

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE**

**SUMY NATIONAL AGRARIAN UNIVERSITY**

**Department of Management**

**«CONFIRMED»**

**Acting Head of Management Department**

\_\_\_\_\_(L.I. Mykhailova)

«\_\_»\_\_\_\_\_2019

**CURRICULUM**  
**Strategic Innovation**

**Degree:** Doctor of Philosophy

**Specialty:** 073 “Management”

**Faculty:** Economics and Management

**2019 – 2020 academic year**

Curriculum of the discipline «**Strategic Innovation**» was worked out for the first-year students ED «**Doctor of Philosophy**», specialty «**Management**».

Elaborated by: Mykhailova L.I. \_\_\_\_\_, Professor, Dr.S. (econ), Acting Head of Department of Management.

Curriculum is reviewed during the meeting of the department of Management. Protocol № 1 dated from 27 August 2019.

Acting Head of Department of Management \_\_\_\_\_ L.I. Mykhailova

**Agreed:**

Head of Postgraduate Studies \_\_\_\_\_ I.V. Lozynska

Methodist of department \_\_\_\_\_ H.O. Baboshina

Registered in the electronic data base. Date: \_\_\_\_\_ 2019 year

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### 1. Description of the Course

Indicators	Branch of knowledge, training direction, qualification level	Characteristics of course	
		Full-time Studying	Part-time Studying
Number of credits - 3	Branch of knowledge: <i>07 Management and administration</i>	<i>According to the curriculum</i>	
Number of modules: 2	Specialty: <i>073 Management</i>	<b>Academic year</b>	
		2019-2020	
		<b>Year of studying</b>	
		2	
		<b>Semester</b>	
		3	
<b>Hours:</b> Total - 90	Educational degree: <i>Doctor of Philosophy</i>	<b>Lectures</b>	
		22 hrs	
		<b>Practical, seminars</b>	
		22 hrs.	
		<b>Laboratory work</b>	
		-	-
		<b>Individual work</b>	
		46 hrs.	
Hours per week: Classroom activities hours – 2,4 Individual work - 0		<b>Individual tasks: development on the topic of research with presentations</b>	
		Final control form: <b>exam</b>	

**Note:**

Ratio of hours of classroom activities and individual work is:  
full-time studying –44/46

## 2. Aim and Tasks

**The purpose of the study of the discipline** - the formation of knowledge of theoretical and practical aspects of strategic innovation and the development of innovation in individual organizations and sectors of the national economy; mastering of methods, principles of justification and management of innovations, development of innovative strategy, management of implementation of innovations at the enterprises.

Accordingly, the **main task** of the discipline, which is to educate future doctors of philosophy, is defined - to organize, plan and coordinate the development of innovative potential of business entities; formation of strategic innovation in the fields of economy, assimilation of methods of effective planning of innovation activity, evaluation of sources of financing and management of innovation implementation, conducting examination of economic efficiency of innovation.

During his / her studies, the graduate **student should** master the elements of managerial activity regarding strategic innovation in economic entities (organizations, institutions or industries), in particular:

- learn to formulate and justify the tasks of innovative development;
- test hypotheses and make managerial decisions on problems of innovation creation;
- create and evaluate business case scenarios with different options available;
- master traditional and modern innovative research methods;
- summarize research findings and formulate conclusions;
- determine the economic efficiency of innovative solutions;
- Prepare a scientific report, report or article with a public presentation as a result of the research.

*As a result of academic discipline's study of a student should:*

**Know:** the theoretical essence of the concepts that characterize innovative development: innovation, innovation, innovation process, innovative activity, innovation management, mechanism of state regulation of innovation development and development of innovation; the essence of different types of innovation; features of personnel resistance management in the implementation of innovations; essence of commercialization of results of innovative activity; the essence of the basics of strategic innovation formation, business planning and expertise of innovative projects; organizational forms of innovation activity, basics of risk management in innovation management; methods for determining (evaluating) the effectiveness of innovation management.

**Be able to:** justify the innovative strategy of organization development; formulate tasks for perceiving change and innovation; Effectively manage human resources in innovation activities; evaluate the effectiveness of innovation

processes; justify the feasibility of innovating to solve problems of own research by implementing strategic innovative solutions.

### **3. Program of Discipline**

(is on testing)

*Content module 1. Theoretical and methodological foundations of strategic innovation.*

#### **Topic 1. Theoretical foundations of strategic innovation.**

Contemporary content of strategic innovation. The essence of concepts in strategic innovation (innovation, innovation, innovation management, innovation process, innovation activity). Theories of innovative development. Cyclicity in innovation. Types of innovations (commodity, market, marketing, management, etc.), their classification and life cycle. Innovation and economic growth. Content, structure and meaning of the course for the scientific training of Doctor of Philosophy.

#### **Topic 2. Characterization of the innovation process in economic systems.**

The essence of the innovation process and characterization of its stages. Creating innovation. Diffusion of innovation. Assessment of innovative capabilities of the enterprise, industry, region. Innovative policy of economic systems. Features of the organization of the innovation process. Creating an effective innovation program.

#### **Topic 3. State regulation and institutional support of innovative activity.**

Tasks of state regulation of creation of mechanism of management of innovative activity. State innovation policy. Institutional support of innovative activity in Ukraine. Legal basis of providing innovative activity of enterprises. Legal basis of innovation provisioning.

#### **Topic 4. Strategic management of innovative development of the organization.**

Basic concepts of the innovation potential of the economic system. Problems and prospects of investment-innovative development of the Ukrainian economy. Characteristics of innovation potential of enterprises. Characterization of principles, methods and functions of innovation management. Formation of organizational-economic mechanism of strategic management of innovative development. Methodological bases of formation of enterprise innovation strategy.

#### **Topic 5. The subjects of innovative development of economic systems.**

The typology of the subjects of innovation and their comparative analysis. Organizational structures of innovation creation. World and national experience of creation and functioning of innovative structures. Organizations' susceptibility to innovation. Resistance to innovate. Innovative scientific and technical structures. Technoparks, technopoles, business incubators.

*Content module 2. Organizational and legal principles of innovations in economic systems.*

#### **Topic 6. Motivation and stimulation of innovative activity.**

Components and principle of action of the motivational mechanism of innovative activity. Innovative development of society on the basis of intellectual capital. Forms and methods of stimulating innovation. Motivation of scientists' work. Motivational aspects of innovative activity of the personnel of the enterprises. Stimulating the work of researchers and developers of innovations. Encouraging senior management of an organization to innovate.

**Topic 7. Managing innovation development and provisioning.**

Marketing Approach to Developing and Bringing Innovation to Market. Marketing innovation and innovation in marketing. Development of ideas and ideas of innovations and their analysis. IT support for innovation provision. Organizational aspects of provisioning.

**Topic 8. Risk management in strategic innovation.**

Types of risks and uncertainties in innovation. Formation of creative teams and the role of the human factor in strategic innovation. Factors and causes of risk in the implementation of innovations Management of changes in economic systems and quantitative assessment of risk in the implementation of innovations.

**Topic 9. Commercialization of innovation results.**

The essence of commercialization of innovation results. Intellectual property and its transformation into an innovative product. Intangible assets as a factor in raising the cost of capital of economic entities and economic systems. Valuation of intellectual property value. Ways to commercialize intellectual property.

**Topic 10. Expertise of innovative projects.**

Concept of innovative project and its management. Methodological basis for evaluating the effectiveness of innovative projects. Tasks and basic techniques of examination of innovative projects. Methods of choosing the optimal innovation project. Profitability indicators of innovative projects. Performance indicators for innovative projects.

**Topic 11. Evaluating the effectiveness of innovations in economic systems.**

Characteristics of the principles of evaluation and performance indicators of innovation. The methodology for determining the main indicators of economic efficiency of innovative projects. Characterization of the effects of innovations in economic systems (economic, social, environmental, etc.).

#### 4. Structure of the Course

Name of content modules and topics	Number of hours					
	full-time education					
	Total	including				
L		P	Lab	Ind	I.W.	
1	2	3	4	5	6	7
<b><i>Content module 1. Theoretical and methodological foundations of strategic innovation</i></b>						
Topic 1. Theoretical foundations of strategic innovation.	8	2	2			4
Topic 2. Characteristics of the innovation process in economic systems.	8	2	2			4
Topic 3. State regulation and institutional support of innovative activity.	8	2	2			4
Topic 4. Strategic management of organizational innovation development	8	1	1			6
Topic 5. Subjects of innovative development of economic systems	8	2	2			4
Topic 6. Motivation and stimulation of innovative activity.	8	2	2			4
<b><i>Content module 2. Organizational and legal principles of innovations in economic systems.</i></b>						
Topic 7. Management of innovation development and their provisioning	6	1	1			4
Topic 8. Risk management in strategic innovation.	8	2	2			4
Topic 9. Commercialization of innovation results.	8	2	2			4
Topic 10. Expertise of innovative projects.	12	4	4			4
Topic 11. Evaluation of the effectiveness of innovations in economic systems	8	2	2			4
<b>Total hours for the course</b>	<b>90</b>	<b>22</b>	<b>22</b>			<b>46</b>

#### 5. Topics and plans of lectures

#	Name of topics	Quantity of hours
1.	<p><b>Topic 1. Theoretical foundations of strategic innovation.</b></p> <p>Plan:</p> <p>1. Contemporary content of strategic innovation. The essence of concepts in strategic innovation (innovation, innovation, innovation management, innovation process, innovation activity).</p> <p>2. Types of innovations, their classification and life cycle. Innovation and economic growth.</p> <p>3. The content, structure and meaning of the course for the scientific training of Ph.D.</p>	2
2.	<b>Topic 2. Characterization of the innovation process in economic systems.</b>	2

	<p>Plan:</p> <ol style="list-style-type: none"> <li>1. The essence of the innovation process and characterization of its stages.</li> <li>2. Assessment of innovative capabilities of the enterprise, industry, region.</li> <li>3. Features of organization of process of innovations</li> </ol>	
3	<p><b>Topic 3. State regulation and institutional support of innovative activity.</b></p> <p>Plan:</p> <ol style="list-style-type: none"> <li>1. Tasks of state regulation of creation of mechanism of management of innovative activity.</li> <li>2. State innovation policy.</li> <li>3. Institutional support of innovative activity in Ukraine.</li> </ol>	2
4	<p><b>Topic 4. Strategic management of innovative development of the organization.</b></p> <p>Plan:</p> <ol style="list-style-type: none"> <li>1. Basic concepts of innovation potential of the economic system.</li> <li>2. Characterization of principles, methods and functions of innovation management.</li> <li>2. Formation of organizational and economic mechanism of strategic management of innovative development.</li> </ol>	1
5	<p><b>Topic 5. The subjects of innovative development of economic systems.</b></p> <p>Plan:</p> <ol style="list-style-type: none"> <li>1. Typology of subjects of innovation and their comparative analysis.</li> <li>2. Organizational susceptibility to innovation.</li> <li>3. Innovative scientific and technical structures.</li> </ol>	2
6	<p><b>Topic 6. Motivation and stimulation of innovative activity.</b></p> <p>Plan:</p> <ol style="list-style-type: none"> <li>1. Components and principle of action of the motivational mechanism of innovative activity</li> <li>2. Forms and methods of stimulating innovation</li> <li>3. Stimulating senior management of the organization to innovation.</li> </ol>	2
7	<p><b>Topic 7. Managing innovation development and provisioning</b></p> <p>Plan:</p> <ol style="list-style-type: none"> <li>1. Marketing approach to development and launch of innovations on the market.</li> <li>2. Development of ideas and ideas of innovations and their analysis.</li> <li>3. Organizational aspects of provisioning.</li> </ol>	1
8	<p><b>Topic 8. Risk management in strategic innovation.</b></p> <p>Plan:</p> <ol style="list-style-type: none"> <li>1. Types of risks and uncertainties in innovation.</li> <li>2. Formation of creative teams and the role of the human factor in strategic innovation.</li> <li>3. Management of changes in economic systems and quantitative assessment of risk in the implementation of innovation.</li> </ol>	2
9	<p><b>Topic 9. Commercialization of innovation performance.</b></p> <p>Plan:</p> <ol style="list-style-type: none"> <li>1. The essence of commercialization of innovation results</li> <li>2. Intellectual property and its transformation into an innovative product.</li> <li>3. Valuation of intellectual property value.</li> <li>4. Methods of commercialization of intellectual property.</li> </ol>	2



10	<b>Topic 10. Expertise of innovative projects.</b> Plan: 1. Tasks and basic methods of examination of innovative projects 2. Methods of choosing the optimal innovation project 3. Profitability indicators of innovative projects.	<b>4</b>
11	<b>Topic 11. Evaluating the effectiveness of innovations in economic systems</b> Plan: 1. Characteristics of the principles of evaluation and performance indicators of innovation 2. The methodology for determining the main indicators of economic efficiency of innovative projects. 3. Characterization of the effects of innovations in economic systems (economic, social, environmental, etc.).	<b>2</b>
<b>Total:</b>		<b>22</b>

### 6. Topics of practical classes

#	<i>Name of topics</i>	<i>Quantity of hours</i>
1.	<b>Topic 1. Theoretical foundations of strategic innovation.</b> 1. Contemporary content of strategic innovation. The essence of concepts in strategic innovation (innovation, innovation, innovation management, innovation process, innovation activity). 2. Discussion of types of innovations, their classification and life cycle. 3. Innovation and economic growth of the country, region, industry, organization.	<b>2</b>
2.	<b>Topic 2. Characterization of the innovation process in economic systems.</b> 1. The essence of the innovation process and characterization of its stages. 2. Assessment of innovative capabilities of the enterprise, industry, and region regarding the problems of postgraduate dissertation research. 3. Features of organization of process of innovations	<b>2</b>
3	<b>Topic 3. State regulation and institutional support of innovative activity.</b> 1. Tasks of state regulation of creation of mechanism of management of innovative activity. 2. State innovation policy in Ukraine and the leading countries of the world (analytical evaluation). 3. Institutional support of innovative activity in Ukraine.	<b>2</b>
4	<b>Topic 4. Strategic management of innovative development of the organization.</b> 1. Discussion of the main characteristics of the innovation potential of the economic system. 2. Characterization of principles, methods and functions of innovation management. Characteristics of an innovative manager. 2. Formation of organizational and economic mechanism of strategic management of innovative development.	<b>1</b>
5	<b>Topic 5. The subjects of innovative development of economic systems.</b> 1. Typology of subjects of innovation and their comparative analysis. 2. Organizational susceptibility to innovation. Manage staff resistance to	<b>2</b>

	innovation. 3. Innovative scientific and technical structures.	
6	<b>Topic 6. Motivation and stimulation of innovative activity.</b> 1. Components and principle of action of the motivational mechanism of innovative activity 2. Forms and methods of stimulating innovative activity in Ukraine and leading countries of the world. 3. Stimulating senior management of the organization to innovation.	2
7	<b>Topic 7. Management of innovation development and their provisioning</b> 1. Marketing approach to development and launch of innovations on the market. 2. Development of ideas and ideas of innovations and their analysis. 3. Organizational aspects of provisioning.	1
8	<b>Topic 8. Risk management in strategic innovation.</b> 1. Types of risks and uncertainties in innovation. 2. Formation of creative teams and the role of the human factor in strategic innovation. 3. Management of changes in economic systems and quantitative assessment of risk in the implementation of innovation.	2
9	<b>Topic 9. Commercialization of innovation performance.</b> 1. The essence of commercialization of innovation results 2. Intellectual property and its transformation into an innovative product. 3. Valuation of intellectual property value. 4. Methods of commercialization of intellectual property.	2
10	<b>Topic 10. Expertise of innovative projects.</b> 1. Tasks and basic methods of examination of innovative projects 2. Methods of choosing the optimal innovation project 3. Profitability indicators of innovative projects.	4
11	<b>Topic 11. Evaluating the effectiveness of innovations in economic systems</b> 1. Characteristics of the principles of evaluation and performance indicators of innovation 2. The methodology for determining the main indicators of economic efficiency of innovative projects. 3. Characterization of the effects of innovations in economic systems (economic, social, environmental, etc.).	2
<b>Total:</b>		<b>22</b>

### 7. Independent work

#	<i>Name of topics</i>	<i>Quantity of hours</i>
1.	<b>Topic 1. Theoretical foundations of strategic innovation.</b> 1. Contemporary content of strategic innovation. The essence of concepts in strategic innovation (innovation, innovation, innovation management, innovation process, innovation activity). 2. Discussion of types of innovations, their classification and life cycle. 3. Innovation and economic growth of the country, region, industry, organization.	<b>4</b>
2.	<b>Topic 2. Characterization of the innovation process in economic systems.</b> 1. The essence of the innovation process and characterization of its	<b>4</b>

	<p>stages.</p> <p>2. Assessment of innovative capabilities of the enterprise, industry, and region regarding the problems of postgraduate dissertation research.</p> <p>3. Features of organization of process of innovations</p>	
3	<p><b>Topic 3. State regulation and institutional support of innovative activity.</b></p> <p>1. Tasks of state regulation of creation of mechanism of management of innovative activity.</p> <p>2. State innovation policy in Ukraine and the leading countries of the world (analytical evaluation).</p> <p>3. Institutional support of innovative activity in Ukraine.</p>	4
4	<p><b>Topic 4. Strategic management of innovative development of the organization.</b></p> <p>1. Discussion of the main characteristics of the innovation potential of the economic system.</p> <p>2. Characterization of principles, methods and functions of innovation management. Characteristics of an innovative manager.</p> <p>2. Formation of organizational and economic mechanism of strategic management of innovative development.</p>	6
5	<p><b>Topic 5. The subjects of innovative development of economic systems.</b></p> <p>1. Typology of subjects of innovation and their comparative analysis.</p> <p>2. Organizational susceptibility to innovation. Manage staff resistance to innovation.</p> <p>3. Innovative scientific and technical structures.</p>	2
6	<p><b>Topic 6. Motivation and stimulation of innovative activity.</b></p> <p>1. Components and principle of action of the motivational mechanism of innovative activity</p> <p>2. Forms and methods of stimulating innovative activity in Ukraine and leading countries of the world.</p> <p>3. Stimulating senior management of the organization to innovation.</p>	4
7	<p><b>Topic 7. Management of innovation development and their provisioning</b></p> <p>1. Marketing approach to development and launch of innovations on the market.</p> <p>2. Development of ideas and ideas of innovations and their analysis.</p> <p>3. Organizational aspects of provisioning.</p>	6
8	<p><b>Topic 8. Risk management in strategic innovation.</b></p> <p>1. Types of risks and uncertainties in innovation.</p> <p>2. Formation of creative teams and the role of the human factor in strategic innovation.</p> <p>3. Management of changes in economic systems and quantitative assessment of risk in the implementation of innovation.</p>	4
9	<p><b>Topic 9. Commercialization of innovation performance.</b></p> <p>1. The essence of commercialization of innovation results</p> <p>2. Intellectual property and its transformation into an innovative product.</p> <p>3. Valuation of intellectual property value.</p> <p>4. Methods of commercialization of intellectual property.</p>	4
10	<p><b>Topic 10. Expertise of innovative projects.</b></p> <p>1. Tasks and basic methods of examination of innovative projects</p> <p>2. Methods of choosing the optimal innovation project</p> <p>3. Profitability indicators of innovative projects.</p>	4

11	<b>Topic 11. Evaluating the effectiveness of innovations in economic systems</b> 1. Characteristics of the principles of evaluation and performance indicators of innovation 2. The methodology for determining the main indicators of economic efficiency of innovative projects. 3. Characterization of the effects of innovations in economic systems (economic, social, environmental, etc.).	4
<b>Total:</b>		<b>46</b>

### 8. Individual tasks

1. To substantiate the feasibility of solving the scientific problem through innovation.
2. To carry out economic substantiation of application of different types of innovations (commodity, market, managerial, social, technological, technical, etc.).
3. Build a structural and logical scheme of the innovation process in the object of study and offer a mechanism for its implementation.
4. To carry out economic examination of an innovative project of solving a scientific problem.

### 9. Methods of Training

#### 1. Training Methods for Knowledge:

1.1. **Verbal:** narrative, explanation, discussion (heuristic and reproductive), lecture, instruct, work with the book (read, transfer, discharge, scheduling, reviewing, summarizing, making tables, charts, reference compendia etc.).

1.2. **Visual:** demonstration, illustration.

1.3. **Practical:** practical work, exercise, production practices.

#### 2. Methods for studying the nature of the logic of knowledge.

2.1. *Analytical*

2.2. *Synthesis*

2.3. *Inductive method*

2.4. *Deductive method*

#### 3. Methods for studying the nature and level of independent mental activity of students.

3.1. *Problem (problem-information)*

3.2. *Partly-search (heuristic)*

3.3. *Exploratory*

3.4. *Reproductive*

3.5. *Explanatory demonstration*

**4. Active learning methods** – use of technical training, brainstorming, debates, roundtables, business and role-playing games, training, use of problem situations, self-knowledge, the use of educational tests and controlling the use of basic lectures.

**5. Interactive learning technology** – the use of multimedia technology.

**6. Personalized Learning** - Differentiated Instruction (Low Tech), Inquiry-based Learning - to formulate and solve individual tasks that the applicant receives in accordance with the topic of the dissertation (the content of the individual task in item 8), aimed at achieving the goal of the research. The interaction between the applicant and the teacher, as well as counseling is carried out through the use of e-mail, viber, SMS, telephone communication, direct contact with the teacher according to the schedule of duty at the department.

### 10. Methods of control

1. Rating control of a 100-point scale assessment ECTS.
2. An intermediate control during the semester (interim certification).

3. Criteria assess of the current work of students:
- the level of knowledge demonstrated in practical classes;
  - active in the discussion of issues brought to the class;
  - quick control during classes;
  - self-study topics in general or specific issues;
  - perform analytical calculation tasks;
  - writing essays;
  - test results;
  - writing assignments during the tests;
  - production situations, cases and more.

### 11. Points for the Total Score a Student Gets

Current testing and Independent work											IWS	Together for modules and IWS	Final test exam	total
Content module 1 - 25 points					Content module 2 - 25 points									
T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	20	70 (50+20)	30	100
4	4	4	4	4	5	5	5	5	5	5				

### Evaluation Criteria and ECTS

Sum of points for all kinds of educational activity	ECTS grade	Score on a national scale	
		for exam, course project (work), practice	for credit
90 – 100	A	excellent	Passed
82-89	B	good	
75-81	C		
69-74	D	sufficient	
60-68	E		
35-59	FX	unsatisfactory with the possibility of reassembly	not reassigned
1-34	F	unsatisfactory with the compulsory re-study of the discipline	not reassigned with mandatory re-study of the discipline

### 12. Suggested Reading

#### Basic

1. BRYCHAN THOMAS; CHRISTOPHER MILLER; LYNDON MURPHY - INNOVATION AND SMALL BUSINESS (Volume 1)
2. BRYCHAN THOMAS; CHRISTOPHER MILLER; LYNDON MURPHY - INNOVATION AND SMALL BUSINESS (Volume 2)
3. Innovation and Growth: Chasing a Moving Frontier / Edited by Vandana Chandra, Deniz Eröcal, Pier Carlo Padoan, Carlos A. Primo Braga. - OECD and the International Bank for Reconstruction and Development/The World Bank, 2010.

4. Fred Gault. Innovation Strategies for a Global Economy: Development, Implementation, Measurement and Management. - International Development Research Centre 2010
5. Christine Greenhalgh , Mark Rogers. Innovation, Intellectual Property, and Economic Growth. - Princeton University Press, 2010.
6. Innovation and Growth: Chasing a Moving Frontier / Edited by Vandana Chandra, Deniz Eröcal, Pier Carlo Padoan, Carlos A. Primo Braga. - OECD and the International Bank for Reconstruction and Development/The World Bank, 2010.
7. Fred Gault. Innovation Strategies for a Global Economy: Development, Implementation, Measurement and Management. - International Development Research Centre 2010
8. Christine Greenhalgh , Mark Rogers. Innovation, Intellectual Property, and Economic Growth. - Princeton University Press, 2010.

#### **Additional**

1. T. Klueter, L. F. Monteiro, and D. R. Dunlap, "Standard Vs. Partnership-Embedded Licensing: Attention and the Relationship between Licensing and Product Innovations," Research Policy 46, no. 9 (2017).
2. B. J. Rickard, T. J. Richards, and J. B. Yan, "University Licensing of Patents for Varietal Innovations in Agriculture," Agricultural Economics 47, no. 1 (2016).
3. P. Belingheri and M. I. Leone, "Walking into the Room with Ip: Exploring Start-Ups' Ip Licensing Strategy," Management Decision 55, no. 6 (2017).
4. P. M. Bican, C. C. Guderian, and A. Ringbeck, "Managing Knowledge in Open Innovation Processes: An Intellectual Property Perspective," Journal of Knowledge Management 21, no. 6 (2017);
5. A. Cammarano et al., "Open Innovation and Intellectual Property: A Knowledge-Based Approach," Management Decision 55, no. 6 (2017).
6. A. Toma, G. Secundo, and G. Passiante, "Open Innovation and Intellectual Property Strategies: Empirical Evidence from a Bio-Pharmaceutical Case Study," Business Process Management Journal 24, no. 2 (2018).
7. Deepak Somaya, "Patent Strategy and Management," Journal of Management 38, no. 4 (2012).

### **13. Information Resources**

1. Committee on Education and Science [ELECTRONIC RESOURCE] / Official site // access mode: <http://kno.rada.gov.ua/komosviti/control/uk/publish/article>.
2. State Committee of Statistics [Electronic resource].- Mode of access: <http://www.ukrstat.gov.ua>.
3. The Cabinet of Ministers of Ukraine [Electronic resource].- Mode of access: <http://www.kmu.gov.ua>.
4. Ministry of Economy [Electronic resource] .- Mode of access: <http://www.me.gov.ua>.
5. Ministry of Finance [Electronic resource].- Mode of access: <http://www.minfin.gov.ua>