------------------------------------|---|
| Topic 1-Topic 2.<br>Laboratory work 1 | Creating an idea for an innovative IT product                       |
| Topic 2-Topic 3.<br>Laboratory work 2 | Development of a teaser for an innovative IT product                |
| Topic 4.<br>Laboratory work 3         | Development of a Canvas business model for an innovative IT product |
| Topic 5-Topic 6.<br>Laboratory work 4 | Development of a marketing plan for an innovative IT product        |
| Topic 7.<br>Laboratory work 5         | Development of an organizational plan for an innovative IT product  |
| Topic 8.<br>Laboratory work 6         | Development of an operational plan of an innovative IT product      |
| Topic 9.<br>Laboratory work 7.        | Development of a financial plan for an innovative IT product        |

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

Table 3

### The list of self-studies

| Topic name  | Content                            |
|-------------|------------------------------------|
| Topic 1 - 9 | Studying lecture material          |
| Topic 1 - 9 | Preparation for laboratory classes |
| Topic 1 - 9 | Preparation for the exam           |

The number of hours of lectures, practical (seminar) studies and hours of self-study is given in the technological card of the course.

## TEACHING METHODS

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

Problem lecture (Topic 1-3), verbal lecture (Topic 4-9).

In person (demonstration (Topic 1-9)).

Laboratory work (Topic 1-9).

## FORMS AND METHODS OF ASSESSMENT

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

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

**Current control** is carried out during lectures, practical, laboratory and seminar 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 assessment of the student .

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

**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 works (46 points), written control works (14 points).

Semester control: Grading including 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:

### **An example of an examination ticket**

SIMON KUZNETS KHARKIV NATIONAL UNIVERSITY OF ECONOMICS

The second (master's) level of higher education

Specialty 126 "Information systems and technologies"

Educational program "Information systems and technologies".

Semester I

Course "Innovation and entrepreneurship in IT"

### **EXAMINATION TICKET**

**Task 1** (diagnostic, 17 points). According to the given topic [individual option] describe in detail 2 blocks of the Canvas Model: Key activities and Key resources

**Task 2** (heuristic, 23 points). Using the Microsoft Project (MS Project) or GanttPRO package, create a work schedule for the project "Creating a business in the field of information technologies". For this, it is necessary to go through the following stages:



1. Create a project calendar, based on the fact that the duration of the project is 1 calendar year, the work schedule is normal (5 working days and 2 weekend (Saturday and Sunday) days).
2. Structure the project by defining the logical sequence of stages (total tasks), as well as tasks within each stage. Stages of the project (total tasks): Implementation of the IT project; Justification of the business idea and concept of IT business organization; Development of a business plan; Preparatory stage of IT project implementation.
3. For each stage (total task), propose subtasks.
4. Define control tasks ( project milestones ) at each stage.
5. Distribute duties and responsibilities for certain project tasks among project participants: director; project manager; HR; marketer; developer; the tester
6. Establish a certain sequence of task performance and connections between them.
7. Set the basic plan of the project and take Screenshots of the project and save them in an MS Word document.

Protocol N 1 of August 27, 2024 was approved at the meeting of the Information Systems Department of.

Examiner  
Head of IS Department

Olena PLOKHA  
Dmytro BONDARENKO

### **Evaluation criteria**

The exam ticket includes one diagnostic task and one heuristic task. The maximum number is 40 points; the minimum that is counted is 25 points. At the same time, for completely correctly completed tasks, the student receives:

**Task 1 – 17 points;**

**Task 2 – 23 points .**

**Final scores for the exam** consist of the sum of points for completing all tasks, rounded to a whole number according to the rules of mathematics.

**Task 1 (diagnostic)** is estimated at *17 points* as follows:

8 points – a correct and complete description of the Canvas Model block: Key activities by option.

9 points – a correct and complete description of the Canvas Model block: Key resources by option.

In the event that the parts of the task described above are not fully completed, 0.5 points are deducted from the maximum score. Also, 1 point is deducted for each group of homogeneous non-essential errors (for example, incorrect definition of the source information for the work, lack of all necessary data stores for the task, presence of external links at those levels where they should not be, etc.); 1.5 points are deducted for each group of homogeneous significant errors (for example, incorrect wording of

the name of the business process, lack of names of data streams, complete lack of decomposition of data stores at some levels, incorrect from the point of view of the methodology of the location of interface arcs according to the DEF0 standard, etc.) .

**Task 2 (heuristic)** is estimated at **23 points** as follows:

2 points – the project calendar is created according to the task;

6 points – the structure of the project (total tasks) is defined in a logical sequence;

7 points – for each stage (total task), propose subtasks (2-3) that reveal the essence of the total task;

4 points – control tasks (project milestones) are defined for each stage;

4 points – duties and responsibilities for certain project tasks are distributed among the project participants.

## RECOMMENDED LITERATURE

### Main

1. Osterwalder A. Value Proposition Design / A. Osterwalder, Y. Pigneur, A. Smith, G. Bernarda, P. Papadacos. – New Jersey, IL, USA: John Wiley & Sons Inc., 2019. – 320 p.

2. Назарова Г. В. Визначальні характеристики сучасних підприємницьких структур / Г. В. Назарова // Економіка та бізнес-інновації: підручник / за ред. д.е.н., проф. Л. Г. Мельника, д.е.н., проф. О. І. Карінцевої. – Суми : Університетська книга, 2023. – Розділ 2.4. – С. 78 – 86. – URL: <http://repository.hneu.edu.ua/handle/123456789/29309>

### Additional

3. Котлубай В. О. Інноваційне підприємництво та управління стартап проектами. Economic evaluation of innovative solution: практикум / В. О. Котлубай, Г. А. Отливанська. – Одеса: НУ "ОЮА", 2021. – 131 с.

4. Сенчугов Д. Ю. Сучасні теорії управління інноваційними ІТ-проектами / Д. Ю. Сенчугов /Scientific method: reality and future trends of researching: collection of scientific papers «SCIENTIA» with Proceedings of the II International Scientific and Theoretical Conference, August 25. - Zagreb, Republic of Croatia: European Scientific Platform. – 2023. – P. 66 – 69. – URL: <http://repository.hneu.edu.ua/handle/123456789/30054>

5. Татаринцева Ю. Л. Інноваційний менеджмент в епоху цифрового маркетингу вражень / Ю. Л. Татаринцева, О. І. Пушкар // Актуальні проблеми менеджменту: теоретичні і практичні аспекти : матеріали 6-ї міжнар. наук.–практ. конф., 28-29 вересня 2023 р. : тези допов. – Одеса : ОНЕУ, 2023. – С. 146-148.– URL:<http://repository.hneu.edu.ua/handle/123456789/30481>

6. Ястремська О. М. Організація відділу інноваційного розвитку підприємств: теоретичний та практичний аспекти / О.М. Ястремська /

Інноваційний розвиток діяльності суб'єктів господарювання в умовах воєнного та повоєнного стану: теорія, практика, аналітика [Електронний ресурс] : монографія / за заг. ред. В. С. Пономаренка. – Харків : ХНЕУ ім. С. Кузнеця, 2024. – С. 44-86. – URL: <http://repository.hneu.edu.ua/handle/123456789/33300>

7. The Design Thinking Playbook: Mindful Digital Transformation of Teams, Products, Services, Businesses and Ecosystems . – New Jersey, IL, USA: John Wiley & Sons Inc., 2018. – 353 p.

8. Manzhura, O. V., Kraus, N. M. and Kraus, K. M. (2019), “Diagnosis of the impact of research and innovation on technology transfer in Ukraine”, *Efektivna ekonomika*, [Online], vol. 2, available at: <http://www.economy.nayka.com.ua/?op=1&z=6873>

9. Bland D.J. Testing Business Ideas: A Field Guide for Rapid Experimentation / Bland D.J., A. Osterwalder. – New Jersey, IL, USA: John Wiley & Sons Inc., 2019. – 3368 p.

### **Information resources on the Internet**

10. Закон України «Про інноваційну діяльність». [Електронний ресурс]. – Режим доступу: <http://zakon4.rada.gov.ua/laws/show/40-15>.

11. Закон України «Про пріоритетні напрями інноваційної діяльності в Україні. [Електронний ресурс]. – Режим доступу: <http://zakon4.rada.gov.ua/laws/show/3715-17>