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

ЗАТВЕРДЖЕНО
на засіданні кафедри
менеджменту та бізнесу
Протокол № 19 від 26.06.2024 р.

ПОГОДЖЕНО
Проректор з навчально-методичної роботи

Каріна НЕМАШКАЛО

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

Галузь знань	**07 Управління та адміністрування**
Спеціальність	**073 Менеджмент**
Освітній рівень	**третій (освітньо-науковий)**
Освітня програма	**Менеджмент**

Статус дисципліни	**обов'язкова**
Мова викладання, навчання та оцінювання	**англійська**

Розробники:
д.е.н., професор Тетяна ЛЕПЕЙКО

д.е.н., професор Ірина ЧМУТОВА

Завідувач кафедри
менеджменту та бізнесу Тетяна ЛЕПЕЙКО

Гарант програми Василь ОТЕНКО

Харків
2024

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 № 19 of 26.06.2024

AGREED
Vice-rector for educational and methodical work
Karina NEMASHKALO

METHODOLOGY AND ORGANIZATION OF SCIENTIFIC RESEARCH
Program of the course

Field of knowledge	**07 Management and administration**
Specialty	**073 Management**
Study cycle	**third (educational and scientific)**
Study programme	**Management**
Course status	**mandatory**
Language	**English**

Developers:
Dr. Sc. (Economic), Professor — Tetyana LEPEYKO

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Kharkiv
2024

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 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 04
LO 02	SC 01
LO 03	GC 01, GC 02, GC 04, GC 05, SC 01
LO 04	GC 01, GC 02, GC 03, GC 04, GC 05, SC 04
LO 05	GC 01, GC 02, SC 01, SC 02
LO 06	GC 01, GC 02, GC 04, GC 05, SC 01, SC 04
LO 07	SC 04
LO 08	GC 04

where LO01. Apply modern tools and technologies for searching, processing and analyzing information, as well as statistical methods for analyzing data of a large volume and/or complex

structure, specialized databases and information systems.

LO02. Freely present and discuss with specialists and non-specialists the results of research, scientific and applied management problems in the national and English languages, competently reflect the results of research in scientific publications in leading international scientific publications; critically analyze foreign language scientific literature on the specialty.

LO03. Develop and research conceptual, mathematical and computer models of processes and systems, effectively use them to obtain new knowledge and/or create innovative products in the field of management and related interdisciplinary areas; apply existing methods of analysis of trends and patterns of development of macro- and micro-economic processes, in particular, methods of economic and mathematical modeling for making balanced management decisions; build a reasonable system of indicators as a basis for scientific research and forecast economic processes.

LO04. Develop and implement scientific and applied projects that provide an opportunity to rethink the existing and create new holistic knowledge and/or professional practice in the field of management and administration and to solve significant scientific and technological problems in management in compliance with the norms of academic ethics and based on social, ethical, economic, environmental and legal aspects.

LO05. Deeply understand the general principles and methods of management sciences, as well as the methodology of scientific research, apply them in one's own research in the field of management and in teaching practice; to know the content and functions of science as a social institution, the general laws of the development of science, the structure and levels of scientific knowledge; consciously formulate the problems and tasks of specific scientific research in the professional field; to have methodological techniques for proposing scientific hypotheses, their verification and building a scientific theory.

LO06. Plan and carry out scientific and applied research in management and related interdisciplinary areas using modern tools, critically analyze the results of own research and the results of other researchers in the context of the entire complex of modern knowledge regarding the problem under study; make proposals for financing research and/or projects; to know the main characteristics of project forms of scientific research, technology of work on research, principles of organization of scientific work and implementation of the results of scientific research taking into account the norms of academic ethics.

LO07. Approve and implement the results of own research in the field of management; to understand the content of modern management theories and the features of their evolution under the influence of changes in the external environment, advanced achievements and trends in the field of modern management, world experience of implementing existing management theories into the practice of modern enterprises.

LO08. Develop and teach special educational disciplines in management in educational institutions; to know and understand the principles and system of management and the regulatory and legal basis of the organization of the educational process, the peculiarities of keeping documentation in educational institutions, the essence of educational activity and its peculiarities, requirements for scientific and methodological support of educational activity, innovative forms, methods and means of education, new pedagogical technologies .

GC01. The ability to identify, pose and solve problems; formulate and experimentally test scientific hypotheses, apply acquired knowledge in practice; continuous self-development and self-improvement in professional and/or scientific-pedagogical activities.

GC02. The ability to search, process and analyze information from various sources, to abstract thinking, philosophical interpretation, justification and economic proof of the obtained results and understanding of the essence of the studied socio-economic phenomena, justification, setting and modeling of problems.

GC03. The ability to work in an international context, to understand foreign language professional texts, to use foreign languages to present scientific results in oral and written form and for intercultural communication in a general, scientific and professional environment.

GC04. The ability to solve complex problems in the field of management on the basis of a systematic scientific outlook and a general cultural outlook in compliance with the principles of professional ethics and academic integrity, to develop, plan and implement research and innovation projects and programs in the field of management.

GC05. The ability to find one's own ways to solve a problem, critically perceive and analyze existent thoughts and ideas, review publications and abstracts, conduct a critical analysis of one's own materials.

SC01. The ability to perform original research, achieve scientific results that create new knowledge in management and related interdisciplinary areas; to have information about the directions and features of the development of modern theories of management and promising achievements in the field of management; to plan, organize and conduct research and innovation activities.

SC02. The ability to orally and in writing present and discuss the results of scientific research and/or innovative developments in Ukrainian and English, to study scientific literature on management and administration, effectively use new information from various sources.

SC04. The ability to initiate, develop, implement and manage scientific projects in management and related interdisciplinary areas and/or make proposals for financing scientific research, registration of intellectual property rights; to introduce innovative results of scientific research in the field of management into the practical activities of modern enterprises, institutions, and organizations.

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. Modern artificial intelligence tools in the field of management.

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. Registration of intellectual property rights. Implementation of innovative results of scientific research in the field of management.

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.

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 individual scientific and research task sections
Self-study 4. Topic 4	Development of working research hypotheses
Self-study 5. Topic 5	Review of information sources in accordance with the individual scientific and research task 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 individual scientific and research task sections
Self-study 8. Topic 8	Tools for working with information on the Internet
Self-study 9. Topic 9	Issuance of individual scientific and research task
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, 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 – 10 points); competency oriented task on topics (maximum score 70 points) ; individual scientific and research task (maximum score – 20 points).

The course is taught for two semesters. The same assessment criteria are used in the 1st and 2nd semesters. The final grade for the subject is taken into account for the second semester of studying the course.

The final control is carried out in the form of a differentiated assessment (in the 1st and 2nd semesters). The final grade for the course is determined by summing up all the points received during the current control.

Semester control: Grading.

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

RECOMMENDED LITERATURE

Main

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2. Методичні рекомендації до підготовки Індивідуального науково-дослідного завдання здобувачів ступеня доктора філософії 1 року підготовки. — Режим доступу : https://pns.hneu.edu.ua/mod/folder/view.php?id=99531

3. 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

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7. Publishing ethics. Elsevier Policies. – Access mode: http://www.elsevier.com/about/publishing-guidelines/publishing-ethics

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9. 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: https://www.researchgate.net/publication/352180357_RESEARCH_METHODOLOGY_AND_METHODS_THEORY_AND_PRACTICE

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11. Thomas George C. Research methodology and scientific writing. 2nd Edition Publisher: Ane Books, New Delhi – 2022. – 628 p. [Electronic resource] – Access mode: https://www.researchgate.net/publication/335701346

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