MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
WEST UKRAINIAN NATIONAL UNIVERSITY
BOHDAN HAVRYLYSHYN EDUCATION AND RESEARCH INSTITUTE OF INTERNATIONAL RELATIONS

APPROVED BY
Acting Director of BHERIIR
Lyudmyla HAVRYLYUK-YENSEN
"___" _____ 2024

APPROVED BY
Vice-Rector for Scientific and Pedagogical Work
Victor OSTROVERHOV
"___" _____ 2024

WORKING PROGRAM
on discipline
"METHODOLOGY OF SCIENTIFIC RESEARCH"

Degree of higher education – Master
Branch of knowledge – 05 Social and Behavioral sciences
Specialty – 051 Economics
Educational and professional program – International Economics

Department of International Economics

Form of study	Course	Semes-ter	Lectures (hours)	Practical classes (hours)	Individual student's work (hours)	Trai-ning (hours)	Self-studies of students (hours)	Total (hours)	Exam
Full-time	1	2	32	14	5	6	93	150	Exam

Ternopil – WUNU
2024

The working program is compiled on the basis of the educational and professional training program for the bachelor of the field of knowledge 05 "Social and behavioral sciences", specialty 051 "Economics", approved by the Academic Council of WUNU (protocol No.*11* from 26/06/24).

The working program is compiled Candidate of Economic Science, Associate Professor Olena Karas.

The program was approved at the meeting of the Department of International Economics by Protocol №1 from 27/08/24

Head of Department
Dr. of Econ. Sciences, Prof. Iryna ZVARYCH

The program is considered and approved by the support group of specialty 051 "Economics"
Protocol № 2 from 30/08/24

Head of the support group of specialty
Doctor of Economic Science, Prof. _____ Viktor KOZIUK

Guarantor _____ Doctor of Economic Sciences, Prof. Mariia LYZUN

STRUCTURE OF THE WORKING PROGRAM OF THE STUDY DISCIPLINE «METHODOOGY OF SCIENTIFIC RESESARCH»

1. DESCRIPTION OF THE DISCIPLINE «METHODOOGY OF SCIENTIFIC RESESARCH»

Discipline «Methodoogy of scientific resesarch»	**Branch of Knowledge, speciality, degree of the higher education**	**Characteristics of the study program of the discipline**
Number of credits ECTS – 5	Branch of knowledge 05 Social and Behavioural Sciences	Educational discipline of the cycle of general training The language of instruction is English
Modules amount – 5	Speciality 051 E c o n o m i c s	Year of study:*1* *Semester*: *1*
Content modules amount – 3	Degree of higher education - Master	Lectures:32 hours. Practical Classes:14 hours.
General number of hours – 150 hours.		Training:7 hours Individual work: 5 hours. SSW: 50 hours
Weekly hours – 10, Auditorium – 3		Type of the final control: exam

2. PURPOSE AND OBJECTIVES OF THE DISCIPLINE "METHODOLOGY OF SCIENTIFIC RESEARCH"

2.1. The goal of the course "Methodology of Scientific Research" is to provide future professionals with a systematic understanding of the theoretical and practical basis of effective scientific research in the field of economics.

2.2. The tasks of the course of studying the discipline "Methodoogy of scientific resesarch" are:

• introducing students to modern methodological concepts, the basics of the methodology of scientific knowledge and the methodology of scientific research;
• formation of a holistic view of the research process;
• mastering the skills of forming and using a conscious methodological position of scientific research;
• improving skills in: the field of scientific research, carrying out a search, selecting and processing scientific information, accurately formulating the goal, tasks and conclusions of the research.

Name and description of competences, the formation of which ensures the study of the discipline:

ZK1. Ability to generate new ideas (creativity).

ZK7. The ability to act on the basis of ethical considerations (motives).

ZK8. Ability to conduct research at an appropriate level.

SK1. The ability to apply scientific, analytical, methodical tools to substantiate the strategy of development of economic entities and related management decisions.

1.1. Prerequisites for studying the discipline.

Acquisition of knowledge according to the program of the entrance professional test in the specialty.

1.2. Description of the program results, the achievement of which ensures the study of the discipline:

PRN1. Formulate, analyze and synthesize solutions to scientific and practical problems.

PRN5. Adhere to the principles of academic integrity.

PRN6. Evaluate the results of one's own work, demonstrate leadership skills and the ability to manage personnel, work in a team.

PRN7. Choose effective methods of managing economic activity, substantiate the proposed solutions on the basis of relevant data and scientific and applied research.

PRN15. Organize the development and implementation of socio-economic projects, taking into account informational, methodical, material, financial and personnel support.

3.PROGRAM OF THE COURSE "METHODOLOGY OF SCIENTIFIC RESEARCH"

Content module 1. Theoretical and methodological principles of scientific research organization.

Topic 1. General methodological issues of the development of science and scientific knowledge

Concept of science, historical and positivist approaches to defining its subject. Essentialism and positivism. The change of scientific forms of knowledge and the history of the development of science. Descriptive, systematizing, epistemological, methodological, informative, prognostic and production functions of science in society. Scientific paradigms and their change.

References: [1-15]

Topic 2. Methodological foundations of scientific knowledge

General philosophical principles of scientific knowledge (rationalism, empiricism, epistemological anarchism). Basic methodological approaches of economic science (apriorism, ultra-empiricism, instrumentalism).

References: [1-15]

Topic 3. Characteristics of scientific methodology and research methods: general scientific research methods

General scientific and specific scientific methodology (philosophical, general scientific and specifically scientific components of the methodology of scientific knowledge). Generally scientific research methods (historical, terminological, structural-functional analysis, systematic approach, cognitive method). Concept of synergy and synergistic approach in scientific research. Classification of scientific research methods. Characteristics of the most common methods of scientific research (abstraction, analysis and synthesis, deduction and induction, idealization, formalization, modeling, axiomatization).

References: [1-15]

Topic 4. Characteristics of scientific methodology and research methods: special methods of scientific research

Statistical methods of analysis as the basis of empirically oriented research. General scientific problems of connection analysis. Linkage density, correlation and causality. Peculiarities of the

interpretation of the density of ties in economic sciences compared to natural or other social sciences. The problem of theoretical conditioning of the nature of statistical relationships and the problem of false relationships. Peculiarities of the application of traditional methods of analytical processing of information in economic sciences: characteristics of the method of comparison; application of analytical groupings for factor classification; ways of using relative and average values. Characteristics of the method of elimination as a method of deterministic factor analysis. Characteristics of economic and mathematical methods of analysis as methods of optimizing indicators.

References: [1-15]

Content module 2. Information support for planning and effectiveness of scientific research

Topic 5. Academic integrity and academic writing

Academic culture, academic integrity. Academic culture and ethics in higher education. Academic dishonesty and its main manifestations. The relationship between academic integrity and the ethical structure of society. Formal and informal norms of encouraging academic integrity and sanctioning unethical behavior in the field of science and research. Code of professional ethics. Intellectual property. Copyright.

General characteristics of types of academic writing. The structure of scientific research representation. Peculiarities of scientific structuring text in social and natural sciences. Empirically-oriented and model-oriented representations of scientific research in economic sciences. Concept of scientific novelty and ways of its reflection in scientific texts. Monograph, dissertation, master's thesis, abstract, scientific article, various types of annotations, theses, review. Dimensions and design of academic texts. Culture of scientific text. Normative use of scientific language in oral and written forms.

References: [1-15]

Topic 6. Information provision of scientific research

Types and sources of scientific information. Search and accumulation of scientific information. Bibliographic information search. Search for information on the Internet. Scientific products: monographs, textbooks, collections of works, periodical scientific publications, etc. Primary and secondary information. Formation of research information base. Scientific communication. The JEL classifier as a universal way of structuring directions in economic science.

References: [1-15]

Topic 7. Topics of scientific research and design of their results

Choosing a research topic. Justification of relevance, value and novelty of scientific developments. Methodical guidelines for the development of the topic.

Modern requirements for the content, structure and design of a scientific article, stages of preparing an article for publication. The structure of the scientific article. Introduction, analysis of the latest scientific publications on the topic of research, statement of the problem, tasks, relevance; formation of research questions and hypotheses; method, research results, data analysis, discussion; scientific and methodical significance; recommendations and prospects for further research, conclusions, list of used sources (sometimes applications).

Writing an introduction, conclusions. Annotation, resume, review in students' qualification works. Stylistics of a scientific text, correct use of synonyms, terms, comparisons, abbreviations, abbreviations in the text. Rules for writing a master's thesis.

References: [1-15]

4. CREDIT STRUCTURE FOR THE COURSE

"METHODOLOGY OF SCIENTIFIC RESEARCH"
(full-time education)

№	Title of the Theme	Number of hours					
		Lectures	**Practical Classes**	**ISW**	**SSW**	**Training**	**Control measures**
Content module 1. Theoretical and methodological principles of scientific research organization							
1.	General methodological issues of the development of science and scientific knowledge	6	2	1	14	1	Tests, oral questioning
2.	Methodological foundations of scientific knowledge	4	2	1	14	1	Tests, oral questioning
3.	Characteristics of scientific methodology and research methods: general scientific research methods	6	2	-	14	1	Tests, oral questioning
4.	Characteristics of scientific methodology and research methods: special scientific methods of research	4	2	1	14	1	Tests, oral questioning
Content module 2. Information support, planning and the effectiveness of scientific research. Methods of teaching economic disciplines							
5	Academic integrity and academic writing	4	2	1	14	1	Oral questioning
6.	Informational provision of scientific research	4	2	1	10	1	questioning
7.	Subjects of scientific research and design their results	4	2	-	13	1	
Total		32	14	5	93	7	150

5. TOPICS OF THE PRACTICAL CLASSES

Practical Class №1

Topic. General methodological issues of the development of science and scientific knowledge

Purpose: to understand the content of science and its functions, to master approaches to defining the subject of science, the history of its development, the evolution of scientific forms of knowledge and changes in scientific paradigms.

Questions for discussion:

1.1. The concept of science and approaches to defining its subject

1.2. The genesis of scientific forms of knowledge and the history of the development of science

1.3. Functions of science in society

1.4. Scientific paradigms and their change

References: [1-15]

Practical lesson #2

Topic. Methodological foundations of scientific knowledge

Purpose: to master the methodological foundations of scientific knowledge, basic methodological approaches of economic science and modern methodological alternatives.

Questions for discussion:

2.1. General philosophical principles of scientific knowledge (rationalism, empiricism, epistemological anarchism)

2.2. Basic methodological approaches of economic science (apriorism, ultra-empiricism, instrumentalism)

2.3. Modern methodological alternatives: system modeling, methodological pluralism

References: [1-15]

Practical lesson No. 3

Topic: Characteristics of scientific methodology and research methods: general scientific research methods

Purpose: to learn the essence of general scientific and specific scientific methodology, to master the classification of scientific research methods and the content of the most common of them.

Questions for discussion:

3.1. General scientific and specific scientific methodology

3.2. Classification of scientific research methods

3.3. Characteristics of the most common methods of scientific research

References: [1-15]

Practical lesson No. 4

Topic. Characteristics of scientific methodology and research methods: special methods of scientific research

Purpose: to understand the role of special methods in the research process.

Questions for discussion:

4.1. Statistical methods of analysis as the basis of empirically oriented research

4.2. General scientific problems of connection analysis. Linkage density, correlation and causality

4.3. The problem of theoretical conditioning of the nature of statistical relationships and the problem of false relationships

4.4. Peculiarities of the application of traditional methods of analytical processing of information in economic sciences: the method of comparison; reception of analytical groupings; application of relative and average values

4.5. The method of elimination as a method of deterministic factor analysis

4.6. Characteristics of economic and mathematical methods of analysis as methods of optimizing indicators

References: [1-15]

Practical lesson No. 5

Topic. Academic integrity and academic writing

Purpose: to learn the principles of academic integrity, basic rules and specifics of performing

scientific works.

Questions for discussion:

5.1. Academic culture, academic integrity, academic ethics in higher education

5.2. Academic dishonesty and its main manifestations

5.3. Formal and informal norms of encouraging academic integrity and sanctioning unethical behavior in the field of science and research (code of professional ethics; intellectual property; copyright)

5.4. General characteristics of types of academic writing

5.5. The structure of scientific research representation. Peculiarities of structuring scientific text in social and natural sciences. The concept of scientific novelty and ways of its reflection in scientific texts

5.6. Empirically-oriented and model-oriented representations of scientific research in economic sciences

5.7. Culture of scientific text. Normative use of scientific language in oral and written forms

References: [1-15]

Practical lesson No. 6

Topic:Information provision of scientific research. Subjects of scientific research and design of their results

Purpose: to find out the types and sources of scientific information, to study the peculiarities of the formation of the research information base; to understand the specifics of research work.

Questions for discussion:

6.1. Types and sources of scientific information

6.2. Search and accumulation of scientific information

6.3. Primary and secondary information. Formation of research information base

6.4. The JEL classifier as a universal way of structuring directions in economic science.

6.5. Choosing a research topic. Justification of relevance, value and novelty of scientific developments

6.6. The specifics of master's research work in a higher educational institution. Master's thesis and its components. Rules for writing a master's thesis

References: [1-15]

Practical lesson 7

Topic. Methods of teaching economic disciplines

The goal: to master the mechanisms of the technology of university economic education, to determine its features, to actualize the development of professionally significant personal didactic abilities and skills.

Questions for discussion:

7.1. The essence, content and specifics of teaching economic disciplines

7.2. The system of information selection and information support for teaching economic disciplines

7.3. Organization of methodical work of a teacher of economic disciplines

7.4. Types and organizational forms of teaching economic disciplines

7.5. Modern method of conducting practical classes

7.6. Means of modern university education

7.7. Bologna process and forms of organization of knowledge control of economic disciplines

References: [1-15]

6. Training

This training aims to provide practical experience with key stages of scientific research, from problem formulation to data analysis and interpretation.

Task 1: Selecting and Formulating a Scientific Problem

Goal: Learn how to formulate a scientific problem, set research questions, and define research objectives.

1. Students choose a research topic within their field of study.
2. Define the relevance of the topic and formulate the specific scientific problem to be investigated.
3. Formulate 1-2 research questions and set the research objectives.
4. Present a brief description of the chosen topic and the problem to the class for discussion and feedback.

Outcome: A well-defined scientific problem, research questions, and clearly set research objectives.

Task 2: Literature Review

Goal: Familiarize yourself with existing research on the chosen topic and learn how to conduct a literature review.

1. Students gather 5-10 scientific sources related to their chosen research topic.
2. Conduct a literature review to identify key ideas, research trends, and gaps in the current research.
3. Write a brief report (2-3 pages) summarizing the findings from the literature review.
4. Present the main findings to the class, explaining how they will influence the future research direction.

Outcome: A literature review report and a presentation of the key research trends and gaps.

Task 3: Choosing Research Methods

Goal: Learn how to select appropriate research methods based on the objectives and tasks of the study.

1. Students choose research methods (quantitative, qualitative, or mixed).
2. Justify the choice of methods in relation to the specific research problem.
3. Develop a research plan: sampling, data collection tools (surveys, questionnaires, observations, etc.).
4. Present the chosen methods and the research plan to the class for feedback.

Outcome: A description of the chosen research methods and a well-organized research plan.

Task 4: Data Analysis and Interpretation

Goal: Gain practice in data processing, using statistical or other analytical methods, and interpreting the results.

1. Students are provided with data (real or simulated) related to their research topic.
2. Use quantitative or qualitative methods (depending on the data type) to analyze and process the data.
3. Interpret the results and draw conclusions about the research hypotheses.
4. Compile the results into a report and prepare a presentation for class defense.

Outcome: Analyzed and interpreted data, a written report with conclusions, and a presentation.

Expected Outcomes of the Training:

- Students will gain practical experience in all stages of research, from formulating a problem to analyzing data.
- Develop skills in critical thinking, information analysis, and the use of scientific methods.
- Prepare their own mini-research project, which can serve as a foundation for future work.

Assessment for training tasks (4 tasks of 25 points each).

7. STUDENTS' SELF-WORK

The organization of students' independent work requires special attention, because part of the questions of each topic is submitted for independent study by students. The student's independent work is provided by the system of educational and methodological tools provided by the department for

studying the academic discipline. Methodical materials provide for the possibility of self-monitoring (questions, testing) by the student. Independent work on mastering the discipline can be done in university reading rooms, classrooms and computer laboratories, at home. The department provides consultations on some of the most difficult topics of the course. The teachers of the department also carry out current and final control and analyze the results of the student's independent work.

The educational material intended for learning during independent work is submitted to the final control along with the educational material that is processed in the training sessions.

№	Topics	Hours
1.	The process of scientific research and general characteristics of its stages: organizational, research, final	6
2.	The effectiveness of scientific research and its criteria	9
3.	Axioms, hypotheses and proofs in methodology scientific research	6
4.	The essence of scientific knowledge, knowledge and scientific research	6
5.	Concept of science and its place in society	6
6.	Management of science in modern society	6
7.	Methodology of theoretical research	6
8.	Concepts, functions of science and its classification	6
9.	The main types, forms and stages of scientific research work of students	9
10.	Stages of formation and development of science	6
11.	General scientific methods of research	6
12.	The concept of a hypothesis and its role in science research	6
13.	Comparative characteristics of the topic and problem research	9
14.	Methodology of study and processing literary sources	6
Total		93

8. In the process of teaching the course « Methodoogy of scientific resesarch », the following measures of evaluation and methods of study result demonstration are used:

- standardized tests;
- in-class questions;
- credit module testing and questioning;
- analytical reports, essays, summaries;
- presentations of performed assignments and research;
- students' presentations and reports at scientific events;
- modules control work;
- exam.

9. Criteria, forms of regular and final control

The final score (based on 100-point scale) for the course "Methodoogy of scientific resesarch" is calculated as a weighted average value, depending on the weight of every component of the credit.

Module 1		**Module 2**		**Module 3**	**Module 4**	**Module 5**
10%	10%	10%	10%	5%	15%	40%
current assessment	Modular control 1	current assessment	Modular control 2	Training	SSW	Exam
It is defined as the arithmetic average of the grades obtained during classes	1. Theoretical questions (2 questions) – max. 50 points. 2. Task (1 task) – max. 50 points.	It is defined as the arithmetic average of the grades obtained during classes	1. Theoretical questions (2 questions) – max. 60 points. 2. Test tasks (20 tests of 2 points per test) - max. 40 points.	Assessment for training tasks (4 tasks of 25 points each)	It is defined as the arithmetic average of the grades obtained during the study of the discipline for self-study work (abstract, essay)	1. Theoretical questions (2 questions) – max. 50 points. 2. Test tasks (10 tests of 2 points per test) - max. 20 points. 3. Task (1 task) – max. 30 points.

Grading scale

According to university scale	According to national scale	According to ECTS scale
90-100	Excellent	A (excellent)
85-89	Good	B (very good)
75-84		C (good)
65-74	Satisfactory	D (satisfactory)
60-64		E (sufficient)
35-59	Unsatisfactory	FX (unsatisfactory with the possibility to retake the credit)
1-34		F (unsatisfactory with the need to retake the course)

10. INSTRUMENTS, EQUIPMENT AND SOFTWARE INVOLVED IN THE STUDY PROCESS

#	Item	Topic no.
1.	Laptop	1-7
2	Package of presentation materials	1-7

REFERENCES

1. Гривківська, О. В., Відоменко, О. І., Аренович, І. М., & Аренович, Б. М. (2023). Інтерактивні методи у методиці викладання економічних дисциплін. Ринкова економіка: сучасна теорія і практика управління, 21(2(51), 21-29.
2. Краус Н. М., Нікіфоров П. О., Краус К. М., Осецький В. Л. Методика викладання фахових дисциплін: навчальний посібник. К. : Агра Медіа Груп, 2020. 205 с.
3. Галян О.В. Методологія та організація наукових досліджень : навч.-метод. видання. Луцьк : Вежа-Друк, 2021. 26с.
4. Мартинюк О. М. Академічне письмо (конспект лекцій): навчально- методичне видання. Луцьк : Вежа, 2021. 48 с.
5. Данильян О.Г., Дзьобань О.П. Актуальні проблеми методології наукових досліджень: навч.-метод. посіб. з навчальної дисципліни для студентів другого (магістерського) рівня вищої освіти галузі знань 29 «Міжнародні відносини» спеціальності 293 «Міжнародне право» / уклад.: Харків : Нац. юрид. ун-т ім. Ярослава Мудрого, 2022. URL: https://library.nlu.edu.ua/ POLN_TEXT/SENMK/p_APMND-2022.pdf
6. Самсонов В.В., Сільвестров А.М., Тачиніна О.М. Методологія наукових досліджень та приклади її використання : навч. посіб. Київ : НУХТ, 2022. 385с
7. Найдьонов І. М. Викладання фінансово-економічних дисциплін. Методика, технологія, управління. К. : ЦУЛ, 2022. 432 с.
8. Носачова Ю., Іваненко О., Радовенчик Я. Основи наукових досліджень. К. : Кондор, 2020. 132 с.
9. Рядинська І. А. Інноваційні методи викладання при вивченні економічних дисциплін у закладах вищої освіти України. *Бізнес Інформ*. 2021. №1. С. 134-138.
10. Crespo R. F. The Nature and Method of Economic Sciences. Evidence, Causality, and Ends. London: Routledge, 2020. 202 p.
11. Darwish, Mahmoud Ahmed (2022). Methodology of Scientific Research and its Modern Divisions According to Withney, Marquis, Good and Scates, and Van Dalen. *International Journal of Cultural Inheritance & Social Sciences (IJCISS)*. Vol. 4 Issue 7, P. 65-85.
12. Thomas, C. George. Research Methodology and Scientific Writing. 2nd Edition : Springer Cham, 2022. 620 p. URL:https://link.springer.com/book/10.1007/978-3-030-64865-7#book-header
13. The Methodology of Scientific Research Programmes. URL: https://www.cambridge.org/core/books/methodology-of-scientific-research-programmes/8DBCEFE34A59BAD3D393FB958A4DC5FC
14. Kapoor, Rajeev. (2022). Research methodology and Methods. https://www.researchgate.net/publication/365200801_Research_methodology_and_Methods
15. Rostamkhani, Ramin & Ramayah, T. (2022). Applied Methodology in the Research. 10.1007/978-981-19-6837-2_2.