

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
SIMON KUZNETS KHARKIV NATIONAL UNIVERSITY OF ECONOMIC**

"APPROVED"

Vice-rector on scientific and methodological work

Karina NEMASHKALO

**Economics and knowledge management
work program of educational discipline**

The field of knowledge *All*
Specialty *all*
Educational level *first (bachelor) level*
Educational program *all*

Type of discipline *selective*
Language of teaching, training and evaluation *english*

Head of the department
public administration and regional economy

Natalia GAVKALOVA

Kharkiv
2022

APPROVED

on the session of the Department of public administration and regional economy
Protocol № 1 from 27.08.2021

Developer:

Bolotova Olena Olegivna, PhD, associate professor of the Department of public administration and regional economics

**Letter of renewal and approval of the
discipline work program**

| Academic year | Date of the Department session – department of work program developer | Protocol number | Signature of the head of the department |
|---------------|---|-----------------|---|
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Introduction

Abstract of a discipline: The study provides theoretical and practical training of students to solve specific problems of knowledge management in the enterprise, development and use of innovation infrastructure in the knowledge economy and provides an opportunity to learn basic knowledge of the theoretical foundations of knowledge management, knowledge management and development impact innovation infrastructure for enterprise development.

The purpose of the course: is to form students' competencies to ensure competitiveness and enterprise development through knowledge management, providing innovative infrastructure of enterprises (micro level), regions (macro level) in the modern world economy of knowledge economy.

| | |
|------------------------|---------------|
| Course | 2 |
| Semester | 1 |
| Number of credits ECTS | 5 |
| Form of final control | credit |

Structural and logical scheme of the discipline

| Prerequisites | Postrequisites |
|-----------------------------|-----------------------------------|
| Regional Economics | Innovative management |
| Political economy | Personnel accounting and analysis |
| Microeconomics | Global economy |
| Macroeconomics | Strategic management |
| Business Ethics | |
| Social economy and politics | |
| Personnel management | |

Competencies and learning outcomes of the discipline

| Competencies | Learning outcomes |
|---|--|
| Ability to identify features, trends and prospects for EU development in individual countries | Knowledge of the essence of the knowledge economy, sources of knowledge, their classification and definition of technological systems. Knowledge of the peculiarities of the knowledge economy in developed and developing countries Ability to determine the stage of formation of the knowledge economy in countries, identify prospects for further development. Ability to identify sources of necessary knowledge. |
| Ability to develop and develop a knowledge management system in the enterprise | Skills in developing a knowledge management structure in the enterprise Ability to search, identify, identify and generate knowledge in the enterprise |
| Ability to identify and evaluate intellectual property in the enterprise | Skills in auditing and valuing intellectual property. Ability to analyze intellectual potential and assess intellectual property |

| | |
|--|--|
| Ability to analyze the existing innovation infrastructure, to choose effective contractors among the existing objects of innovation infrastructure | Skills to identify the features of innovation infrastructure Ability to analyze the objects of innovation infrastructure and select the most effective contractors. |
|--|--|

The discipline program

Content module 1. Scientific and theoretical foundations of knowledge economy

Topic 1. Theoretical foundations of knowledge economy

1.1. The essence and categorical apparatus of the knowledge economy. Definition and essence of the knowledge economy as a new direction in economics, the basic concepts of the category "knowledge". Functions and classification of knowledge. The essence of knowledge and their functions in the knowledge economy. Knowledge and information. Classification and sources of knowledge.

1.2 The role of the state in the formation of the knowledge economy. Technological systems as an indicator of state economic development. Indicators of knowledge economy, cost structure and sources of funding for research and development.

Topic 2. Features of the formation of the knowledge economy

2.1. General characteristics of the knowledge economy of developed countries. The knowledge economy on the example of Great Britain. The evolution of knowledge sectors in the United States. Uneven development of the knowledge economy in Western Europe. Experience of forced development of knowledge economy in Ireland and Finland.

2.2. Problems of transition to the knowledge economy of developing countries. Weakness of the internal foundations of the knowledge economy in developing countries. The knowledge economy on the example of India. Creating conditions for the development of the knowledge economy in the China.

2.3. Problems of formation of knowledge economy in Ukraine. Opportunities and problems of knowledge economy in Ukraine. Formation of institutes of knowledge economy. Innovation and investment activity and scientific potential of Ukraine. Innovation strategy: directions, tasks and prospects for the economy of Ukraine. Structural reforms. Development of the information and humanitarian sector.

Topic 3. Knowledge economy and enterprise management

3.1. Knowledge in the subsystem of the enterprise. Capital structure in the knowledge economy. Competence of the organization. Theory of organizational knowledge. Transformation of knowledge. Socialization, externalization, combination, internalization.

3.2. Tasks of knowledge management at the enterprise. Category "knowledge management", the essence of knowledge management, tasks, purpose of knowledge management.

3.3. Organizational structure in the process of knowledge management in the enterprise. Approaches to the organization of knowledge management systems in organizations. Principles of knowledge management. Organizational forms of knowledge management. Knowledge management structure of the enterprise (organization).

Topic 4. Knowledge management process

4.1. The essence of the knowledge management process of the enterprise. Stages of knowledge management at the tactical and strategic levels. Knowledge management mechanism. Strategies for effective formation and use of knowledge in the enterprise.

4.2. Sources of knowledge. Search methods and knowledge identification. Generation, acquisition and accumulation of knowledge. Knowledge audit, knowledge map. The essence and

stages of knowledge audit, development of knowledge map of the enterprise, ontological models of knowledge representation.

4.3. Knowledge transfer. Use of information and knowledge, stages of the life cycle of knowledge, their readiness for transfer.

Topic 5. Information systems in knowledge management

5.1. Knowledge management systems. The essence of knowledge management systems, requirements for such systems, search, architecture, personification.

5.2. Knowledge management software. Software leaders. Information access technologies. Teamwork and socially oriented software. Content management systems.

Topic 6. The essence of intellectual capital

6.1. Structure, concept of intellectual capital. Entities and objects of intellectual capital management. Features of intellectual capital formation. Features of the definition of intellectual property.

6.2. Methodical approaches to the valuation of intellectual property. Management of intellectual property. Transfer of intellectual capital.

Content module 2. Innovation infrastructure

Topic 7. The essence and experience of building innovation infrastructure

7.1. The essence and categorical apparatus of innovation infrastructure. Definition and essence of innovation infrastructure, basic concepts of the category "innovation infrastructure". Features and functions of innovation infrastructure. Formation of innovation infrastructure, its features and components. Subsystems and tasks of innovation infrastructure.

7.2. The role of the state in the development of innovation infrastructure. Experience and tasks of innovation infrastructure development. Legislative support for the development of innovation infrastructure.

7.3. Models of national innovation systems. Principles of organization and functioning of innovation systems. Basic models of innovative development of innovative systems: American, Japanese, mixed. Features of the innovation infrastructure of some countries. US innovation infrastructure, the experience of the European Union, features of the innovation infrastructure of China and Japan.

Topic 8. Modern organizational forms of innovative development

8.1. The essence and functions of business incubators. Client companies and tenants of the business incubator. Incubator associate business partner. Incubator's client policy. Business incubator services. The role of the business incubator in the life cycle of the enterprise. Typology of business incubators. World experience in the creation and operation of business incubators. Experience in the development of business incubators in the world. Features of their formation in Ukraine. Problems of business incubators in Ukraine. Legislative support for business incubators in Ukraine.

8.2. The essence of startups, features of activity. Concepts, tasks, types of startups. Features of startup organization. Startup leaders. The essence of institutes to support applied innovations. Scope of activity and degree of influence on the sphere of innovations. The main tasks of state and quasi-state institutes of support of applied innovations. Tools of state institutes of support of applied innovations: financial, administrative. Organizational structure of institutes to support applied innovations. Typology of organizations supporting applied innovations.

8.3. Technoparks and Hi-tech city. The essence and functions of the technology park as an object of innovation infrastructure, areas of activity, operating conditions. Functions and features of functioning of technology parks in transition economy. European and American experience of technoparks. International Association of Technology Parks. The main criteria for the success of technology parks. Reasons and goals of creating technology parks and high-tech parks. State participation in the work of the technology park: incentives and control over activities, the main

incentives for the creation of science parks. The purpose and prerequisites for creating high-tech places. Hi-tech metropolis. Economic justification of Hi-tech city. School of the future Hi-tech city. Ecological paradigm Hi-tech city. Quality of life Hi-tech city. The spiritual paradigm of Hi-tech city. Hi-tech city marketing support. Hi-tech energy.

Topic 9. Technology transfer centers

9.1. The essence of technology transfer. The essence and typology of technology transfer. Internal transfer, quasi-internal transfer, external transfer.

9.2. Conditions for the development of technology transfer. Creating conditions for the promotion of knowledge-intensive, innovative products in both domestic and foreign markets. The process of selling technology and know-how from both a technical and commercial point of view. Procedure for transferring patents for inventions, patent licensing, trade in non-patent inventions, transfer of technological documentation, know-how, etc. Engineering, research and development during the exchange of scientists and experts, conducting joint research by different firms, organization of joint production, joint venture.

9.3. Problems of technology transfer in Ukraine. Identifying problems of technology transfer in Ukraine.

Topic 10. Financial infrastructure of innovation activity

10.1. The essence of financial infrastructure. Structure of financial infrastructure, features. State funding of innovations. Mechanisms, forms, conditions. Grants, competitions. Indirect forms of financial support.

10.2. Features of venture capital. The essence of venture capital. Features of venture entrepreneurship. Sources of capital of venture funds. Organizational structure of venture institutes. Stages of venture capital investment. Forms of government instruments used to stimulate venture capital.

10.3. World experience in venture capital development. General features and trends of venture capital in the United States. Venture capital in Europe. British Venture Capital Association (BVCA). European Venture Capital Association (EVCA).

Topic 11. Features of formation of innovation infrastructure of Ukraine

11.1. Legislative support for the development of Ukraine's innovation infrastructure. Innovative activity of Ukrainian enterprises. Objects of innovation infrastructure in Ukraine. Legislative support for the development of innovation infrastructure.

11.2. Problems of formation of innovation infrastructure of Ukraine. Innovation infrastructure of the regions of Ukraine. Priority directions of development of innovation infrastructure of Ukraine.

The list of practical lessons, as well as questions and tasks for independent work is given in the table «Rating-plan of the discipline».

Methods of teaching and learning

During the study of the discipline such teaching methods are used, aimed at activating and stimulating educational and cognitive activities of higher education students, such as: problem lectures, discussions, presentations, work in small groups, business games, case-study, mini-lectures, test methods, individual research work while performing a creative task.

Procedure for evaluating learning outcomes

Assessment of learning outcomes in the discipline «Psychology» is based on the cumulative (100-point) assessment system.

Evaluation is carried out by the following types of control:

current control that takes place during the semester during lectures, practical classes and is assessed by the amount of points scored (maximum amount - 100 points; minimum amount that allows students to get credit - 60 points);

final / semester control, which is conducted in the form of a test. The test is set as the total amount of points earned on the results of the current control. Submission of the final evaluation is carried out on the scale given in table.

Current control includes evaluation of students' work during:

practical and seminar classes:

practical and seminar work - active work in pairs provided that the student participates in determining possible methods of performing tasks; performance of practical tasks (6 or 7 points for each task) provided that the task is performed correctly; test control (6 points for each test) provided that the correct answers to all questions. Total number of points 56.

independent work - presentation of research results (7 points for each presentation) provided that the results are substantiated and proposals are submitted. Total number of points 14.

Colloquium. During the semester, students write two colloquia (15 points each). The first colloquium includes topics from 1 to 6, the second topics from 7 to 11. The maximum number of points for both colloquia - 30.

Final control of knowledge and competencies of students in the discipline is carried out on the basis of summation of grades for all types of control that took place during the semester.

A student should be considered certified if the sum of points obtained from the final / semester performance test is equal to or exceeds 60. The minimum number of points for current and modular control (and therefore credit) during the semester - 60 and the maximum possible number of points - 100.

The final grade in the discipline is calculated taking into account the points obtained during the current control of the accumulative system. The total result in points for the semester is: "60 or more points - credited", "59 or less points - not credited" and is entered in the test "Statement of performance" of the discipline.

The final grade is set according to the scale given in the table "Grade scale: national and ECTS".

Grading scale: national and ECTS

| 100 points scale of the University | Grade on national scale | |
|------------------------------------|---|--------------|
| | for exam, course project (work), practice | for credit |
| 90 – 100 | Excellent | Accepted |
| 82 – 89 | Well | |
| 74 – 81 | | |
| 64 – 73 | Satisfactorily | Not Accepted |
| 60 – 63 | | |
| 35 – 59 | Unsatisfactorily | |
| 1 – 34 | | |

Forms of assessment and distribution of points are given in the table "Rating-plan of the discipline".

Rating plan of the discipline

| Topic | Forms and types of education | | Forms of evaluation | Max point |
|---|--|--|--------------------------|-----------|
| 1 | 2 | | 3 | 4 |
| Topic 1. Theoretical foundations of knowledge economy | <i>Auditory work</i> | | | |
| | Lecture | Lecture on the following issues: 1.1. The essence and categorical apparatus of the knowledge economy. 1.2. The role of the state in the formation of the knowledge economy | | |
| | Practice | Discussion of the essence of the knowledge economy as a new direction in economics | Active work in the class | 6 |
| | <i>Individual work</i> | | | |
| Preparation for classes | Search, selection and review of literary sources on a given theme. | Homework check | | |
| Topic 2. Features of the formation of the knowledge economy | <i>Auditory work</i> | | | |
| | Lecture | Lecture on the following issues: 2.1. General characteristics of the knowledge economy of developed countries. 2.2. Problems of transition to the knowledge economy of developing countries. 2.3. Problems of formation of knowledge economy in Ukraine. | | |
| | Practice | Features of the formation of the knowledge economy in developed countries | Active work in the class | 6 |
| | <i>Individual work</i> | | | |
| Preparation for classes | Search, selection and review of literary sources on a given topic | Homework check | | |
| Topic 3. Knowledge economy and enterprise management | <i>Auditory work</i> | | | |
| | Lecture | Lecture on the following issues: 3.1. Knowledge in the subsystem of the enterprise. 3.2. Tasks of knowledge management at the enterprise 3.3. Organizational structure in the process of knowledge management in the enterprise | | |
| | Practice | Practice tasks to develop analytical and calculation skills | Presentation | 7 |
| | <i>Individual work</i> | | | |
| Preparation for classes | Review of advantages and disadvantages of different recruitment systems. | Homework check | | |
| Topic 4. Knowledge management process | <i>Auditory work</i> | | | |
| | Lecture | Lecture on the following issues: 4.1. The essence of the knowledge management process of the enterprise. 4.2. Sources of knowledge 4.3. Knowledge transfer | | |
| | Practice | Role of knowledge management in modern organizations | Active work in the class | |
| | <i>Individual work</i> | | | |
| Preparation for classes | Preparation for business game | Homework check | | |
| Topic 4. Selection and Placement | <i>Auditory work</i> | | | |
| | Lecture | Lecture on the following issues: 5.1. Knowledge management systems 5.2. Knowledge management software | | |

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|---|-------------------------|--|--------------------------|----|
| | Practice | Seminar lesson on the topic, Business game " Building a knowledge map " | Active work in the class | 7 |
| | Preparation for classes | Preparation for business game | Homework check | |
| Topic 5. Information systems in knowledge management | <i>Auditory work</i> | | | |
| | Lecture | Lecture on the following issues: 6.1. Structure, concept of intellectual capital 6.2. Methodical approaches to the valuation of intellectual property | | |
| | Practice | Seminar lesson on the topic "Impact of intellectual capital to value of organization | Active work in the class | |
| | | | colloquium | 15 |
| | <i>Individual work</i> | | | |
| | Preparation for classes | Preparation for classes | Homework check | |
| Topic 6. The essence of intellectual capital | <i>Auditory work</i> | | | |
| | Lecture | Lecture on the following issues: 7.1. The essence and categorical apparatus of innovation infrastructure 7.2. The role of the state in the development of innovation infrastructure 7.3. Models of national innovation systems | | |
| | Practice | Practice tasks to develop analytical and calculation skills: Knowledge audit | Active work in the class | 6 |
| | <i>Individual work</i> | | | |
| | Preparation for classes | Preparation for classes | Homework check | |
| Topic 7. The essence and experience of building innovation infrastructure | <i>Auditory work</i> | | | |
| | Lecture | Lecture on the following issues: 7.1. The essence and categorical apparatus of innovation infrastructure 7.2. The role of the state in the development of innovation infrastructure 7.3. Models of national innovation systems | | |
| | Practice | Preparation for written control work | Written control (test) | 6 |
| | <i>Individual work</i> | | | |
| | Preparation for classes | Search, selection and review of literary sources on a given topic | Homework check | |
| essence and experience of building innovation | <i>Auditory work</i> | | | |
| | Lecture | Lecture on the following issues: 8.1. The essence and functions of business incubators 8.2. The essence of startups, features of activity 8.3. Technoparks and Hi-tech city | | |
| | Practice | Seminar lesson on the topic "Facilitation techniques in knowledge management" | Execution of tasks | 6 |

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|--|-------------------------|---|--------------------|---|
| | Individual work | | | |
| | Preparation for classes | Search, selection and review of literary sources on a given topic | Homework check | |
| Topic 8. Modern organizational forms of innovative development | Auditory work | | | |
| | Lecture | Lecture on the following issues: 9.1. The essence of technology transfer 9.2. Conditions for the development of technology transfer 9.3. Problems of technology transfer in Ukraine | | |
| | Practice | Seminal lesson on the topic "Role of knowledge management in modern organizations" | Execution of tasks | 6 |
| | Individual work | | | |
| | Preparation for classes | Search, selection and review of literary sources on a given topic | Homework check | |
| Topic 9. Technology transfer centers | Auditory work | | | |
| | Lecture | Lecture on the following issues: 9.1. The essence of technology transfer 9.2. Conditions for the development of technology transfer 9.3. Problems of technology transfer in Ukraine | | |
| | Practice | Practice tasks to develop analytical and calculation skills Swot-analysis of knowledge management software | Execution of tasks | 7 |
| | Individual work | | | |
| | Preparation for classes | Search of literary sources on the theme | Homework check | |
| Topic 9. Technology transfer centers | Auditory work | | | |
| | Lecture | Lecture on the following issues: 10.1. The essence of financial infrastructure 10.2. Features of venture capital 10.3. World experience in venture capital development | | |
| | Practice | Seminar lesson Impact of knowledge economy to technological development | Presentation | 7 |
| | Individual work | | | |
| | Preparation for classes | Search, selection and review of literary sources on a given topic | Homework check | |
| Topic 10. Financial infrastructure of innovation activity | Auditory work | | | |
| | Lecture | Lecture on the following issues: 10.1. The essence of financial infrastructure 10.2. Features of venture capital 10.3. World experience in venture capital development | | |
| | Practice | Seminar lesson on the topic "Case: Success story of" | | |
| | Individual work | | | |
| | Preparation for classes | Search, selection and review of literary sources on a given topic | Homework check | |

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|---|---|--|--------------------|----|
| Topic 10. Financial infrastructure of innovation activity | <i>Auditory work</i> | | | |
| | Lecture | Lecture on the following issues: 11.1. Legislative support for the development of Ukraine's innovation infrastructure 11.2. Problems of formation of innovation infrastructure of Ukraine | | |
| | Practice | Analysis of the formation and development of technology parks, institutes to support applied innovations, places of high technology in developed countries | Execution of tasks | 6 |
| | <i>Individual work</i> | | | |
| Preparation for classes | Search, selection and review of literary sources on a given topic | Homework check | | |
| Topic 11. Features of formation of innovation infrastructure of Ukraine | <i>Auditory work</i> | | | |
| | Lecture | Lecture on the following issues: 11.1. Legislative support for the development of Ukraine's innovation infrastructure 11.2. Problems of formation of innovation infrastructure of Ukraine | | |
| | Practice | Writing a control work | colloquium | 15 |
| | <i>Individual work</i> | | | |
| Preparation for classes | Search, selection and review of literary sources on a given topic | | | |

Recommended Literature

Main

1. Intelektualnyi kapital pidpriemstva yak obiekt otsinky : monohrafiia / [avt. kol.: K.H. Serdiukov, N.L. Havkalova, M.P. Khokhlov [ta in.]]. – Kh. : KhNEU, 2012. – 323 s.
2. Illiashenko S. M., Holysheva Ye. O., Kolodka A. V. Upravlinnia intelektualnym kapitalom pidpriemstva : monohrafiia. Sumy : TOV «Trytoriia», 2017. 360 s.
3. Ponomarenko V. S. Pryiniattia upravlinskykh rishen na pidpriemstvi: protsesnyi pidkhid : naukove vydannia / V. S. Ponomarenko. – Kh. : Vyd. KhNEU, 2005. – 238 s.

Additional

4. Ekonomika znan ta yii perspektyvy dlia Ukrainy : [nauk. dop.] / [Heiets V.M., Aleksandrova V.P., Bazhal Yu.M., Danko M.S., Demianenko V.V.] ; In-t ekon. prohnozuvannia NAN Ukrainy. – K., 2005. – 168 s.
5. Pryimak V.M. Upravlinnia znanniamy / V. M. Pryimak. – Kyiv: Kyivskyi natsionalnyi universytet imeni Tarasa Shevchenka, 2019. – 240 s.
6. Tyshchenko V.F. Ekonomika znan yak aktualna osnova suchasnoho rozvytku Ukrainy ta yii rehioniv : monohrafiia / V.F. Tyshchenko – Kh. : KhNEU im. S. Kuznetsia, 2014. – 271 s.
7. Tomakh V.V. Ekonomika znan : konspekt lektsii / V.V. Tomakh – Kh. : KhNEU, 2011. – 135 s.
8. Fedulova L. I. Ekonomika znan: pidruch. [dlia stud. vyshch. navch. zakl.] / Liubov Ivanivna Fedulova; NAN Ukrainy; In-t ekon. ta prohnozuv. NAN Ukrainy. – K., 2009. – 600 s.