



# SCIENTIFIC RESEARCH IN ECONOMICS

## Working program of the academic discipline (Syllabus)

### Details of the academic discipline

Level of higher education	<i>Second (Master's)</i>
Branch of knowledge	<i>05 Social and behavioral sciences</i>
Specialty	<i>051 Economy</i>
Educational program	<i>International Economics</i>
Discipline status	<i>Normative (mandatory)</i>
Form of education	<i>Full time</i>
Year of training, semester	<i>1st year, spring semester</i>
Scope of the discipline	<i>ECTS 3 credits/ 90 hours</i>
Semester control/ control measures	<i>test, MKR, essay</i>
Lessons schedule	<a href="http://rozklad.kpi.ua/">http://rozklad.kpi.ua/</a> (According to the schedule)
Language of teaching	<i>Ukrainian</i>
Information about head of the course / teachers	Lectures are given by: Doctor of Economics, Associate Professor, Associate Professor of the ME Department, Natalya Oleksandrivna Chernenko, <a href="mailto:chernekonatasha0@gmail.com">chernekonatasha0@gmail.com</a> +380677651109 Practical classes are conducted by: Doctor of Economics, Associate Professor, Associate Professor of the ME Department, Natalya Oleksandrivna Chernenko, <a href="mailto:chernekonatasha0@gmail.com">chernekonatasha0@gmail.com</a>
Placement of the course	Google classroom

### Program of educational discipline

#### 1. Description of the educational discipline, its purpose, subject of study and learning outcomes

In the conditions of intensive growth in the amount of scientific and technical information, rapid change and updating of the system of scientific knowledge, there is an urgent need for a qualitatively new theoretical training of highly qualified specialists in the economic profile, capable of independent creative work in the conditions of market relations, introduction of science-intensive technologies into production.

Discipline "Scientific research in economics" will help students to develop a holistic view of science as a system of knowledge and tools of cognition and form views on general scientific and special economic methods and methods of conducting research to obtain effective research results.

The discipline is aimed at training students who want to determine the content and features of empirical, methodical and methodological levels of scientific research; choose a subject area of research, formulate a topic, problem, hypothesis of scientific research; distinguish the structural elements of a scientific problem and scientific tasks; collect and summarize theoretical and empirical information for scientific research in economics.

**Goal-** there is the formation of students' abilities and skills in conducting scientific research in the field of economics, as well as understanding the main methodological approaches to the study of economic phenomena and processes.

**Subject of discipline** there are theoretical and practical aspects of scientific research in economics, in particular: methodology of scientific research in economics; formulation of the research problem and formulation of the hypothesis; data collection and analysis; the use of statistical methods in the study of economic phenomena; design of scientific publications and presentation of research results.

Students who study this discipline receive the necessary knowledge and practical skills to successfully conduct scientific research in the field of economics, which allows them to be competitive in the labor market and in the academic environment.

**The teaching of the course is focused on the formation of such competencies in students:**

- ZK 2 – ability to abstract thinking, analysis and synthesis;
- ZK 4 – the ability to communicate with representatives of other professional groups of various levels (with experts from other fields of knowledge/types of economic activity);
- ZK 8 – the ability to conduct research at the appropriate level;
- SK 4 – the ability to use modern information technologies, methods and methods of research of economic and social processes, adequate to the established research needs;
- SC 5 – the ability to identify key trends in socio-economic and human development.

**The course tasks are implemented through the achievement of the following program learning outcomes:**

- PRN 1 – to formulate, analyze and synthesize solutions to scientific and practical problems;
- PRN 5 – adhere to the principles of academic integrity;
- PRN 7 – to choose effective methods of managing economic activity, justify the proposed solutions on the basis of relevant data and scientific and applied research.

**2. Pre-requisites and post-requisites of the discipline (place in the structural and logical scheme of training according to the relevant educational program)**

The study of economics helps to understand how the world economy works and what factors influence its development. This can be useful in understanding what decisions can be made at the level of government, business and individuals. The study of economics can also help you understand how markets work and what factors affect the prices and quantities of goods and services sold. In addition, economic research can help solve questions about how to use resources efficiently and how to improve people's lives.

The following skills are necessary for successful study of the discipline "Scientific research in economics": understanding the basic concepts and principles of scientific research; the ability to formulate research problems and pose hypotheses; knowledge of methods of data collection and analysis in the economy; the ability to use statistical methods in the study of economic phenomena; skills in the design of scientific publications and presentation of research results. And also, the necessary skills for studying the discipline: mastery of text editors, the ability to calculate and explain basic economic indicators, the necessary skills for independent search work on the Internet, as well as the use of commonly used programs and operating systems, involvement in the e-learning system on the Microsoft Teams platform, Zoom.

**Prerequisites:**the discipline is based on the learning outcomes that the student received at the first (bachelor) level of higher education, that is, basic knowledge of economics, mathematics and statistics.

**Post-requisites:**dThe discipline "Scientific research in economics" provides a foundation for further study of disciplines related to the issues of: economic dimension of sustainable development, development of startup projects, management of intellectual capital, risk forecasting and foresight in international activities, global economy, development strategies of international organizations, international trade, international scientific and technical cooperation, internship, writing a master's thesis.

**3. Content of the academic discipline**

1. Introduction to scientific research in economics: concepts, goals and principles.
2. Development of scientific research. Methodology, techniques and methods of scientific research in economics.
3. Research planning: formulation of the problem, justification of the hypothesis, definition of the sample and methods of data collection.
4. Data collection: surveys, interviews, observations, analysis of documents and other sources.
5. Data processing: statistical analysis, graphical presentation of results.
6. Ethics of scientific research: principles of integrity, copyright and confidentiality.
7. Interpretation of research results: formulation of conclusions and recommendations.

8. Writing a scientific work: structure, design, use of literary sources.
9. Application and presentation of scientific research in economic practice: market analysis, trend forecasting, business performance assessment.

#### 4. Educational materials and resources

##### *Basic literature*

1. Antoshkina, Lidia Ivanovna. Methodology of economic research: a textbook / L.I. Antoshkina, D.M. Stechenko. - Kyiv: Znannia, 2015. - 311 p. [https://opac.kpi.ua/F/?func=direct&doc\\_number=000570147&local\\_base=KPI01](https://opac.kpi.ua/F/?func=direct&doc_number=000570147&local_base=KPI01)
2. Babailov, Vasyl Kuzmych. Methodology of scientific research: study guide / V.K. Babailov; Ministry of Education and Science of Ukraine, Kharkiv National Automobile and Road University. - Kharkiv: O.V. Brovin, 2019. - 148 p. [https://opac.kpi.ua/F/?func=direct&doc\\_number=000608222&local\\_base=KPI01](https://opac.kpi.ua/F/?func=direct&doc_number=000608222&local_base=KPI01)
3. Bodrov, Volodymyr Hryhorovych. Methodological and instrumental support of scientific research: study guide / V.G. Bodrov, L.L. Lazebnyk, S.V. Onyshko, V.A. Rozhko, O.A. Shevchuk; edited by O.A. Shevchuk; State Fiscal Service University of Ukraine. - Irpin: SFS University of Ukraine, 2020. - 323 p. [https://opac.kpi.ua/F/?func=direct&doc\\_number=000629207&local\\_base=KPI01](https://opac.kpi.ua/F/?func=direct&doc_number=000629207&local_base=KPI01)
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6. Hryhoruk, Pavlo Mykhailovych. Methodology and organization of scientific research: study guide / P.M. Hryhoruk, N.A. Khrushch; Khmelnytskyi National University. - Kyiv: Condor, 2017. - 205 p. [https://opac.kpi.ua/F/?func=direct&doc\\_number=000597856&local\\_base=KPI01](https://opac.kpi.ua/F/?func=direct&doc_number=000597856&local_base=KPI01)
7. Danilyan, Oleg Gennadiyovych. Organization and methodology of scientific research: study guide / O. G. Danilyan, O. P. Dzoban. - Kharkiv: Pravo, 2017. - 446 p. [https://opac.kpi.ua/F/?func=direct&doc\\_number=000598154&local\\_base=KPI01](https://opac.kpi.ua/F/?func=direct&doc_number=000598154&local_base=KPI01)
8. Ermakov, Oleksandr Yukhimovych. Fundamentals of scientific research in economics: a study guide for students of higher educational institutions / O.Yu. Ermakov; National University of Bioresources and Nature Management of Ukraine. - Kyiv: [Comprint], 2015. - 177 p. [https://opac.kpi.ua/F/?func=direct&doc\\_number=000580620&local\\_base=KPI01](https://opac.kpi.ua/F/?func=direct&doc_number=000580620&local_base=KPI01)
9. Zatserkovny, Vitaly Ivanovych. Methodology of scientific research: study guide / V.I. Zatserkovnyi, I.V. Tishaev, V.K. Demidov; Ministry of Education and Science of Ukraine, Kyiv National University named after Taras Shevchenko. - Nizhyn: Mykola Gogol National State University, 2017. - 236 p. [https://opac.kpi.ua/F/?func=direct&doc\\_number=000584100&local\\_base=KPI01](https://opac.kpi.ua/F/?func=direct&doc_number=000584100&local_base=KPI01)
10. Zlotenko, Boris. Methodology of modern scientific research with the basics of intellectual property: textbook / B. Zlotenko, T. Kulik; Ministry of Education and Science of Ukraine, Kyiv National University of Technologies and Design. - Kyiv: KNUTD, 2021. - 154 p. [https://opac.kpi.ua/F/?func=direct&doc\\_number=000635337&local\\_base=KPI01](https://opac.kpi.ua/F/?func=direct&doc_number=000635337&local_base=KPI01)
11. Information search in the World Wide Web: a study guide on the discipline "Fundamentals of scientific research" for students of technical universities / compiled by A.I. Zhuchenko, R.A. Osipa; Ministry of Education and Science of Ukraine, National Technical University of Ukraine "Kyiv Polytechnic Institute named after Ihor Sikorskyi", Department "Automation of Chemical Production". - Kyiv: NTUU "KPI", 2016. - 126 p. [https://opac.kpi.ua/F/?func=direct&doc\\_number=000597961&local\\_base=KPI01](https://opac.kpi.ua/F/?func=direct&doc_number=000597961&local_base=KPI01)
12. Koryagin, Maksym Viktorovych. Basics of scientific research: study guide / M.V. Koryagin, M.Yu. Chick. - Kyiv: Alerta, 2019. - 490 p. [https://opac.kpi.ua/F/?func=direct&doc\\_number=000607581&local\\_base=KPI01](https://opac.kpi.ua/F/?func=direct&doc_number=000607581&local_base=KPI01)
13. Kostin, Yuriy Dmytrovych. Theory and methodology of scientific research: a study guide for students (masters) of all forms of education / Yu.D. Kostin, T.V. Polozova, I.A. Sheiko, D.Yu. Kostin; Ministry of Education and Science of Ukraine, Kharkiv National University of Radio Electronics. -

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14. Kuzmin, Oleg Evgenovich. Economic-mathematical methods and models in research works: study guide / O.E. Kuzmin, I.I. Novakivskiy; under the general editorship of O.E. Kuzmina; Ministry of Education and Science of Ukraine, Lviv Polytechnic National University. - Lviv: Lviv Polytechnic Publishing House, 2021. - 282  
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15. Medvid, Victoria Yuriiivna. Methodology and organization of scientific research (in structural and logical schemes and tables): study guide / V.Yu. Medvid, Yu.I. Danko, I.I. Koblyansk. - Sumy: University book, 2020. - 218 p.[https://opac.kpi.ua/F/?func=direct&doc\\_number=000629382&local\\_base=KPI01](https://opac.kpi.ua/F/?func=direct&doc_number=000629382&local_base=KPI01)
16. Methodology of scientific research: educational and methodological manual for students of the Faculty of Economics / Ministry of Education and Science of Ukraine, Kamianets-Podilskyi National University named after Ivan Ohienko; [compiler: N.Yu. Oil varnish]. - Kamianets-Podilskyi: Ya.I. Sysyn, 2015 - 110 p.[https://opac.kpi.ua/F/?func=direct&doc\\_number=000445415&local\\_base=KPI01](https://opac.kpi.ua/F/?func=direct&doc_number=000445415&local_base=KPI01)
17. Basics of scientific research: a study guide for students of higher education institutions / compiled by: M.V. Kudla, V.O. Coblyk; Ministry of Education and Science of Ukraine, Uman Pedagogical University named after Pavlo Tychyna. - Uman: Publisher M.M. Sochinsky, 2021. - 185 p.[https://opac.kpi.ua/F/?func=direct&doc\\_number=000635088&local\\_base=KPI01](https://opac.kpi.ua/F/?func=direct&doc_number=000635088&local_base=KPI01)
18. Palekha, Yurii Ivanovych. Fundamentals of research work: a study guide for higher educational institutions / Yu.I. Palekha, N.O. Lemish; Ministry of Education and Science, Youth and Sports of Ukraine. - Kyiv: Lira-K, 2017. - 332  
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19. Sydorenko, Natalia Mykolayivna. Fundamentals of scientific research: a study guide for students of higher educational institutions / N.M. Sydorenko, A.M. Volobueva; Ministry of Education and Science of Ukraine, Kyiv National Taras Shevchenko University. - Kyiv: Kyiv University, 2015. - 211 p.[https://opac.kpi.ua/F/?func=direct&doc\\_number=000548430&local\\_base=KPI01](https://opac.kpi.ua/F/?func=direct&doc_number=000548430&local_base=KPI01)
20. Sobol, Khrystyna Stepanivna. Methodology and principles of scientific research: study guide / H.S. Sobol, N.I. Petrovska, O.M. Guniak; Ministry of Education and Sciences of Ukraine, Lviv Polytechnic National University. - Lviv: Publishing House of Lviv Polytechnic, 2018. - 87 p.[https://opac.kpi.ua/F/?func=direct&doc\\_number=000601871&local\\_base=KPI01](https://opac.kpi.ua/F/?func=direct&doc_number=000601871&local_base=KPI01)
21. Tymoshenkov, Igor Vladyslavovich. Basics of scientific research: methodology and practice: a study guide for students of economic specialties / I.V. Tymoshenkov, V.I. Sidorov, O.M. Nashchekina; edited by I.V. Tymoshenko; Ministry of Education and Science of Ukraine, Kharkiv National University named after V.N. Karazin. - Kharkiv: KhNU named after V.N. Karazina, 2019. - 251 p.[https://opac.kpi.ua/F/?func=direct&doc\\_number=000634998&local\\_base=KPI01](https://opac.kpi.ua/F/?func=direct&doc_number=000634998&local_base=KPI01)
22. Chernyshova, Evgeniya Rodionivna. Basics of science: (road map of the scientific supervisor): educational and methodological manual / E.R. Chernyshova; National Academy of Pedagogical Sciences of Ukraine, University of Education Management. - Lutsk: Vezha-Druk, 2015. - 255 p.[https://opac.kpi.ua/F/?func=direct&doc\\_number=000418980&local\\_base=KPI01](https://opac.kpi.ua/F/?func=direct&doc_number=000418980&local_base=KPI01)
23. Shishkina, Evgenia Kostyantynivna. Methodology of scientific research: teaching. manual / E. K. Shishkina, O. O. Nosyrev; National technical University "Kharkiv Polytechnic Institute". - Kharkiv: Disa plus, 2014. - 200 p.[https://opac.kpi.ua/F/?func=direct&doc\\_number=000438467&local\\_base=KPI01](https://opac.kpi.ua/F/?func=direct&doc_number=000438467&local_base=KPI01)
24. Yasishena, Valentina Valeriivna. Methodology of scientific research and teaching of accounting disciplines: study guide / V.V. Yasishena, V.I. Volynets; Ministry of Education and Science of Ukraine, Ternopil National University of Economics, Vinnytsia Educational and Scientific Institute of Economics. - Vinnytsia: Krok, 2017. - 231 p.[https://opac.kpi.ua/F/?func=direct&doc\\_number=000588183&local\\_base=KPI01](https://opac.kpi.ua/F/?func=direct&doc_number=000588183&local_base=KPI01)

**ELAKPI**– Electronic archive of scientific and educational materials of KPI

<https://ela.kpi.ua/>

1. Bhattacherdzhi, A. Methodology and organization of scientific research: research in socio-economic sciences [Electronic resource]: study guide 2nd edition, revised and supplemented / Bhattacherdzhi A., Sytnyk N.; KPI named after Igor Sikorsky. – Electronic text data (1 file: 2.64 MB). – Kyiv: KPI named after Igor Sikorskyi, 2022. – 181 p.<https://ela.kpi.ua/handle/123456789/49231>
2. Basics of scientific research in economics. Independent work of students [Electronic resource]: study guide for master's degree holders in the educational program "Economic Analytics" specialty 051

Economics / KPI named after Igor Sikorskyi; compilers: O. O. Trofymenko, I. D. Fartushny - Electronic text data (1 file: 973 Kbytes). - Kyiv: KPI named after Igor Sikorskyi, 2023. - 43 p.<https://ela.kpi.ua/handle/123456789/52472>

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### Additional literature

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4. Yu. V. Krasovska. The use of statistical methods in scientific research of economics students [Electronic resource] / Yu. V. Krasovska // Bulletin of the National University of Water Management and Nature Conservation. Economic sciences. - 2020. - Issue 3. - P. 100-110. - Access mode:[http://nbuv.gov.ua/UJRN/Vnuvpg\\_ekon\\_2020\\_3\\_12](http://nbuv.gov.ua/UJRN/Vnuvpg_ekon_2020_3_12)
5. O. O. Melikh Peculiarities of scientific research in economics [Electronic resource] / O. O. Melikh, V. V. Nemchenko // Bulletin of the Khmelnytskyi National University. Economic sciences. - 2021. - No. 2. - P. 222-226. - Access mode:[http://nbuv.gov.ua/UJRN/Vchnu\\_ekon\\_2021\\_2\\_40](http://nbuv.gov.ua/UJRN/Vchnu_ekon_2021_2_40)
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### External educational resources

#### Repositories of higher education institutions of Ukraine

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3. Synopsis of lectures on the discipline "Methodology and organization of scientific research" for the preparation of a doctor of philosophy in the specialty 051 "Economics" under the educational and scientific program "Economics" / comp. L.O. Ptashchenko – Poltava: National University named after Y. Kondratyuk, 2021. - 120 p.<http://reposit.nupp.edu.ua/handle/PolNTU/11342>
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### 5. Methods of mastering an educational discipline (educational component)

The educational discipline includes 18 hours of lectures and 18 hours of practical classes, as well as the completion of a modular control work and an essay. Study results, control measures and deadlines are announced to students at the first lesson.

Teaching and mastering the educational component involves: lectures, practical classes, consultations, writing a modular test, working with educational and methodological literature and information resources, an essay. Teaching and mastering the educational component is based on a number of teaching methods: general teaching methods: problem presentation, information-receptive, problem-searching, heuristic; special teaching methods: case method, work in small groups, methods of solving creative tasks, analytical tasks, presentations, discussion.

Mastering the educational component involves appropriate teaching and assessment methods that will ensure the achievement of program learning outcomes.

#### Correspondence of program results, teaching methods and assessment forms

Program learning outcomes	Teaching methods	Assessment forms
PRN 1, PRN 5, PRN 7	Lectures, practical classes, seminar classes with the involvement of specialists, writing modular control work, reports with presentations, independent work of applicants, writing an essay, teacher consultations, use of simulation modeling in solving scientific and economic problems. Experiment planning and processing of its results. <i>general teaching methods:</i> problem presentation, information-receptive, problem-searching, heuristic; <i>special teaching methods:</i> case method, work in small groups, methods of solving creative tasks, analytical tasks, presentations, discussion.	The rating system of evaluation, which provides for the accumulation of points for: answers in practical classes, performance of educational tasks, reports, modular control work, essay. Final control - credit

#### Topics and structure of the academic discipline

Weekly training	Title of sections, topics	Distribution of hours		Description of classes	Educational activity and evaluation	General competencies, special competencies, program learning outcomes
		L	P			
1	2	3	4	5	6	7
1-2	Topic 1. Introduction to scientific research in economics: concepts, goals and principles.	2	2	L: The lecture is devoted to the introductory concepts of scientific research in economics, as well as the goals and principles that help to achieve success in this field. Students will be introduced to basic concepts such as the scientific method, hypothesis, empirical research, and the goals that can be achieved through scientific research in economics.	AZ, D	ZK 2, ZK 8, PRN1, PRN5, PRN 7
				P: Introduction to scientific research in economics: literature review and problem statement.		
3-4	Topic 2. Research methods in economics: quantitative and qualitative methods.	2	2	L: The lecture is devoted to methodology and research methods in economics, in particular quantitative and qualitative methods. Students will learn about basic research methods, their advantages and disadvantages, and which methods are best used in different situations.	AZ, D, O	ZK 2, ZK 8, ZK 4, SC 4, SC 5, PRN1, PRN5, PRN 7
				P: Hypothesis definition and research planning.		
5-6	Topic 3. Research planning: formulation of the problem, substantiation of the hypothesis, definition of the sample and methods of data collection.	2	2	L: The lecture is devoted to research planning in economics. Students will learn how to properly formulate a problem, how to justify a hypothesis, how to define a sample, and methods of data collection.	AZ, O	ZK 8, ZK 4, SK 4, PRN1, PRN5, PRN 7
				P: Selection of the sample and methods of data collection.		
7-8	Topic 4. Data collection: surveys, interviews,	2	2	L: The lecture is devoted to data collection in economic research. Students will familiarize themselves with	AZ, O	ZK 2, ZK 4, SK 4,



	observations, analysis of documents and other sources.			the basic methods of data collection, such as surveys, interviews, observations, analysis of documents and other sources. P: Conducting surveys and interviews.		PRN1, PRN5, PRN 7
9-10	<b>Topic 5.</b> Data processing: statistical analysis, graphical presentation of results. Information base of scientific research	2	2	L:The lecture is devoted to data processing in economic research. Students will be introduced to basic data processing techniques, such as statistical analysis and graphical presentation of results. Information base of scientific research. P: Observation and analysis of documents.	AZ, D, O	ZK 2, ZK 8, ZK 4, SC 4, SC 5, PRN1, PRN5, PRN 7
11-12	<b>Topic 6.</b> Research ethics: principles of integrity, copyright and confidentiality. Technology of scientific work	2	2	L: The lecture is devoted to the ethics of scientific research in economics. Students will become familiar with the basic principles of integrity, copyright and confidentiality in scientific research. Technology of scientific work P: Writing a scientific paper: structure, design, use of literary sources. Technology of scientific work	AZ, D, O	ZK 2, ZK 8, ZK 4, SC 4, SC 5, PRN1, PRN5, PRN 7
13-14	<b>Topic 7.</b> Interpretation of research results: formulation of conclusions and recommendations.	2	2	L:. The lecture is devoted to the interpretation of research results in economics. Students will learn how to correctly formulate conclusions and recommendations based on the obtained results. P:. Statistical analysis of data and graphical presentation of results.	AZ, D, O	ZK 2, ZK 8, SC 4, SC 5, PRN1, PRN5, PRN 7
15-16	<b>Topic 8.</b> Writing a scientific paper: structure, design, use of literary sources.	2	2	L:The lecture is devoted to writing scientific works in economics. Students will familiarize themselves with the basic rules of writing scientific papers, their structure and design, as well as the use of literary sources.	AZ, D, O	ZK 2, ZK 8, ZK 4, SC 4, SC 5, PRN1, PRN5, PRN 7

				P:Formulation of conclusions and recommendations.		
17	Modular control work (MCR)		1	It involves theoretical and analytical tasks	Assessment of PRN according to T. 1-8.	
18	Topic 9. Application of scientific research in economic practice: market analysis, trend forecasting, assessment of business efficiency.	2	1	L:The lecture is devoted to the application of scientific research in economic practice. Students will learn how scientific research can be used to analyze markets, forecast trends, and evaluate business performance. P:Research ethics: principles of integrity, copyright and confidentiality.	AZ, D, O	ZK 2, ZK 8, ZK 4, SC 4, SC 5, PRN1, PRN5, PRN 7
In total		18	18			

**Note:** L - lectures, P - practical classes, AZ - analytical tasks; D - analytical report; O – survey; ZK - general competences; SK – special competences; PRN - program learning outcomes

### 6. Independent work of student

The student's independent work includes such components as preparation for current surveys, preparation for practical classes, preparation for modular control work.

Topic	Task	Amount of hours
Topic 1	Preparation for the survey in the classroom: Introduction to Scientific Research in Economics: Literature Review and Problem Statement.	3
Topic 2	Preparing for the survey: defining the hypothesis and planning the research.	4
Topic 3	Preparation for the survey and analytical task: selection of the sample and methods of data collection.	4
Topic 4	Preparation for the survey and analytical task: survey and interview.	4
Topic 5	Preparation for the survey and analytical task: observation and analysis of documents.	4
Topic 6	Preparation for the survey in the classroom: statistical analysis of data and graphical presentation of results.	4
Topic 7	Preparation for the survey in the classroom: formulation of conclusions and recommendations.	4
Topic 8	Preparation for the survey in the classroom: writing a scientific paper: structure, design, use of literary sources.	4
Topic 9	Preparation for the survey in the classroom: ethics of scientific research: principles of integrity, copyright and confidentiality. Application of econometric methods in scientific research.	3
Abstract	Abstract	10
MKR	Preparation for modular control work	4
Test	Preparation for the test	6
Together		54

### Policy and control

#### 7. Policy of academic discipline (educational component)

**Attending classes.** Attendance at lectures, practical classes, as well as absence from them, is not evaluated. However, students are encouraged to attend classes, as they teach theoretical material and develop the skills needed to complete the semester's individual assignment. The evaluation system is focused on receiving

points for the student's activity, as well as the performance of tasks that can develop practical skills and abilities.

**Missed evaluation control measures.** Every student has the right to make up lessons missed for a valid reason (hospital, mobility, etc.) at the expense of independent work. More details at the link: <https://kpi.ua/files/n3277.pdf>.

In the case of missing the class for a good reason, in which the control test was held, the student is given the opportunity to additionally complete the control task during the next week. In case of violation of the deadlines and failure to complete the task due to illegitimate reasons, the winner will not be allowed to complete the assessment in the main session.

**The procedure for contesting the results of assessment control measures.** A student may raise any issue relating to the assessment procedure and expect it to be dealt with in accordance with pre-defined procedures. Students have the right to challenge the results of control measures with arguments, explaining which criteria they disagree with according to the evaluation.

**Calendar control** is conducted with the aim of improving the quality of students' education and monitoring the student's fulfillment of the syllabus requirements.

**Academic integrity.** The policy and principles of academic integrity are defined in Chapter 3 of the Code of Honor of the National Technical University of Ukraine "Ihor Sikorsky Kyiv Polytechnic Institute". More details: <https://kpi.ua/code>.

**Norms of ethical behavior.** Standards of ethical behavior of students and employees are defined in Chapter 2 of the Code of Honor of the National Technical University of Ukraine "Ihor Sikorsky Kyiv Polytechnic Institute". More details: <https://kpi.ua/code>.

**Inclusive education.** The acquisition of knowledge and skills in the course of studying the discipline can be accessible to most individuals with special educational needs, except for learners with severe visual impairments that do not allow them to perform tasks with the help of personal computers, laptops and/or other technical means.

**Studying in a foreign language.** In the course of the tasks, students may be recommended to refer to English-language sources.

**Extracurricular activities.** Participating in conferences, forums, round tables, etc. is expected within the scope of studying the academic discipline.

**Assignment of incentive and penalty points.** According to the Regulation on the system of evaluation of learning results, the sum of all incentives cannot exceed 10% of the rating scale.

Incentive points can be awarded to students for the following types of scientific and research work (no more than 5 points in total):

- carrying out research work, the results of which are presented in the form of scientific theses (weighted score – 3), scientific articles (weighted score – 5);
- obtaining a diploma by the student on the subject of the course (informal education) (weighted score – 10);
- participation in Olympiads of the I and II levels corresponding to the subject of the discipline (weighted score – 5);
- participation in contests of scientific works corresponding to the subject of the discipline (weighted score – 10).

**Penalty points for discipline** is not expected.

Preparation for practical classes and control measures is carried out during independent work of students with the possibility of consulting with the teacher at the specified consultation time or by means of electronic correspondence (e-mail, messengers).

## 8. Types of control and rating system for evaluating learning outcomes (RSO)

Semester certification is conducted in the form of credit. A 100-point rating system and a university scale are used to evaluate learning outcomes.

**Current control:** participation in the work of practical classes, reports, MKR, abstract.

**Semester control:** balance

The modular test contains complex questions of the theoretical and calculation type. The maximum score is 20 points.

Abstract - 10 points.

Work in practical classes - involves participation in the discussion of issues raised in lectures, reports, and performing tasks in groups. The maximum score for an answer is 2 points, there are 8 practical ones). It is possible to answer 35 times for 2 points/answer) = 70 points per semester.

If the student goes for a credit (he has insufficient points for the semester or wants to improve his rating), then the credit work will consist of an answer to two theoretical questions (weighted point 10) and the performance of an analytical task (weighted point 10). The maximum score is 30 points.

The maximum grade for the course is 100 points.

**Table of correspondence of rating points to grades on the university scale:**

Scores	Rating
100-95	Perfectly
94-85	Very good
84-75	Fine
74-65	Satisfactorily
64-60	Enough
Less than 60	Unsatisfactorily

**9. Additional information on the discipline (educational component)**

Active and collective learning strategies are used, which are determined by the following methods and technologies:

1) personal-oriented (developmental) technologies based on active forms and methods of learning ("brainstorming", "situation analysis", business and simulation games, discussion, express conference, educational debates, round table, case technology, project technology, etc.);

2) information and communication technologies that ensure the problem-research nature of the learning process and the activation of students' independent work (electronic presentations for lectures, the use of audio and video support for training sessions, in particular, analysis of the YouTube network service regarding the availability and quality of educational video materials of specialists from financial analysis). Communication with the teacher is carried out during lectures and practical classes, through the electronic campus, e-mail, Google Drive cloud technology service in the Google Workspace for Education Fundamentals environment, as well as through Telegram.

Appendix A.

An example of modular control work

**Topic: "Solution of situational problems and synthesis of technical solutions in scientific research"**

Purpose: "To determine the topic, purpose and tasks of scientific research, to formulate working hypotheses"

Task 1. Do you agree that the hypothesis is a kind of compass that determines the direction of the scientist's activity? Justify your point of view in writing.

Task 2. Choose the correct answer from the following statements and write it in the answer table.

1. The problem	A) part of a scientific problem that covers one or more research questions.
2. Paradox	B) a complex scientific task that covers a significant field of research and has prospective significance.
3. Scientific direction	C) a technique by which the truth of a certain statement is established.
4. Questions	D) the field of research of the scientific team, dedicated to the solution of complex theoretical and experimental problems in a certain field of science.
5. Scientific hypothesis	d) reasoning in which the truth of any statement and its rejection are proved to the same extent.
6. Proof	D) small scientific tasks related to a specific field of scientific research.
7. Topic	F) a scientifically based assumption, in which the conclusion about the existence of objects is made on the basis of a number of factors, the reasons for their occurrence, and patterns of development.

**Table answers:**

1	2	3	4	5	6	7
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**Task 3.** Do you agree that the level of development of science is largely determined by the nature, reliability and purpose of the information obtained in the process of learning? Justify your answer in writing.

**Task 4.** Recall from your own experience the main stages of writing a term paper in a technological discipline. Clarity of the peculiarities of the collection of technological information. Give the answer in writing.

**Task 5.** Create a logical scheme for collecting and analyzing scientific information.

Appendix B.

#### Topics of essays

1. "Scientific method: history and application in modern research"
2. "Qualitative and quantitative research: comparative analysis of methodologies"
3. "Ethics of scientific research: principles and practices"
4. "Research design and methodology: comparative analysis of approaches"
5. "Sampling techniques in research: comparative analysis of methods"
6. "Methods of data collection in research: comparative analysis of techniques"
7. "Techniques of data analysis in research: comparative analysis of methods"
8. "Reliability and reliability in research: principles and practices"
9. "Testing hypotheses in research: principles and practices"
10. "Literature review in research: principles and practices"
11. "Writing and Presentation of Research: Principles and Practices"
12. "Funding and grants for research: principles and practices"
13. "Collaboration and teamwork in research: principles and practices"
14. "Dissemination and Impact of Research: Principles and Practices"
15. "Ethics of research with animals: principles and practices"
16. "Ethics of research with people: principles and practices"
17. "Ethics of social sciences: principles and practices"
18. "Ethics of research in the field of business and management: principles and practices"

#### **Working program of the academic discipline (syllabus):**

**Compiled by:** Associate Professor of the Department of International Economics, Candidate of Economic Sciences, Associate Professor, Natalya Oleksandrivna Chernenko

Adopted by the Department of International Economics (protocol No. 12 dated 14.06.2023)

Agreed by the Methodical Commission of the faculty (protocol No. 11 dated 06.30.2023)