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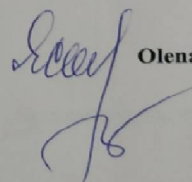
  


Knowledge economy and innovation infrastructure  
Syllabus  
of the educational discipline

Branch of Knowledge	07 Management and administration
Specialty	073 Management
Education level	First (Bachelor degree)
Educational Program	Innovation activity management

Type of discipline	Basic
Language of teaching, learning and grading	English

Head of the Department  
of the management, logistic and economics

  
Olena IASTREMSKA

Kharkiv  
2020

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

**ЕКОНОМІКА ЗНАНЬ ТА ІННОВАЦІЙНА ІНФРАСТРУКТУРА**

**робоча програма навчальної дисципліни**

Галузь знань	<b>07 Управління та адміністрування</b>
Спеціальність	<b>073 Менеджмент</b>
Освітній рівень	<b>перший (бакалаврський )</b>
Освітня програма	<b>Менеджмент інноваційної діяльності</b>

Вид дисципліни	базова
Мова викладання, навчання та оцінювання	іноземна(англійська)

Харків  
**2020**

APPROVED

at the meeting of the management, logistic and economics

Protocol No. 2 dated August 21, 2020

Developers: H. Stokovych, d.e.n., prof. department of management, logistic and economics

Update and re-approval letter  
syllabus

Academic year	Date of the department`s meeting	Minute`s number	Head of department signature

## Abstract of the discipline

Study of the discipline 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 fundamental knowledge of the theoretical foundations of knowledge management, organization of knowledge management and study the impact of innovation infrastructure on the development of the enterprise.

The subject of the discipline is the essence of the knowledge economy and methods of knowledge management, the essence of innovation infrastructure and methods of its development.

To achieve this goal the following main tasks are set:

mastering knowledge about the peculiarities of activity and development of enterprises in the knowledge economy,

features of formation and development of innovation infrastructure and skills in ensuring the competitiveness of enterprises (micro level) and regions (macro level) in modern national economy;

acquaintance of students with theoretical and methodological bases of knowledge management;

use of a systematic approach to the organization of the knowledge management system in the enterprise;

mastering the basics of organizing the process of knowledge management in the enterprise;

acquisition of theoretical knowledge and practical skills on the possibilities of using the objects of innovation infrastructure.

**The purpose of the discipline:** the acquisition of systematic knowledge of the theoretical foundations and organizational and methodological foundations of competitiveness and development, providing innovative infrastructure of enterprises (micro level), regions (macro level) in the modern world development of knowledge economy.

Year	2
Semester	3
Number credits ECTS	4
Form of final checking	credit

### Structural-logical scheme of studying the discipline

Prerequisites	Postrequisites
Politology	Innovative economy
Economic theory	Methods of diagnostics and forecasting of enterprise development
Management	Business analysis
Economic informatics	Innovation management

### Competences and results of studying a discipline

Competency	Learning results
Ability to identify features, trends and prospects for EU development in individual countries	<p>Knowledge of the essence of the knowledge economy, sources of knowledge, their classification and definition of technological systems.</p> <p>Knowledge of the peculiarities of the formation of the knowledge economy in developed and developing countries.</p> <p>Ability to determine the stage of formation of the knowledge economy in countries, identify prospects for further development.</p> <p>Ability to identify sources of necessary knowledge.</p>
Ability to develop and develop a management system knowledge in the enterprise	<p>Knowledge of the procedure for developing the structure of knowledge management in the enterprise</p> <p>Skills search, definition, identification and generation of knowledge in the enterprise</p>
Ability to identify and evaluate intellectual property in an enterprise	<p>Knowledge of features of intellectual property objects, methods of their estimation</p> <p>Ability to carry out the analysis of intellectual potential and estimation of intellectual property</p>
Ability to analyze the existing innovation infrastructure, to choose effective counter-agents among the existing objects of innovation infrastructure	<p>Knowledge of the features of innovation infrastructure facilities</p> <p>Ability to analyze innovation infrastructure facilities and select the most effective contractors.</p>

## **PROGRAM OF THE DISCIPLINE**

### **Content module 1. Knowledge economy**

#### **Topic 1. Theoretical foundations of the knowledge economy**

The essence and categorical apparatus of the knowledge economy. Definition and essence of knowledge economy as a new direction in economics, 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.

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

#### **Topic 2. Formation of knowledge economy**

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.

Problems of transition to 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. Formation of conditions for the development of the knowledge economy in the DPRK.

Problems of formation of the knowledge economy in Ukraine. Chances and problems of formation of knowledge economy in Ukraine. Formation of institutions 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. Basics of managing knowledge of enterprise**

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

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

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. The process of enterprise knowledge management**

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

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 the knowledge map of the enterprise, ontological models of knowledge representation.

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

### **Topic 5. Information systems in knowledge management**

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

Software for knowledge management. Software leaders. Information access technologies. Collaboration of groups and socially oriented software. Content management systems.

Web 2.0 tools for working with knowledge.

### **Topic 6. Corporate culture and knowledge management**

The essence of corporate culture. Elements of corporate culture. Types of corporate culture. Team formation and training. Features of corporate knowledge management. The essence of corporate knowledge, categories of corporate knowledge.

Motivation of staff to participate in knowledge management programs. Types of motivation, tools, the role of the leader.

### **Topic 7. International experience in developing comprehensive programs**

Aims and objectives of integrated scientific and technical programs. Synergetic effect in complex programs.

Experience of developed countries in the development of scientific and technical programs.

Procedure for financing and implementation of projects. Program selection and financing system. Management of scientific and technical program. The attitude of the strategic goals of the program and methods of decision-making in the management of such a program. Economic evaluation of scientific and technical program.

## **Content module 2**

### **Innovation infrastructure**

#### **Topic 8. The essence of innovation infrastructure**

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.

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.

### **Topic 9. Experience in building innovation infrastructure in the world**

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 an innovative infrastructure of separate countries of the world. Innovation infrastructure of the USA, experience of the European Union states, features of the innovation infrastructure of China and Japan, the Russian Federation.

### **Topic 10. Features of creation and activity of business incubators, startups**

The essence and functions of business incubators. Client companies and tenants of the business incubator (Tena Clients). Incubator associate business partner. Incubator client company policy. Business incubator services. The role of the business incubator in the life cycle of the enterprise. Typology of business incubators.

World experience of creation and activity 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 of business incubators in Ukraine.

The essence of startups, features of activity. Concepts, tasks, types of startups. Features of the organization of startups. Startup leaders.

### **Topic 11. The essence of institutes of support of applied innovations, technology parks and cities of high technologies (Hi-tech city)**

The essence of institutes of support of applied innovations. Scale 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 that support applied innovations.

Goals and main objectives of technology parks. The essence and functions of the technology park as an object of innovation infrastructure, sphere of activity, operating conditions. Functions and features of functioning of technology parks in transitive 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 the activities, the main incentives for the creation of science parks.

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

### **Topic 12. Technology transfer centers**

The essence of technology transfer. The essence and typology of technology transfer. Internal transfer, quasi-internal transfer, external transfer. Creation of conditions for 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 a commercial point of view. Procedure for transfer of 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.

Problems of technology transfer in Ukraine. Identification of problems of technology transfer in Ukraine.

### **Topic 13. Financial infrastructure of innovation activity**

The essence of financial infrastructure. Structure of financial infrastructure, features.

State financing of innovations. Mechanisms, forms, conditions. Grants, competitions. Indirect forms of financial support. Features of application 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 investment.

World experience in venture capital development. General features of the trend of venture investment in the United States. Venture capital in Europe. British Venture Capital Association (BVCA). European Venture Capital Association (EVCA). Russian Venture Investment Association (RAVI).

### **Topic 14. Features of the innovation infrastructure of Ukraine**

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

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

## **Teaching methods**

In the process of teaching the discipline "Knowledge economy and innovation structure" use the following teaching methods:

explanatory-illustrative;  
reproductive;  
problematic presentation of material;  
partial search or heuristic;  
research.

To intensify the educational and cognitive activities of students provides for the use of both active and interactive learning technologies, including: problem lectures, mini-lectures, work in small groups, brainstorming, introductory (initial) games, scripting method, visual support banks.

## **Evaluation of the results of teaching**

The system of evaluation of the developed competencies of students takes into account the types of classes, which according to the curriculum include lectures, seminars, laboratory classes, as well as independent work. Evaluation of the developed competencies of students is carried out using a 100-point accumulation system. Control measures include:

current control carried out during the semester at lectures, practical, seminars and is evaluated by the sum of the points scored (maximum amount – 100 points);

modular control carried out in the form of a colloquium as an intermediate mini-exam on the initiative of the teacher, taking into account the current control over the relevant content module and aims to get an integrated evaluation of the student's learning outcomes after studying the material from the logically completed part of the discipline - content module;

final / semester control, conducted in the form of a credit, according to the schedule of the educational process.

Active work in the lecture session gives the student the opportunity to get 1 point for each topic.

Successful performance by students of laboratory works in an audience and within the limits of independent work allows to receive 1 points on each laboratory work.

Assessment of the protection of creative task:

15 points, if the task is done correctly, in full and there are the necessary conclusions. The student answered all the teacher's questions correctly.

11 points if the task is done correctly, but the conclusions are not drawn everywhere. The student admits inaccuracies in the answers to the teacher's questions.

7 points, the institution is done to the end, but there are inaccuracies in the work, incorrect calculations and derivations. The student has poor command of the material.

3 points - the task is done to the end. But there are gross mistakes. Incorrect conclusions. The student has poor command of the material.

1 point - the task is not done in full, the author can not explain many of the provisions of the work. The student does not answer the question.

Assessment of the protection of presentation:

10 points, if the task is done correctly, in full and there are the necessary conclusions. The student answered all the teacher's questions correctly.

8 points if the task is done correctly, but the conclusions are not drawn everywhere. The student admits inaccuracies in the answers to the teacher's questions.

6 points, the institution is done to the end, but there are inaccuracies in the work, incorrect calculations and derivations. The student has poor command of the material.

4 points - the task is done to the end. But there are gross mistakes. Incorrect conclusions. The student has poor command of the material.

2-1 point - the task is not done in full, the author can not explain many of the provisions of the work. The student does not answer the question.

Evaluation of test. The test consists of 10 questions (1 point) and essay (4 point). The maximum score is 14 points.

The task is estimated at 1 points:

14 points, the training was performed correctly, in full and there are necessary conclusions, the student answered all the questions correctly;

11 points if the task is done correctly, but the conclusions are not drawn everywhere. The student admits inaccuracies in the answers to the question;

8 points, the task is done to the end, but there are gross errors. The student has poor command of the material;

5 points, if the task is not completed, there are gross errors, incorrect conclusions. The student has poor command of the material;

2-1 point, the task is not done in full, the student does not have the material.

Evaluation of colloquium. The test consists of 20 questions. The maximum score is 20 points.

The task is estimated at 1 points:

20 points, the training was performed correctly, in full and there are necessary conclusions, the student answered all the questions correctly;

16 points if the task is done correctly, but the conclusions are not drawn everywhere. The student admits inaccuracies in the answers to the question;

12 points, the task is done to the end, but there are gross errors. The student has poor command of the material;

8 points, if the task is not completed, there are gross errors, incorrect conclusions. The student has poor command of the material;

4-1 point, the task is not done in full, the student does not have the material.

Final control of knowledge and competencies of a student in the discipline is carried out on the basis of a semester exam, the task of which is to test students' understanding of program material in general, the logical relationship between individual sections, the ability to creatively use knowledge, the ability to formulate their attitude to certain problems discipline, etc.

The total score of the points for the semester is: "100 and more points are credited", "59 and less points are no credit" and entered in the "Record of Success" of the academic discipline.

### SCALE OF GRADING: NATIONAL AND ECTS

Total score for all types of educational activities	Score ECTS	Score on a national scale	
		for exam, course project (work), practical studies	for credit
90 – 100	A	excellent	credited
82 – 89	B	good	
74 – 81	C		
64 – 73	D	satisfactory	
60 – 63	E		
35 – 59	FX	unsatisfactory	no credit
1 – 34	F		

### Rating plan of the discipline

Topic	Forms and types of training		Forms of assessment	Max. mark
Theoretical foundations of the knowledge economy	<i>Classroom work</i>			
	<b>Lecture</b>	Theme 1. Theoretical foundations of the knowledge economy.	Work on lectures	<b>1</b>
	<b>Laboratory work</b>	<i>Laboratory lesson on the topic: «Knowledge economy»</i>	Active participation in the laboratory task	<b>1</b>
	<i>Individual work</i>			
	Preparation on the topic	Search, selection and review of literary sources on a given topic		
Formation of knowledge economy	<i>Classroom work</i>			
	<b>Lecture</b>	Theme 2. Formation of knowledge economy	Work on lectures	<b>1</b>
	<b>Laboratory work</b>	<i>Laboratory lesson on the topic: «Perform an analysis of the dynamics of indicators»</i> Presentation	Active participation in the laboratory task	<b>1</b> <b>10</b>
	<i>Individual work</i>			
	Preparation on the topic	Search, selection and review of literary sources on a given topic		
Basics of managing knowledge of enterprise	<i>Classroom work</i>			
	<b>Lecture</b>	Theme 3. Basics of managing knowledge of enterprise	Work on lectures	<b>1</b>
	<b>Laboratory work</b>	<i>Laboratory lesson on the topic: «Create a knowledge management system for your chosen enterprise»</i> Creative task	Active participation in the laboratory task	<b>1</b> <b>15</b>
	<i>Individual work</i>			
	Preparation on the topic	Search, selection and review of literary sources on a given topic		

The process of enterprise knowledge management	<i>Classroom work</i>			
	<b>Lecture</b>	Theme 4. The process of enterprise knowledge management	Work on lectures	<b>1</b>
	<b>Laboratory work</b>	<i>Laboratory lesson on the topic: «Build a knowledge map»</i>	Active participation in the laboratory task	<b>1</b>
	<i>Individual work</i>			
	Preparation on the topic	Search, selection and review of literary sources on a given topic		
Information systems in knowledge management	<i>Classroom work</i>			
	<b>Lecture</b>	Theme 5. Information systems in knowledge management	Work on lectures	<b>1</b>
	<b>Laboratory work</b>	<i>Laboratory lesson on the topic: «A comparative analysis of the top 20 knowledge management programs»</i>	Active participation in the laboratory task	<b>1</b>
	<i>Individual work</i>			
	Preparation on the topic	Search, selection and review of literary sources on a given topic		
Corporate culture and knowledge management	<i>Classroom work</i>			
	<b>Lecture</b>	Theme 6. Corporate culture and knowledge management	Work on lectures	<b>1</b>
	<b>Laboratory work</b>	<i>Laboratory lesson on the topic: «Analysis of organizational culture»</i>	Active participation in the laboratory task	<b>1</b>
		Test on topics 1-6	Test	<b>14</b>
	<i>Individual work</i>			
Preparation on the topic	Preparation on the topic			

International experience in developing comprehensive programs	<i>Classroom work</i>			
	<b>Lecture</b>	Theme 7. International experience in developing comprehensive programs	Work on lectures	<b>1</b>
	<b>Laboratory work</b>	<i>Laboratory lesson on the topic: «The workflow and the requirements for it»</i>	Active participation in the laboratory task	<b>1</b>
	<i>Individual work</i>			
	Preparation on the topic	Search, selection and review of literary sources on a given topic		
The essence of innovation infrastructure	<i>Classroom work</i>			
	<b>Lecture</b>	Theme 8. The essence of innovation infrastructure	Work on lectures	<b>1</b>
	<b>Laboratory work</b>	<i>Laboratory lesson on the topic: «Innovative infrastructure»</i>	Active participation in the laboratory task	<b>1</b>
	<i>Individual work</i>			
	Preparation on the topic	Search, selection and review of literary sources on a given topic		
Experience in building innovation infrastructure in the world	<i>Classroom work</i>			
	<b>Lecture</b>	Theme 9. Experience in building innovation infrastructure in the world	Work on lectures	<b>1</b>
	<b>Laboratory work</b>	<i>Laboratory lesson on the topic: «The national innovation system»</i>	Active participation in the laboratory task	<b>1</b>
	<i>Individual work</i>			
	Preparation on the topic	Search, selection and review of literary sources on a given topic		

Features of creation and activity of business incubators, startups	<b><i>Classroom work</i></b>			
	<b>Lecture</b>	Theme 10. Features of creation and activity of business incubators, startups	Work on lectures	<b>1</b>
	<b>Laboratory work</b>	<i>Laboratory lesson on the topic:</i> «Creation and activity of business incubators, startups »	Active participation in the laboratory task	<b>1</b>
	<b><i>Individual work</i></b>			
	Preparation on the topic	Search, selection and review of literary sources on a given topic		
The essence of institutes of support of applied innovations, technology parks and cities of high technologies (Hi-tech city)	<b><i>Classroom work</i></b>			
	<b>Lecture</b>	Theme 11. The essence of institutes of support of applied innovations, technology parks and cities of high technologies (Hi-tech city)	Work on lectures	<b>1</b>
	<b>Laboratory work</b>	<i>Laboratory lesson on the topic:</i> «Institutes of support of applied innovations, technology parks and cities of high technologies »	Active participation in the laboratory task	<b>1</b>
	<b><i>Individual work</i></b>			
	Preparation on the topic	Search, selection and review of literary sources on a given topic		
Technology transfer centers	<b><i>Classroom work</i></b>			
	<b>Lecture</b>	Theme 12. Technology transfer centers	Work on lectures	<b>1</b>
	<b>Laboratory work</b>	<i>Laboratory lesson on the topic:</i> « Technology transfer centers»	Active participation in the laboratory task	<b>1</b>
		Test on topics 7-12	Test	<b>14</b>
	<b><i>Individual work</i></b>			
Preparation on the topic	Preparation on the topic			



Financial infrastructure of innovation activity	<b>Lecture</b>	Theme 13. Financial infrastructure of innovation activity	Work on lectures	<b>1</b>
	<b>Laboratory work</b>	<i>Laboratory lesson on the topic:</i> «Financial infrastructure of innovation activity»	Active participation in the laboratory task	<b>1</b>
	<b><i>Individual work</i></b>			
	Preparation on the topic	Search, selection and review of literary sources on a given topic		
Features of the innovation infrastructure of Ukraine	<b><i>Classroom work</i></b>			
	<b>Lecture</b>	Theme 14. Features of the innovation infrastructure of Ukraine	Work on lectures	<b>0,5</b>
	<b>Laboratory work</b>	<i>Laboratory lesson on the topic:</i> «Innovation infrastructure of Ukraine»	Active participation in the laboratory task	<b>0,5</b>
		Colloquium	Test	<b>20</b>
	<b><i>Individual work</i></b>			
	Preparation on the topic	Preparation on the topic		
<b>Sum</b>				<b>100</b>

## Recommended literature

### Main

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### Additional

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