



# Training of Master Thesis

## Work program of the academic discipline (Silabus)

### Details of the discipline

Level of higher education	<i>Second (master's) degree</i>
Field of expertise	<i>05 Social and behavioral sciences</i>
Specialty.	<i>051 Economics</i>
Educational program	<i>International economy</i>
Status of the discipline	<i>Second (master's) degree</i>
Form of study	<i>Full-time (daytime)</i>
Year of study, semester	<i>2nd year, fall semester</i>
Scope of the discipline	<i>12 credits</i>
Semester control / control measures	<i>Master's thesis defense</i>
Class schedule	<i>According to the schedule of the educational process and consultations with supervisors</i>
Language of instruction	<i>English</i>
Information about	<i>Supervisors of master's theses are elected by applicants, agreed by the department and approved by order in the prescribed manner</i>
course leader / teachers	<i>Google Classroom</i> <a href="https://classroom.google.com/c/NzI2MzkwMjM5NzY2?cjc=ialbk6i">https://classroom.google.com/c/NzI2MzkwMjM5NzY2?cjc=ialbk6i</a> <i>Department website:</i> <a href="https://ied.kpi.ua/uk/%d0%bc%d0%b0%d0%b3%d1%96%d1%81%d1%82%d1%80%d0%b0%d0%bc">https://ied.kpi.ua/uk/%d0%bc%d0%b0%d0%b3%d1%96%d1%81%d1%82%d1%80%d0%b0%d0%bc</a>



## Program of the discipline

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

A master's thesis is the final qualifying work of the second (master's) level of higher education. This level corresponds to the seventh level of the National Qualifications Framework and provides for the acquisition by higher education students of the ability to solve research and/or innovation problems in a particular field of professional activity.

According to the Standard of Higher Education of Ukraine in the specialty 051 Economics, field of knowledge 05 Social and Behavioral Sciences, higher education degree - Master, second (master's) level of higher education, the qualification work should provide for the solution of a complex specialized task, practical complex task or problem in the economic sphere that requires research and/or innovation and is characterized by uncertainty of conditions and requirements.

According to the Recommendations for the structure and content of qualification works of master's degree applicants of Igor Sikorsky Kyiv Polytechnic Institute, a master's thesis is a type of qualification work of a master's degree applicant intended for objective control of the degree of formation of research and innovation competencies for conducting research and/or conducting innovative activities in a particular field of knowledge. The master's thesis under the educational and professional training program should be aimed at innovative solutions to specific professional tasks in a particular field of activity.

In accordance with the requirements of the Standard of Higher Education of Ukraine in the specialty 051 Economics of the field of knowledge 05 Social and Behavioral Sciences, taking into account the recommendations of Igor Sikorsky Kyiv Polytechnic Institute and the peculiarities of the OPP "International Economics", the purpose of the educational component "Master's Thesis" is as follows.

**The purpose of the educational component** is to solve a complex specialized task, a practical problem or a problem in the economic sphere regarding the functioning and development of industries or regions in general.

**The subject of the educational component** is the theoretical and methodological foundations and practical approaches to solving a complex specialized task, a practical complex task of functioning and development of the economy, its sectors and business entities.

The master's thesis is aimed at developing the following **competencies** in higher education students:

- GC 1 - the ability to generate new ideas (creativity);
- GC 02 - ability to think abstractly, analyze and synthesize;
- GC 06 - ability to develop and manage projects;
- GC 07 - Ability to act on the basis of ethical considerations (motives)
- GC 08 - ability to conduct research at the appropriate level.
- PC 01 - ability to apply scientific, analytical, methodological tools to substantiate the development strategy of economic entities and related management decisions;
- PC 03 - the ability to collect, analyze and process statistical data, scientific and analytical materials necessary for solving complex economic problems, to work on their basis conclusions;
- PC 04 - the ability to use modern information technologies, methods and techniques for researching economic and social processes that are adequate to the established research needs;
- PC 05 - ability to identify key trends in socio-economic and human development;
- PC 06 - the ability to formulate professional tasks in the field of economics and solve them, choosing the appropriate directions and appropriate methods for their solution, taking into account the available resources;
- PC 07 - ability to justify management decisions on the effective development of business entities;

- PC 08 - ability to assess possible risks, socio-economic consequences of management decisions;
- PC 09 - ability to apply a scientific approach to the formation and implementation of effective projects in the socio-economic sphere;
- PC 10 - ability to develop scenarios and strategies for the development of socio-economic systems;
- PC 11 - the ability to plan and develop projects in the field of economics, to carry out its information, methodological, material, financial and personnel support;
- PC 12 - ability to apply big data analysis technologies, implement distributed processing methods and algorithms in the analysis of complex economic objects and systems;
- PC 13 - the ability to diagnose and systematically assess the retrospective, current and prospective state of economic systems at the macro-, micro-level, to strategize their development, to make optimal decisions, operating with arrays of heterogeneous information;
- PC 14 - the ability to apply business intelligence information systems in analytical research, develop software products and information and analytical technologies for decision-making support.

***Program learning outcomes:***

- TR 01 - to formulate, analyze and synthesize solutions to scientific and practical problems;
- TR 02 - to develop, justify and make effective decisions on the development of socio-economic systems and management of economic entities;
- TR 03 - to communicate fluently on professional and scientific issues in the state and foreign languages orally and in writing;
- TR 04 - to develop socio-economic projects and a system of integrated actions for their implementation, taking into account their goals, expected socio-economic consequences, risks, legislative, resource and other restrictions;
- TR 05 - adhere to the principles of academic integrity;
- TR 07 - choose effective methods of economic activity management, justify proposed solutions based on relevant data and scientific and applied research;
- TR 09 - to make effective decisions under uncertain conditions and requirements that require the use of new approaches, methods and tools of socio-economic research;
- TR 10 - apply modern information technologies and specialized software in socio-economic research and in the management of socio-economic systems;
- TR 11 - to identify and critically evaluate the state and trends of socio-economic development, to form and analyze models of economic systems and processes;
- TR 12 - justify management decisions on the effective development of business entities, taking into account goals, resources, constraints and risks;
- TR 13 - assess possible risks, socio-economic consequences of management decisions;
- TR 14 - develop scenarios and strategies for the development of socio-economic systems;
- TR 16 - use methods of big data analytics, machine and deep learning in the processing and analysis of economic information;
- TR 17 - to determine the economic status, development models and variations in the economic behavior of socio-economic systems of different levels based on economic diagnostics, predictive and prognostic analytics and strategizing;
- TR 18 - to develop information and analytical systems of business analysis by integrating specialized analytical programs, applications, business intelligence platforms, and apply them in analytical support of decision-making;
- TR 19 - to make optimal economic decisions under conditions of risk and uncertainty, modeling trends and prospects for the development of socio-economic processes, phenomena and systems.

**Soft skills:** skills of creativity, analytical vision, openness to new knowledge, ability to work with information.

## **2. Prerequisites and post-requisites of the discipline**

The master's thesis is the final stage of training in the educational program.

**Prerequisites:** to have theoretical knowledge and skills of their practical application in accordance with the curriculum of the second (master's) level of higher education.

**Post-requisites:** identification and solution of complex economic problems and problems of functioning and development of socio-economic systems of different levels by analytical methods, making appropriate analytical and managerial decisions in the field of economics.

### **3. Content of the educational component**

The master's thesis is a qualifying work, its content should reveal the author's competencies specified in the educational program.

The master's thesis must demonstrate the student's abilities, as defined in the National Qualifications Framework, namely

- demonstrate knowledge and ability to analyze, evaluate and compare alternatives, generate original ideas in the relevant field of knowledge;
- solve problems in a new, broad (interdisciplinary) context in the relevant field of knowledge;
- solve complex problems in conditions of incomplete information, taking into account social and ethical responsibility for decisions;
- conduct modern research and give a scientifically sound interpretation of the results obtained; reasonably communicate scientific information and conclusions to an audience of specialists;
- ability to carry out independent scientific and practical activities.

Master's theses are carried out in accordance with the key areas of research identified for the training of professionals in the International Economics Program, specialty 051 Economics, and involve the analysis and research of current problems of the economy and its subjects, the formation of proposals for improving efficiency, development projects and strategizing for decision-making and analytical support for decision-making.

When formulating master's thesis topics, it is important to consider

- current economic issues that require research and analysis;
- peculiarities of the analytical approach to solving economic problems and analyzing the functioning of business entities, economic processes in the economy, its sectors, in particular in industry, etc;
- the possibility of applying analytical tools to solve practical problems in the field of economics and its subjects.

According to the Classifier of Occupations, the master's degree corresponds to the official level of a professional, which implies a high level of knowledge in the relevant field of activity, so the master's thesis must demonstrate the applicant's ability to master and apply the tools of economic science, analytics and digital technologies defined in the educational program.

### **4. Training materials and resources**

#### ***Basic literature***

1. Master's thesis: recommendations for implementation and defense: a textbook for master's degree students in the educational program "Economic Analysis", specialty 051 "Economics" / Igor Sikorsky Kyiv Polytechnic Institute ; compiled by O.O. Trofymenko, K.O. Boyarynova, O.A. Shevchuk, N.V. Roshchyna. Kyiv : Igor Sikorsky Kyiv Polytechnic Institute, 2024. 117 c. URL: <https://ela.kpi.ua/handle/123456789/67944>

2. Master's thesis: recommendations for the implementation and content for specialties 051 "Economics", 073 "Management", 075 "Marketing": a textbook / Igor Sikorsky Kyiv Polytechnic Institute; compiled by A. R. Dunska, V. M. Marchenko, O. V. Zozulov, A. D. Kukharuk, I. D. Fartushny, Igor Sikorsky Kyiv Polytechnic Institute. Kyiv: Igor Sikorsky Kyiv Polytechnic Institute, 2023. 38 c. . URL: <https://ela.kpi.ua/handle/123456789/54420>
3. Recommendations for the structure and content of qualification works of bachelor's and master's degree applicants. Educational process in Igor Sikorsky Kyiv Polytechnic Institute: website. URL: <https://osvita.kpi.ua/node/973>.
4. Standard of Higher Education of Ukraine in the specialty 051 Economics of the field of knowledge 05 Social and Behavioral Sciences, higher education degree - Master, second (master's) level of higher education (Order of the Ministry of Education and Science of Ukraine No. 382 of 04.03.2020). URL: <https://mon.gov.ua/storage/app/media/vishcha-osvita/zatverdzeni%20standarty/2020/03/051-ekonomika-M.pdf>.
5. Educational and professional program "Economic Analytics" of the second (master's) level of higher education, specialty 051 Economics, field of knowledge 05 Social and Behavioral Sciences. Educational process in Igor Sikorsky Kyiv Polytechnic Institute: website. URL: [https://osvita.kpi.ua/051\\_OPPM\\_EA](https://osvita.kpi.ua/051_OPPM_EA).
6. Regulations on the Examination Board and Certification of Higher Education Applicants at Igor Sikorsky Kyiv Polytechnic Institute. URL: <https://osvita.kpi.ua/node/35>.

#### **Additional literature**

1. Scientific research in economics. Course of lectures [Electronic resource] : a textbook for master's degree students in the educational program "Economic Analysis", specialty 051 "Economics" / Igor Sikorsky Kyiv Polytechnic Institute ; compiled by Trofymenko O. O., Shevchuk O. A., Fartushnyi I. D. Kyiv : Igor Sikorsky Kyiv Polytechnic Institute, 2024. 194 c. URL: <https://ela.kpi.ua/handle/123456789/68512>
2. Fundamentals of scientific research in economics. Independent work of students [Electronic resource] : a textbook for master's degree students in the educational program "Economic Analytics", specialty 051 Economics / Igor Sikorsky Kyiv Polytechnic Institute ; compiled by: Trofymenko O. O., Fartushnyi I. D. Kyiv : Igor Sikorsky Kyiv Polytechnic Institute, 2023. 43 c. URL: <https://ela.kpi.ua/handle/123456789/52472>
3. Regulations on the system of prevention of academic plagiarism in Igor Sikorsky Kyiv Polytechnic Institute: Order of the Igor Sikorsky Kyiv Polytechnic Institute No. 1/76 of 25.02.2020. URL: <https://osvita.kpi.ua/node/47>.
4. Policy of using artificial intelligence for academic activities in Igor Sikorsky Kyiv Polytechnic Institute: Order of 29.12.2023 № HOH/393/2023. Educational process in Igor Sikorsky Kyiv Polytechnic Institute: website. URL: <https://osvita.kpi.ua/node/1225>.
5. Regulations for the organization and conduct of qualification works defense and certification examinations in remote mode: Order of the Igor Sikorsky Kyiv Polytechnic Institute of 30.11.2020 №NU/22/2020. Educational process in Igor Sikorsky Kyiv Polytechnic Institute: website. URL: <https://osvita.kpi.ua/sites/default/files/downloads/Reglament%20atestaciaa.pdf>.
6. DSTU 3008: 2015. Reports in the field of science and technology. Structure and rules of preparation / National standard of Ukraine. Published by the National Standard of Ukraine. URL: <https://metrology.com.ua/ntd/skachat-dstu-gost-gost-r/gost/dstu-3008-2015>.
7. DSTU 8302:2015 Bibliographic reference. General provisions and rules of compilation / National standard of Ukraine. Published by the official. Kyiv: UkrNDNC, 2016. 17 c. URL: <http://lib.pu.if.ua/files/dstu-8302-2015.pdf>.

#### **Information resources**

1. Ministry of Economy of Ukraine: official website. URL: <http://www.me.gov.ua>.

2. State Statistics Service of Ukraine: official website. URL: [www.ukrstat.gov.ua](http://www.ukrstat.gov.ua)
3. Agency for the Development of Stock Market Infrastructure of Ukraine (ARIFRU): website URL: <https://www.smida.gov.ua/about>
4. National Institute for Strategic Studies. Official website: URL: <http://www.niss.gov.ua>
5. Normative acts of Ukraine. Official website: URL: [www.nau.kiev.ua](http://www.nau.kiev.ua)
6. Verkhovna Rada of Ukraine. Official website: URL: <http://www.rada.gov.ua>
7. National Bank of Ukraine. Official website: URL: <https://bank.gov.ua>
8. World Bank. Official website: URL: <https://datatopics.worldbank.org/world-development-indicators/themes/economy.html>
9. Ministry of Finance of Ukraine. Official website: URL: <https://www.mof.gov.ua/uk>
10. Ukrainian online analytical system for business analytics, competitive intelligence and counterparty verification - YouControl. Official website: URL: <https://youcontrol.com.ua>

## Educational content

### 5. Methods of mastering the educational component

#### **Teaching methods, forms and methods of assessment**

**Methods of organizing training:** consultations, independent work, work with educational and methodological literature, information resources, including economic data from the research base.

**General teaching methods:** research, problem-solving, heuristic, practical.

**Special training methods:** the method of individual educational and research tasks on the topic of a master's thesis under the guidance of a supervisor.

**Elements and methods:** creative synthesis, individual study, presentation, discussion.

**Distance learning method** – for interactive interaction of master's thesis supervisors in synchronous mode (Zoom, Google Meet), asynchronous mode.

#### **Correspondence of program outcomes, methods, elements and techniques of teaching, forms of assessment**

TR	Teaching methods	Forms and methods of evaluation
1	2	3
TR 01 TR 02 TR 03	<i>Methods of organizing training: consultations, independent work, work with educational and methodological literature, information resources, including economic data from the research base.</i>	<p>A rating system that provides points for the quality of the master's thesis and its defense.</p> <p><i>The form of certification is a public defense of the master's thesis.</i></p>
TR 04 TR 05	<i>General teaching methods: research, problem-solving, heuristic, practical.</i>	
TR 07 TR 09	<i>Special training methods: the method of individual educational and research tasks on the topic of a master's thesis under the guidance of a supervisor.</i>	
TR 11 TR 12	<i>Elements and methods: creative synthesis, individual study, presentation, discussion.</i>	
TR 13 TR 14 TR 16	<i>Distance learning method – for interactive interaction of master's thesis supervisors in synchronous mode (Zoom, Google Meet), asynchronous mode.</i>	
TR 17		
TR 18		
TR 19		

- In general, the process of completing a master's thesis consists of the following stages:
- - Preparatory stage: choosing a research area, selecting a supervisor, detailing the topic of the master's thesis, selecting and analyzing literature, drawing up a schedule for the work;
- - The main stage: completion and formalization of the work in the form of a manuscript. At this stage, the master's student performs research, interacts with the supervisor, consultants;
- - Final stage: receiving feedback from the supervisor, review of the master's thesis, receiving a report on the textual originality of the work (checking for coincidences/similarities (plagiarism),
- - Preliminary defense at the department. Admission to the defense of the qualification work in the examination committee is carried out by the head of the graduating department based on the results of the preliminary defense.
- The master's thesis involves:
- - Research of an actual problem: identification of a problem and formulation of a specific practical complex task in the economic sphere that requires research and solution; analytical substantiation of the relevance of the selected problem and proof of the applied value and feasibility of an economic solution to solve it;
- - Theoretical analysis: studying the theoretical foundations of the research object; theoretical consideration of the subject area of research; theoretical analysis of methods, procedures, technologies, tools; critical analysis and synthesis of scientific approaches used in economics;
- - Collection and analysis of economic data: planning and conducting the process of collecting the necessary data, including identifying sources and methods of collection; processing and analyzing the data obtained using appropriate statistical analysis methods;
- - Analysis of economic indicators and trends: conducting a detailed analysis of various economic indicators and trends characterizing the selected research topic; identifying key factors influencing the economic situation, economic dynamics, etc.
- - Descriptive and diagnostic economic analysis: identification of the existing, current state of the studied socio-economic system, economic process; identification of factors that led to the current state of the socio-economic system, economic process, phenomenon using static methods; establishment of regularities and relationships based on the use of advanced analytical approaches, clustering, decision tree method, etc.
- - Analytical modeling: building analytical, economic and mathematical models to reflect economic relationships and processes, identifying patterns.
- - Recommendation analytics: formulation of proposals for the study of the problem/task, opportunities for further improvement of the analysis; development of optimal strategies and economic solutions based on analytical justification; identification of possible ways to optimize economic processes and decision-making to achieve the goals; provision of practical recommendations based on the results and their analysis;
- - Formulation of conclusions: summarizing the results of the study and formulating conclusions on solving the problem and achieving the goals.

### ***Topics and structural and logical organization***

The topics of master's thesis in the International Economics program are formed in the following oriented areas

- development of international cooperation;
- ensuring international competitiveness;
- ensuring the efficiency of foreign economic activity;

- regulation of international logistics support;
- development of transnational companies;
- ensuring the effectiveness of international venture capital investments;
- increasing export potential;
- intensification of foreign investment attraction;
- development of strategic partnerships between countries.

The recommended topics are updated annually, taking into account labor market trends, proposals from the OP's stakeholders, and economic development patterns.

Applicants can freely or at their own discretion choose the topic of their master's thesis.

The main part of the master's thesis is presented in the following structure:

1 Theoretical section. The first section is aimed at studying the theoretical foundations, factors of influence in the theoretical context according to the topic of the master's thesis:

1.1 The first subsection of the section is focused on the theoretical context according to the topic of the master's thesis, an overview of basic concepts and definitions, a comparison of classical and modern theoretical approaches, the impact of the subject of research on the object of research, etc.

1.2 The second subsection may contain a description of the factors of influence, economic, economic and analytical indicators, relevant data necessary for conducting research on the chosen research topic and, accordingly, the subject of research, etc.

1.3 In the third subsection, it is advisable to detail and theoretically substantiate the methods (models) of analytics, review the main quantitative and qualitative methods to improve the efficiency of the assessment and their application.

2 Analytical section. The second section is aimed at analyzing the data on activities on the selected topic.

2.1 Descriptive analytics, which involves analyzing the economic performance of the enterprise / factors of influence of the market, industry, etc. according to the topic of the master's thesis. It is intended for analyzing data that allows you to determine the current economic situation at enterprises in the industry, in countries, as well as historical economic data that caused or led to the current state.

2.2 Diagnostic analytics - analysis, strategic analysis, diagnostics/evaluation/quantitative and qualitative assessment, specific to the object and subject of research on the topic of the master's thesis, etc. It is intended to identify the problem, patterns, interdependencies and interrelationships of economic data, economic processes, etc. according to the research topic.

2.3 Substantiation of the problem in case of preservation of existing trends, etc. in accordance with the topic of the master's thesis, substantiation of the need for changes and measures, etc.

3. Recommendation section. The section is aimed at developing/improving tools for making recommendations in the area defined by the topic of the master's thesis, as well as forming the basis for justifying economic decisions, development strategies, projects on the topic of the master's thesis and providing forecasts in the event of the implementation of the economic decisions recommended for implementation.

3.1 The first subsection should present the developed/improved decision-making method/procedure for the implementation of the tasks of the master's thesis.

3.2 In the second subsection, analytically sound recommendations (economic levers, strategies, preventive measures, improvement measures, efficiency, etc.) for making economic decisions, etc. are formed to improve economic efficiency, solve an applied problem, a specialized task in accordance with the subject of the master's thesis.

3.3 The subsection provides for the justification of the feasibility of proposals based on predictive analytics (forecasting), scenario analysis, strategizing the development of events



in accordance with the proposed recommendations on the topic of the master's thesis.

## 6. Independent work of a higher education student

The curriculum provides for 360 hours of independent work of the applicant.

No	Amount of hours	Type of individual work
1	5	<i>Initial formulation of the purpose and objectives of the master's thesis.</i>
2	40	<i>Analysis of modern scientific literature on the topic of work, formation of the methodology for researching the object and subject of the master's thesis</i>
3	50	<i>Writing a theoretical chapter of a master's thesis</i>
4	40	<i>Formation of the research base and its information support. Assessment and analysis of the current state of the object and subject of research and identification of problems of its effective functioning and development</i>
5	60	<i>Writing an analytical chapter of a master's thesis</i>
6	50	<i>Development of proposals/recommendations for making and justifying economic decisions, formation of a system of alternative solutions for the effective development of the subject of the master's thesis on the selected research base, economic justification</i>
7	70	<i>Writing the recommendation section of the master's thesis</i>
8	10	<i>Writing conclusions</i>
9	15	<i>Designing a master's thesis</i>
10	10	<i>Passing the procedure of admission to protection</i>
11	10	<i>Preparation for the defense of a master's thesis</i>
<i>Разом</i>	360	

## Policy and control

### 7. Education component policy

**Attestation of a higher education recipient.** The attestation of a student of higher education in the educational and professional program "International Economics" specialty 051 "Economics" is carried out in the form of a public defense of a qualification work (master's thesis) and ends with the issuance of a document of the established model on awarding him a master's degree with qualification.

Attestation is carried out in accordance with the Regulations on the examination board and attestation of applicants for higher education at KPI named after Igor Sikorskyi (<https://osvita.kpi.ua/node/35>)

In the case of the introduction of the educational process in KPI named after Ihor Sikorskyi's attestation in remote mode is carried out in accordance with the Regulations for organizing and conducting defenses of qualification works and attestation exams in remote mode (<https://osvita.kpi.ua/node/148>).

**Formation of integral competence.** The master's thesis must demonstrate the formation of the higher education applicant's integral competence specified in the Standards of Higher Education of Ukraine for the given level of higher education, as well as the formation of general and special (professional) competences and the achievement of the program results

specified in the educational and professional program "International Economics".

**Academic Integrity Policy.** A mandatory condition for completing a master's thesis is compliance with the policy and principles of academic integrity (<https://kpi.ua/academic-integrity>), which, among other things, are set forth in the Code of Honor of the National Technical University of Ukraine "Ihor Sikorskyi Kyiv Polytechnic Institute" (<https://kpi.ua/code>), Regulations on the academic plagiarism prevention system at KPI named after Igor Sikorskyi (<https://osvita.kpi.ua/node/47>). If duplication or plagiarism is detected in the master's thesis, the applicants cannot be admitted to the defense. If inappropriate references are found as a result of the check for the presence of borrowings, the master's thesis is not allowed to be defended and is returned to the applicant for revision. The master's thesis should not violate the principle of integrity. All research results must be obtained personally by the author. All research by other scientists should be referenced in the text.

**Publicity.** After the defense, the master's thesis is placed in the NTB repository of the University for free access. Publication of qualification works containing information with limited access is carried out in accordance with the requirements of current legislation.

**Policy on the use of artificial intelligence.** The use of artificial intelligence (hereinafter, AI) is regulated by the "Policy on the use of artificial intelligence for academic activities at KPI named after Igor Sikorsky" (<https://osvita.kpi.ua/node/1225>). The master's thesis must be the result of the applicant's own original work. The use of AI for automatic text generation without further analysis and refinement is prohibited. Foragers are not advised to rely on AI as the sole source of information. It is important to check and analyze the data obtained from other authoritative sources. All use of AI for the thesis must be clearly stated and documented. This applies to both the use of text generators and other AI tools. The use of AI must comply with the principles of academic integrity. Failure to comply with this provision will be considered a violation of academic ethics.

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

The rating evaluation system (RSO) of the qualifying work provides for the evaluation of:

– the quality of the execution of the master's thesis: the quality of the explanatory note, text and graphic (illustrative) material is evaluated;

- the defense of the qualification work - the quality of the defense of the qualification work is evaluated.

The general requirements for the evaluation criteria of the master's thesis are given in the study guide "Master's thesis: recommendations for execution and content for specialties 051 "Economics", 073 "Management", 075 "Marketing" and Recommendations for the structure and content of qualifying papers for bachelor's and master's degree applicants" KPI named after Igor Sikorsky. Based on them, the evaluation of the master's thesis under the "International" OPP is carried out according to the following criteria:

### *Assessment of the quality of execution and defense of master's theses*

No	Criterion	Criterion assessment	Points
Master's thesis quality (maximum 60 points)			
	The relevance of the topic, its importance for solving modern problems of the economy and its subjects	Completely solves the identified problem by solving a specialized task. The study of the state of the problem was carried out according to the latest domestic and foreign sources	4
		Insufficiently solves the identified problem by incompletely solving the specialized task. The study of the state was carried out mainly according to educational literature and outdated sources	3
		Does not fully solve the identified problem by solving a specialized task. The study of the state of the problem was carried out mainly based on domestic sources without use periodicals.	2
		Does not solve the identified problem by solving a specialized task. The relevance of the research topic is not sufficiently argued.	0
2.	The level of theoretical generalization and systematization of modern scientific information, justification of the choice of the method of economic analysis	Modern scientific information is used, which is fully summarized and systematized by the author. Admissible research methods are considered in depth, according to many criteria. The choice of theoretical and experimental research methods is justified.	10
		Modern scientific information is used, which is incompletely summarized and systematized by the author. Several possible theoretical and/or experimental research methods are considered. Based on one of the criteria, the best method was chosen	7
		Modern scientific information is used, which is not sufficiently summarized and systematized by the author. The choice of the research method was made on the basis of a qualitative comparison of at least two options.	5
		The information used is placed only in the training manuals. The choice of the research method was made without sufficient justification.	6
		The economic analytical apparatus of the study is fully described and substantiated, the chosen analytical methods correspond to the set economic tasks of the study. An original methodology of economic analysis was developed, corresponding analytical and analytical-model experiments were conducted. A thorough analysis of the obtained results was carried out.	4
		The economic analytical apparatus of the study is fully described, but not fully substantiated, the chosen methods of analysis correspond to the set economic tasks of the study. The methodology of economic analysis has been improved, corresponding analytical and analytical-model experiments have been conducted. A thorough analysis of the obtained results was carried out.	0

3.	Justification of methodological principles, analytical apparatus and methods of conducting economic analysis and analytical modeling experiments	The economic analytical apparatus of the study is described, but it is not sufficiently substantiated and its adequacy has not been proven, the chosen methods of analysis correspond to the set economic tasks of the study. The traditional method of economic analysis was used, and corresponding analytical and analytical-model experiments were conducted. The analysis of the obtained results is not sufficiently complete.	10
		The applied economic analytical apparatus of the study does not meet the set economic tasks of the study, which led to incorrect results obtained.	8-9
		The information base and information technologies make it possible to comprehensively assess, analyze and forecast the state and development of socio-economic systems, economic processes and phenomena. The solution of the research tasks was carried out on the basis of the use of several software products of modern information and analytical support	6-7
		The information base and information technologies make it possible to sufficiently assess, analyze and forecast the state and development of socio-economic systems, economic processes and phenomena. The research tasks were solved based on the use of one software product of modern information and analytical support	0
4.	Information base, information technologies that were used in the formation and processing of the database	The information base and information technologies make it possible to selectively assess, analyze and forecast the state and development of socio-economic systems, economic processes and phenomena. Information technologies are used to perform basic calculations and at the level of using office technologies	8
		The information base and information technologies make it possible to sufficiently assess, analyze and forecast the state and development of socio-economic systems, economic processes and phenomena.	6-7
		The research tasks were solved based on the use of one software product of modern information and analytical support	5
		The information base and information technologies do not allow to sufficiently assess, analyze and forecast the state and development of socio-economic systems, economic processes and phenomena. Information technology is not used to solve the main issues of the master's thesis	0
5.	The depth of development of recommendations and their innovation	A completely innovative approach to conducting economic analysis, analytical justification of the adoption and implementation of economic decisions, comprehensive justification of the influence of the author's recommendations on the change in the state of the subject and the object of research	10
		Incompletely innovative approach to conducting economic analysis, analytical justification of the adoption and implementation of economic decisions, incomplete justification of the influence of the author's recommendations on the change in the state of the subject and the object of research	8-9
		A partially innovative approach to conducting economic analysis, analytical justification of the adoption and implementation of economic decisions, insufficient justification of the impact of the author's recommendations on the change in the state of the subject and the object of research	6-7
		There is no innovative approach to conducting economic analysis, analytical justification of the adoption and implementation of economic decisions, the influence of the author's recommendations on the change in the state of the subject and the object of research is unfounded	0
6.	The level of novelty	The master's thesis uses original ideas that were put forward by the applicant personally (according to the supervisor's opinion). A new toolkit for conducting economic analysis was developed, new recommendations were offered for economic solutions aimed at increasing efficiency, improving the state of the subject of research	10
		The toolkit for conducting economic analysis has been improved, partially improved recommendations for economic decisions aimed at increasing efficiency and improving the condition of the subject of research have been proposed	8-9

		The toolkit for conducting economic analysis has been developed or partially supplemented, some minor recommendations have been proposed regarding economic solutions aimed at increasing efficiency, improving the state of the subject of research	6-7
		There is no novelty	0
7.	Practical significance, approbation of results	Availability of an act (certificate) on the implementation of research results from the enterprise. The value is confirmed by approval at scientific and practical conferences and the publication of an article in a category B publication.	6
		Availability of feedback from the enterprise regarding the implementation of the obtained research results. The value is confirmed by approval at scientific and practical conferences. The article has been accepted for publication in a scientific journal	5
		The master's thesis demonstrated the ability to conduct scientific research under supervision and draw correct conclusions. The article/thesis has been accepted for publication, but not issued	4
		The master's thesis does not contain practical significance. There is no implementation / approval of the results	0
8.	The quality of the design of the work and illustrative material	The material is presented clearly, concisely, clearly, the design of the master's thesis fully meets the current requirements. Text material, all illustrations and tables are made using text and graphic editors. Illustrative material fully, with a high level of visual perception, reveals the main provisions of the master's thesis submitted for defense. The material is made using modern graphic packages in compliance with the requirements of regulatory documents.	5
		The material is presented clearly and concisely, but there are stylistic errors. Text material, all illustrations and tables are made using text and graphic editors. Illustrative material fully, but with an insufficient level of visual perception, reveals the main provisions of the master's thesis. The material is made using modern graphic packages, there are minor deviations from the requirements of regulatory documents.	4
		Vague presentation of the material, there are grammatical errors. Registration with violations of the requirements of regulatory documents. Illustrative material does not fully and with an insufficient level of visual perception reveal the main provisions of the master's thesis	3
		The structure and design of the master's thesis do not meet the requirements. Illustrative material does not reveal the main provisions of the master's thesis.	0

<b>Master's thesis defense (maximum 40 points)</b>		
1.	The report has a high level of quality, the applicant is fully in possession of the material, and perfectly justifies the decisions made. The presentation was carried out in compliance with the basic requirements, clearly, succinctly and in compliance with the regulations. The acquirer knows how to defend his opinion. The answers to the questions are meaningful and relevant of the questions asked are marked by analytical reasoning, practical examples are given	36-40
2.	The level of quality of the answer is above average, slight gaps in mastery of the material are allowed. The presentation was carried out in compliance with the basic requirements, the given results are correctly presented on the slides, but there is a certain non-compliance with the regulations of the report. The acquirer justifies the decisions made and knows how to defend his opinion. The answers to the questions are meaningful, relate to the questions asked, are marked by analytical reasoning and confirmations	31-35
3.	The average level of the quality of the answer of the applicant who does not fully master the material, defends his opinion not sufficiently well-founded, the degree of justification of the decisions made is average. The answers to the questions are general, but they relate to the questions asked	24-30
4.	Low response quality. The acquirer does not possess the material, does not justify the decisions made, and does not know how to defend his opinion. The answers to the questions are not provided or are general and remotely related to the questions asked	0

The maximum score is 100 points.

The grade for the performance and the grade for the defense of the qualification work is translated into the grade according to the university scale given in the table.

**Table of conversion of rating points to grades:**

<b>Points:</b>	<b>Assessment.</b>
100...95	Excellent
94...85	Very good
84...75	Okay.
74...65	Satisfactory
64...60	Enough
Less than 60	Unsatisfactory
Rating less than 40 points	Not allowed

### **Additional information from the educational component**

To collect data during the execution of the master's thesis, the Ukrainian analytical online system for business analytics, competitive intelligence and verification of counterparties YouControl (<https://youcontrol.com.ua>) can be used, as well as the database of the NSC "World Data Center for Geoinformatics and sustainable development".

#### **Working program of the educational component (syllabus):**

**Compiled** Doctor of Economic Sciences, Professor, Head of the Department of International Economics Voytko Serhiy

**Approved** by the Department of International Economics (Minutes No. 14 of 18.06.2024).

**Approved** by the Methodological Commission of the Faculty (Minutes No. 10 of 06/24/2024)