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

### **ЗАТВЕРДЖЕНО**

на засіданні кафедри менеджменту та бізнесу Протокол № 1 від 25.08.2023 р.



# МЕТОДОЛОГІЯ ТА ОРГАНІЗАЦІЯ НАУКОВИХ ДОСЛІДЖЕНЬ робоча програма навчальної дисципліни (РПНД)

Галузь знань

29 Міжнародні відносини

Спеціальність

292 Міжнародні економічні відносини

Освітній рівень

третій (освітньо-науковий)

Освітня програма

Міжнародні економічні відносини

Статус дисципліни

обов'язкова

Мова викладання, навчання та оцінювання

англійська

Розробник:

д.е.н., професор

Тетяна ЛЕПЕЙКО

Завідувач кафедри

менеджменту та бізнесу

Гарант програми

Тетяна ЛЕПЕЙКО

Ірина ОТЕНКО

Харків 2023

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

#### APPROVED

at the meeting of the department management and business
Protocol № 1 of 25.08.2023



# METHODOLOGY AND ORGANIZATION OF SCIENTIFIC RESEARCH Program of the course

Field of knowledge 29 International relations

Specialty 292 International economic relations
Study cycle third (educational and scientific)
Study programme International economic relations

Course status Mandatory
Language English

Developer:

Doctor in Economics,

**Professor** 

Tetyana LEPEYKO

Head of Management and

**Business Department** 

Tetyana LEPEYKO

Head of

Study Programme

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Iryna OTENKO

#### INTRODUCTION

In the context of constant renewal of science, new directions, approaches, and technologies are being formed. The rapid increase in the role of science in the modern world requires from the researcher a significant level of theoretical knowledge and practical skills in conducting scientific research and its effective organization. The search for adequate scientific results becomes possible only through the use of large amounts of accumulated knowledge, which can be involved in the process of conducting and implementing scientific research. For a scientist, the ability to organize research activities and effectively use already known scientific developments, as well as perfect knowledge of the methodology of scientific research (MND) become important.

The purpose of teaching this course is the formation and development of the ability to apply methodological principles and methods of scientific activity in a qualified manner.

The objectives of the course are: to form a holistic theoretical idea of the general methodology of scientific creativity among graduate students; to acquaint with the requirements for scientific research, the basics of their planning, organization; to equip graduate students with the tools of scientific methods that can be usefully applied in the process of researching complex systems, economic, pedagogical, informational, etc.; to acquaint with the requirements for the design of various research works; to form postgraduate students' skills of effective work with sources of information; to transfer to graduate students a set of knowledge and skills that will help them in the future to carry out activities of a search and creative nature in the process of performing their professional duties.

The subject of the course is the methods of scientific research, as well as the theoretical and methodological foundations of the organization of research activities.

The object of the course is methodology as a doctrine of the organization and conduct of scientific research.

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

Table 1 Learning outcomes and competencies that are formed by the course

Learning outcomes	Competencies
LO 01	GC 01, GC 02, SC 01, SC 02, SC 04
LO 02	GC 01, SC 01
LO 04	GC 01, GC 02
LO 05	GC 03, GC 04, SC 01
LO 06	GC 02, GC 03, GC 04
LO 07	GC 01
LO 08	GC 03, GC 04, SC 03
LO 09	GC 04
LO 10	GC 01, GC 03
LO 12	GC 04

- where LO01. To have advanced conceptual and methodological knowledge, research skills, sufficient for conducting scientific and applied research at the border of subject areas, taking into account modern trends and trends of the latest achievements of world science.
- LO02. Think critically, generalize and analyze the phenomena and problems being studied, make effective decisions based on modern decision-making methods, logical arguments and proven facts in conditions of limited time and resources.
- LO04. Analyze and apply conceptual models, in particular security-oriented ones, the scientific work of domestic and foreign scientists, fundamental postulates and theories, paradigms of global economic development, the latest approaches to the functioning and development of the world economy and international economic relations.
- LO05. Develop, implement and manage scientific projects that make it possible to solve complex problems in the field of international economic relations, create new integral knowledge taking into account social, economic, ecological and legal aspects on the basis of a systematic scientific worldview and a general cultural outlook in compliance with the principles of professional ethics and academic integrity, ensuring the registration of intellectual property rights regarding project results.
- LO06. Freely present and discuss with specialists and non-specialists the results of research, scientific and applied problems of MEV in national and foreign languages, publish the results of research in scientific publications in leading scientific publications.
- LO07. Formulate and test hypotheses; use appropriate evidence to substantiate conclusions, in particular, the results of theoretical analysis, empirical research (surveys, observations, etc.) and mathematical and/or computer modeling, available literature data.
- LO08. Plan and carry out theoretical and applied research on international economic relations using modern scientific tools.
- LO09. Deeply understand the general principles and methods of economic sciences, as well as the methodology of scientific research, apply them in one's own research in the field of international economic relations, critically analyze the results of one's own research and the results of other researchers in the context of the entire complex of modern knowledge regarding the problem under study.
- LO10. Analyze and evaluate the state and prospects for the development of international economic relations, in particular, taking into account the security-oriented aspect of international business management, based on a holistic scientific understanding of the economic unity of the world, effectively apply the regulatory mechanisms of international economic relations at the national, regional and international levels in the conditions of modern processes of convergence and divergence.
- LO12. To organize and carry out the educational process in the field of international economic relations, its scientific, educational-methodical and regulatory support, to develop and teach special educational disciplines in institutions of higher education.
  - GC01. Ability to think abstractly, carry out analysis and synthesis.
  - GC02. Ability to search, process and analyse information from various sources.
  - GC03. Ability to work in an international context.
- GC04. Ability to solve complex problems of the economy based on a systemic scientific worldview and general cultural outlook adhering to the principles of professional ethics and academic integrity.
- SC01. The ability to perform original research, to achieve scientific results that create new knowledge in the field of international economic relations and related interdisciplinary areas and can be published in leading scientific publications.
- SC02. The ability to generate new ideas regarding the development of the theory and practice of international economic relations.
- SC03. The ability to integrate knowledge from different fields, apply a systematic approach and take into account non-economic aspects when solving complex problems of international

economic relations and conducting research.

SC04. The ability to identify, pose and solve problems of a research nature in the field of international economic relations, evaluate and ensure the quality of performed research.

#### **COURSE CONTENT**

## Content module 1. Methodological bases of scientific research

## **Topic 1. Science and scientific research.**

Science as a way of learning about the world. Functions of science. Classification of Sciences. A problem, a hypothesis. The concept of a scientific theory. The Standard Model of Scientific Theory. Structure of scientific theories. Methodological and heuristic principles of theory construction. Main functions of a scientific theory. Scientific paradigm. Knowledge and science as a way of cognition of the world. Notions of scientific knowledge. Science and scientific research (exploratory, fundamental and applied). (empirical, theoretical, industrial)., theory,. Concept. Operations with concepts. The concept of a scientific school, normal science, scientific revolution.

### Topic 2. Scientific method. Research Methodology

2.1. Scientific method. The subject of the methodology of science. Stages of research work. Correlation of the purpose and objectives of the study. Basic elements of research methodology. Statement of the research topic, problem, purpose and objectives of the research. Relevance of the topic. Functions of the hypothesis. . Originality. Practical significance of the work, analysis of interested organizations and individuals. Structural model of the subject area. . General characteristics of the methods of science. Classification of scientific research methods. Technology of scientific research. Research methods. Research results.

# Topic 3. Empirical Research Methods and Empirical Research Data Processing Tools

Basic Concepts of Measurement Theory. Observation as a method of cognition. Experiment as a special form of scientific knowledge. Empirical research methods. General and special methods of scientific research. Characteristics and functions of research methods. Methods of expert evaluation. Tools for processing empirical research data.

# **Topic 4. Theoretical research methods**

Principles are tools of knowledge. Abstraction and idealization. Methods of analysis, classification and construction of theories. Theoretical research methods. Scientific Laws, Regularity, and Randomness.

# Topic 5. Systematic research method. Methodology for Studying Complex Systems

System method. System approach and system analysis. Self-organization of systems and synergetics. Synergetic analysis of complex systems. Methodology for the study of complex systems. Formation of a systematic research method. Specifics of the system method and classification of systems. Modern methods of mathematical description of complex systems (phase space, chaos theory, attractors, fractals).

### **Topic 6. Models and Modeling Method in Scientific Research**

The concept of a model. Classification of models. Quality of models and its evaluation. Adequacy of models. Truth and Models. Dynamics of models. Modeling method. Computer modeling.

# Content module 2 Technology and organization of scientific research

## Topic 7. Organization of scientific activities and scientific research

Scientific activity, its varieties. Subjects of scientific activity. Forms of organization of scientific activity. Contract for scientific activities. Technology of scientific research. Preparation of applications for the state budget topic of scientific research. Planning a scientific study. Examination of scientific achievements.

## **Topic 8. Information support of scientific research**

Scientist's information space. National System of Scientific and Technical Information. Technology of working with information sources. Electronic resources. Theory and Practice of Dynamic Reading and Rational Work with Scientific Literature. Publication of research results. Scientometric databases of publications. Impact factor. Principles and rules of scientific integrity in scientific research.

# Topic 9. Project forms of scientific research

Forms of financing research activities. Methods of project management in the management of scientific research. Preparation of grant applications.

# Topic 10. Technology of work on the dissertation. Presentation, protection and implementation of research results

Organization of work on the dissertation. The system of attestation of scientific personnel. Choosing a research topic. Drawing up a dissertation plan. Basic requirements for the design of dissertations. Development of a presentation of scientific research. Content and structure of the report. Implementation of the results of completed scientific research. Efficiency of research results: criteria, calculation. Dissertation defense. Implementation of the results of scientific research in the programs of academic disciplines.

# Topic 11. Technology and Psychology of Scientific Creativity. Development of abilities for scientific activity

Principles of Systems Thinking in Scientific Creativity. Methods of activating scientific creativity. Self-organization of scientific work. Abilities for scientific activity and their development. Factors that determine the solution of a scientific problem. Obstacles to creative thinking. Discussion as a form of scientific communication. Strategy and tactics of polemics. Ways of Argumentation in Scientific Discussion.

The list of practical (seminar) studies in the course is given in table 2.

Table 2
List of practical (seminar) studies

Name of the topic and / or task	Content
Practical study 1. Topic 1.	Methodological and heuristic principles of building theories.
	Concept. Operations with concepts.
Practical study 2 Topic 2.	Statement of the research topic, problem, goal and tasks of the
	research. Actuality of theme. Hypothesis functions. Scientific
	novelty.
Practical study 3 Topic 3.	Experiment as a special form of scientific knowledge.
	Empirical research methods.
Practical study 4 Topic 4.	Principles of science. Methods of analysis, classification and
	construction of theories. Theoretical research methods.
	scientific laws,
Practical study 5 Topic 5.	Presentations of own research.
Practical study 6. Topic 6.	System method. System approach and system analysis. Self-
	organization of systems and synergy. Presentations of own
	research.
Practical study 7. Topic 7.	Quality of models and its assessment. Adequacy of models.
	Presentations of own research.
Practical study 8. Topic 8.	Contract for scientific activity. Drafting applications on the
	state budget topic of scientific research. Planning of scientific
	research. Examination of scientific works.
Practical study 9. Topic 9.	Presentations of own research.
Practical study 10. Topics 10.	Practice of dynamic reading and rational work with scientific
	literature. Publication of the results of scientific research.
	Scientometric databases of publications.
Practical study 11. Topic 11.	Forms of funding scientific research activities. Methods of
	project management in the management of scientific research.
	Drawing up applications for grants. Presentations of own
	research.

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

#### List of self-studies

Name of the topic and / or task	Content
Self-study 1. Topic 1.	Scientific paradigms of economic science.
Self-study 2. Topic 2	Conceptual apparatus of economic science. Classification of
	economic phenomena and processes
Self-study 3. Topic 3	Development of a structural model of the area of own research.
	Development of INDZ sections
Self-study 4. Topic 4	Development of working research hypotheses
Self-study 5. Topic 5	Review of information sources in accordance with the INDZ
	plan
Self-study 6. Topic 6	Development of a presentation of a fragment of one's own
	research
Self-study 7. Topic 7	Work with databases of PhD dissertations. Development of
	INDZ sections
Self-study 8. Topic 8	Tools for working with information on the Internet
Self-study 9. Topic 9	Issuance of INDZ
Self-study 10. Topic 10	Principles and rules of scientific integrity in scientific research.
Self-study 11. Topic 11	Analysis of the strengths and weaknesses of one's own creative
	thinking. Development of own methods of activation of
	scientific creativity.

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

### TEACHING METHODS

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

Verbal (lecture Topics 1-4, 6-7, problem lecture (Topics 5,11).

Visual demonstrations (Topics 3-11).

Practical studies: reports with presentations based on the results of own research (discussion and brainstorming – topics 1-11).

### FORMS AND METHODS OF ASSESSMENT

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 grading: maximum amount is 100 points; minimum amount required is 60 points.

The final control includes current control and assessment of the student.

Semester control is carried out in the form of grading.

The final grade in the course is determined:

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

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

Current control: current written tests (maximum score -15 points); competency oriented task on topics (maximum score 45 points); individual scientific and research task (maximum score -40 points).

Semester control: Grading.

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

### RECOMMENDED LITERATURE

#### Main

- 1. Пушкар О. І. Методологія та організація наукових досліджень : навчальний посібник [Електронний ресурс] / О. І. Пушкар. Харків : ХНЕУ ім. С. Кузнеця, 2020 886 с. [Електронний ресурс]. Режим доступу: <a href="http://www.repository.hneu.edu.ua/handle/123456789/23346">http://www.repository.hneu.edu.ua/handle/123456789/23346</a>
- 2. Методичні рекомендації до підготовки Індивідуального науководослідного завдання здобувачів ступеня доктора філософії 1 року підготовки. Режим доступу: <a href="https://pns.hneu.edu.ua/mod/folder/view.php?id=99531">https://pns.hneu.edu.ua/mod/folder/view.php?id=99531</a>
- 3. Mishra, Dr. Shanti Bhushan & Alok, Dr. Shashi. Handbook of research methodology. 2017. [Електронний ресурс]. Режим доступу: <a href="https://www.researchgate.net/publication/319207471\_HANDBOOK\_OF\_RESEARCH\_METHODOLOGY">https://www.researchgate.net/publication/319207471\_HANDBOOK\_OF\_RESEARCH\_METHODOLOGY</a>
- 4. ПОРЯДОК присудження ступеня доктора філософії та скасування рішення разової спеціалізованої вченої ради закладу вищої освіти, наукової установи про присудження ступеня доктора філософії. Затверджено постановою КМ України від 12 січня 2022 р. № 44 [Електронний ресурс]. Режим доступу: https://zakon.rada.gov.ua/laws/show/44-2022-%D0%BF#Text
- 5. Кузь О. М., Чешко В. Ф. Філософія науки. Х. : ХНЕУ ім. С. Кузнеця, 2017. 172 с. Режим доступу: <a href="http://www.repository.hneu.edu.ua/handle/123456789/17865">http://www.repository.hneu.edu.ua/handle/123456789/17865</a>.

#### Additional

- 6. Грузіна І. Розвиток наукових підходів до дослідження організації / І. Грузіна // Бізнес Інформ. 2022. № 2. С. 132-139. Режим доступу: http://www.repository.hneu.edu.ua/handle/123456789/27651
- 7. Каламбет С.В. Методолія наукових досліджень: Навч. посіб. / С.В. Каламбет, С.І. Іванов, Ю.В. Півняк Ю.В. Дн-вськ: Вид-во Маковецький, 2018. 191 с. [Електронний ресурс]. Режим доступу: <a href="https://pgasa.dp.ua/wp-">https://pgasa.dp.ua/wp-</a>

## content/uploads/2017/10/3-1.pdf.

- 8. Вимоги до журналів, що рецензуються, розроблені видавництвом «Ельзевір» (Elsevier) відповідно до міжнародних етичних правил наукових публікацій. [Електронний ресурс]. Режим доступу : <a href="http://www.elsevier.com/about/publishing-guidelines/publishing-ethics.">http://www.elsevier.com/about/publishing-guidelines/publishing-ethics.</a>
- 9. Peter Pruzan Research Methodology. The Aims, Practices and Ethics of Science, 2016. [Electronic resource] Access mode: https://link.springer.com/book/10.1007/978-3-319-27167-5.
- 10. Shah Mohammad, Omer Faruqe, Jubaer Lipa, Hoque Imrul, Bashar Oyes, Thamim Rahman Chowdhury, Md. Shahin Miah. Research methodology and methods: theory and practic // Innova technologia. Methodological research journal.tiveVolume 2, Issue 5, May,,2021 P. 201-226. [Electronic resource] Access mode: <a href="https://www.researchgate.net/publication/352180357\_RESEARCH\_METHODOLOGY\_AND\_METHODS\_THEORY\_AND\_PRACTICE">https://www.researchgate.net/publication/352180357\_RESEARCH\_METHODOLOGY\_AND\_METHODS\_THEORY\_AND\_PRACTICE</a>
- 11. Lepeyko T. Process and competence E-learning organization: case of business education / T. Lepeyko, O. Pushkar, R. Karaszewsky // Адаптивне управління: теорія і практика. Електронне наукове фахове видання. Серія «Педагогіка». Харків: УІПА. 2023. Вип. 16 (31). Режим доступу: <a href="http://repository.hneu.edu.ua/handle/123456789/30487">http://repository.hneu.edu.ua/handle/123456789/30487</a>
- 12. Thomas George C. Research methodology and scientific writing. 2nd Edition Publisher: Ane Books, New Delhi -2022. -628 p. [Electronic resource] Access mode: <a href="https://www.researchgate.net/publication/335701346">https://www.researchgate.net/publication/335701346</a>.

#### **Information resources**

- 13. Баранова О. Авторські права в Інтернеті: що  $\epsilon$  об'єктом та як себе захистити [Електронний ресурс] / Баранова О. Режим доступу : <a href="https://biz.ligazakon.net/news/203333\_avtorsk-prava-v-nternet-shcho--obktom-ta-yak-sebe-zakhistiti">https://biz.ligazakon.net/news/203333\_avtorsk-prava-v-nternet-shcho--obktom-ta-yak-sebe-zakhistiti</a>.
- 14. Моделювання та прогнозування економічних процесів. Збірник конференції 2019 [Електронний ресурс] / Режим доступу : <a href="https://ecocyber.fmm.kpi.ua/wp-content/uploads/2022/06/mpep2019.pdf">https://ecocyber.fmm.kpi.ua/wp-content/uploads/2022/06/mpep2019.pdf</a> .
- 15. Крістал Е. Всесвіт як голограма [Електронний ресурс] / Режим доступу: <a href="http://www.crystalinks.com/holographic.html">http://www.crystalinks.com/holographic.html</a>