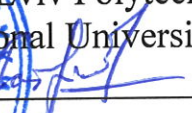



**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
LVIV POLYTECHNIC NATIONAL UNIVERSITY**

«APPROVED»  
Rector  
of Lviv Polytechnic  
National University  
  
Yuriy BOBALO  
" 23 травня 2023" 

**EDUCATIONAL-PROFESSIONAL PROGRAM  
" ECONOMICS AND CONSTRUCTION MANAGEMENT"**

**LEVEL OF HIGHER EDUCATION** Master's level (Second cycle)

**DEGREE OF HIGHER EDUCATION** "Master"

**BRANCH OF KNOWLEDGE** 05. Social and Behavioral Sciences

**SPECIALTY** 051 Economics

Considered and approved  
at a meeting of the Academic Council  
Lviv Polytechnic National University  
by «23» травня 2023  
Protocol № 1

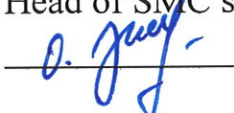
Lviv 2023

**COPY LIST**  
**Educational-professional program**

Higher education level	<u>Master</u>
Branch of knowledge	<u>05. Social and Behavioral Sciences</u>
Specialty	<u>051 Economics</u>


**DEVELOPED AND APPROVED**

Scientific and Methodical commission  
of specialty 051 "Economics"  
Protocol № 5  
from « 10 » March 2023

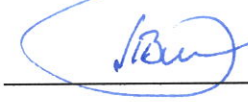
Head of SMC specialty  
 Orest KOLESHCHUK

**AGREED**

Vice-Rector for Graduate Education of  
Lviv Polytechnic National University

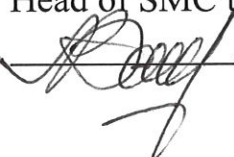
 Oleg DAVYDCHAK  
« 14 » 05 2023

Head of Educational and Methodical  
Department of the University


 Vasyl TOMYUK  
« 17 » 05 2023

**RECOMMENDED**

Scientific and Methodical  
council of the University  
Protocol No. 40  
from « 18 » 05 2023

Head of SMC the University  
 Anatoliy ZAGHORODNIY

Director of the Institute of Economics  
and Management

 Oleg KUZMIN

« 15 » 03 2023

## PREFACE

Developed on the basis of the Standard of Higher Education of Ukraine in specialty 051 "Economics" on the branch of knowledge 05 "Social and Behavioral Sciences" for the master's level (second cycle) of higher education, approved by the Order of the Ministry of Education and Science of Ukraine № 382 from 04.03.2020

Developed by the working group of the scientific-methodical commission of specialty 051 "Economics", consist of:

Volodymyr MELNYK.	– Guarantor of the EPP, Ph.D., associate Professor, associate Professor of Department of Enterprise Economy and Investment
Vasyl KOZYK	– Ph.D., Professor, Professor of Department of Enterprise Economy and Investment
Nadiya SELUCHENKO	– Ph.D., associate Professor, associate Professor of Department of Enterprise Economy and Investment
Olena ZAGORETSKA	– Ph.D., associate Professor, associate Professor of Department of Enterprise Economy and Investment
Sergiy SICHNYI	– Director "CONSTRUCTION-MODERN TECHNOLOGIES" PE
Roman KINDZERA	–Director of Economics "Eurotechexpertbud" LLC
Vasyl DANYLIV	–project manager of "Blago developer" company
Sergiy LESIV	–student of the group EKUB-11
Oleg DOSKACH	–student of the group EKUB-11

Guarantor of the EPP,

Ph.D., associate Professor, of Department of EEI

Volodymyr MELNYK

The project of the educational and professional program was discussed and approved at the meeting of the Academic Council of the Institute of Economics and Management.

Protocol № 8 from « 15 » March 2023.

The head of the Academic Council of Institute

(signature)

Oleg. KUZMIN

(surname, initials)

APPROVED AND PROVIDED

By order of the rector Lviv Polytechnic National University

from « 29 » Травня 2023 № 273-1-10

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# 1. Master's degree program in specialty

## 051 "Economics" on specialization «Economics and construction management»

1 – General information	
Full name of institution of higher education and structural subdivision	Lviv Polytechnic National University
Higher education level	Second (master's) level
Degree of higher education	Master
Field of knowledge	05 Social and behavioral sciences
Specialty	051 Economics
Educational qualification	Master in economics
Qualification in the diploma	Degree of higher education "Master" Specialty 051 "Economics" Educational program "Economics and Construction Management"
The official name of the educational program	Economics and Construction Management
The amount of credits under the European Credit Transfer System required for obtaining the relevant degree of higher education	90 ECTS credits, study period 1.5 years. At least 35% of the volume of the educational program is aimed at providing general and special (professional) competencies in the specialty, defined by the standard of higher education.
Availability of accreditation	Accredited
Cycle / Level	NRC of Ukraine - 7 level, FQ-EHEA - second cycle, QF-LLL - 7 level
Prerequisites	Bachelor's degree
Restrictions on forms of education	Without restrictions
Language (s) of teaching	Ukraine, English
Basic concepts and their definition	The program uses basic concepts and their definitions in accordance with the Law of Ukraine "On Higher Education", as well as the Standard of Higher Education of Ukraine: second (master's) level, field of knowledge 05 Social and behavioral sciences, specialty 051 Economics.
2 – The purpose of the educational program	
	Training of specialists with modern economic thinking and relevant competencies necessary for the successful performance of professional duties in the field of "Social and Behavioral Sciences" in the specialty 051 "Economics".
3 - Characteristics of the educational program	
Subject area	<p><b>Object of study and / or activity:</b> modern economic processes and phenomena, scientific methods of normative, quantitative and institutional analysis, tools for the formation of international, national, regional, sectoral economic policy and business economics.</p> <p><b>Learning objectives:</b> to train highly qualified economics professionals with modern economic thinking, theoretical knowledge and applied skills, able to solve complex research, innovation and management problems and problems of functioning of economic systems of different levels, characterized by uncertain conditions and requirements.</p> <p><b>Theoretical content of the subject area:</b> general laws and trends of</p>



	<p>economic development, motivation and behavior of market participants; theories of micro-, macro- and international economics; modern quantitative methods of economic processes analysis; institutional and interdisciplinary analysis; patterns of modern socio-economic processes; theories of economic management for different production systems and sectors of the economy.</p> <p><b>Methods, techniques and technologies:</b> general scientific and specific methods of cognition and research; mathematical, statistical, qualitative methods of economic analysis; sociological, expert evaluation, questionnaires; economic and mathematical modeling, forecasting; information and communication technologies, special software; research methods and presentation of research results.</p> <p><b>Tools and equipment:</b> modern information and communication equipment, information systems and software products used in economic activities</p>
<b>Orientation of the educational program</b>	The educational and professional program is based on the fundamental postulates and results of modern theoretical and applied researches in the field of economics, economics and management in the construction industry particularly, and focuses on topical specialization, within which further professional and scientific careers are possible: a top manager, manager, specialist, professional and teacher of higher education.
<b>The main focus of the educational program</b>	<p>The educational-professional program "Economics and construction management» represents special education and professional training in the two selective blocks of professional orientation: economics and management of construction business; economics and management of a construction company.</p> <p>Key words: socio-economic systems, economic activity management, construction contracts, estimated cost, tender agreements, calendar planning, rationing and resource management.</p>
<b>Features and differences</b>	<p>The educational-professional program is based on the results of modern applied researches of the domestic and foreign labor market in the field of economics, on the wide application of modern economic methods of capital investments planning and calculation and on the capital construction efficiency improvement, it takes into account the actual requirements and needs of modern construction enterprises</p> <p>Provides for the teaching of professionally oriented disciplines in a foreign language.</p>
<b>4 – Eligibility of graduates of the educational program for employment and further education</b>	
<b>Eligibility for employment</b>	Workplaces in the public and private sectors of civil, industrial and road construction, construction materials production, urban development, investment and management companies, design organizations, banks, enterprises and institutions of various forms of ownership, including joint and foreign enterprises. At leading positions in the field of economic substantiation of decisions on the management of assets, resources, projects, business processes, as well as in higher educational institutions at the teachers positions.
<b>Further education</b>	Doctoral programs, qualification improvement programs.
<b>5 – Teaching and evaluation</b>	
<b>Teaching and education</b>	Conducting lectures, laboratory and practical classes, consultations with scientific and pedagogical workers and practicing specialists. Involvement of students in participation in competitions, Olympiads



	and scientific research events, conducting scientific conferences, independent educational and research work, passing practice on the subject of a master's qualification thesis, performance of a master's qualification thesis, which is presented and discussed with the participation of teachers, practitioners, students.
<b>Evaluation</b>	Examinations in written and oral form (testing, answers to problematic questions, solving problems, oral discussion of completed tasks), assessments, defense of course projects, control and individual works (calculation, scientific research), reports on the completion of practice. Final attestation - defense of the Master's thesis.
<b>6 – Software competencies</b>	
<b>Integral competence (InC)</b>	Ability to identify and solve complex economic problems, to make appropriate analytical and managerial decisions in the field of economics or in the learning process, which involves research and / or making innovation under uncertain conditions and requirements.
<b>General competencies (GC)</b>	GC1. Ability to generate new ideas (creativity). GC2. Ability to abstract thinking, analysis and synthesis. GC3. Ability to motivate people and move towards a common goal. GC4. Ability to communicate with representatives of other different levels professional groups (with experts from other fields of knowledge / types of economic activity). GC5. Ability to work in a team. GC6. Ability to develop and manage projects. GC7. Ability to act based on ethical considerations (motives). GC8. Ability to conduct research at the appropriate level.
<b>Special (professional, subject) competencies of the specialty (PC)</b>	PC1. Ability to use scientific, analytical, methodological tools to justify the development strategy of economic entities and related management decisions. PC2. Ability to professional communication in the field of economics in a foreign language. PC3. Ability to collect, analyze and process statistical data, scientific and analytical materials that are necessary to solve complex economic problems, to draw sound conclusions based on them. PC4. Ability to use modern information technologies, methods and techniques of research of economic and social processes, adequate to the established needs of research. PC 5. Ability to identify key trends in socio-economic and human development. PC 6. Ability to formulate professional tasks in the field of economics and solve them, choose the appropriate directions and appropriate methods for their solution, taking into account the available resources. PC7. Ability to substantiate management decisions on the effective development of business entities. PC8. Ability to assess possible risks, socio-economic consequences of management decisions. PC9. Ability to apply a scientific approach to the formation and implementation effective projects in the socio-economic sphere. PC10. Ability to develop scenarios and strategies for the development of socio-economic systems. PC11. Ability to plan and develop projects in the field of economy, to carry out its informational, methodical, material, financial and personnel support.

	<p>PC12. Ability to identify and evaluate the economic parameters of development projects, to form a project life cycle management system and to implement effective project management technologies in construction.</p> <p>PC13. Ability to determine and evaluate the impact of design, organizational and technological decisions on the formation of construction costs, to form evaluation criteria and create value models in accordance with the concept of the life cycle of the object.</p>
<p><b>Professional competencies of selective blocks(PCS)</b></p>	<p><b>Block 01 (Economics and management of construction business)</b></p> <p>PCS1.1. Ability to apply international and domestic requirements to the conclusion of construction contracts and the formation of internal and external contractual relations in construction.</p> <p>PCS1.2 Ability to provide rational construction financing based on the use of methods, tools and levers of financial management.</p> <p>PCS1.3. Ability to use methodological principles of rationing and accounting for effective resource management in construction.</p> <p><b>Block 02 (Economics and management of construction company)</b></p> <p>PCS2.1. Ability to form a production and organizational structure, plan, organize and control the activities of a construction company in accordance with the tasks and volumes of construction.</p> <p>PCS2.2. Ability to form a financial mechanism and justify management decisions to the search, attraction, distribution and use of financial resources, to optimization of cash flow of the construction company.</p> <p>PCS2.3. Ability to develop and form internal and external contractual relations, enter into contracts and form tender documents for a construction company.</p>
<p><b>7 – Program learning outcomes</b></p>	
<p><b>Program learning outcomes (PLO)</b></p>	<p>PLO1. To formulate, analyze and synthesize solutions to scientific and practical problems.</p> <p>PLO2. Develop, justify and make effective decisions on the development of socio-economic systems and management of economic entities.</p> <p>PLO3. Communicate freely on professional and scientific issues in state and foreign languages orally and in writing.</p> <p>PLO4. Develop socio-economic projects and a system of comprehensive actions for their implementation, taking into account their goals, expected socio-economic consequences, risks, legislative, resource and other constraints.</p> <p>PLO5. Adhere to the principles of academic integrity.</p> <p>PLO6. Evaluate the results of their own work, demonstrate leadership skills and ability to manage staff and work in a team.</p> <p>PLO7. To choose effective methods of economic activity management, to substantiate the offered decisions based on relevant data and scientific and applied researches.</p> <p>PLO8. To collect process and analyze statistical data, scientific and</p>



- analytical materials needed to solve complex economic problems.
- PLO9. To make effective decisions under uncertain conditions and requirements that require the application of new approaches methods and tools of socio-economic research.
- PLO10. Apply modern information technologies and specialized software in socio-economic research and in the management of socio-economic systems.
- PLO11. Identify and critically assess the state and trends of socio-economic development, form and analyze models of economic systems and processes.
- PLO12. To Justify management decisions for effective business development, taking into account goals, resources, constraints and risks.
- PLO13. Assess possible risks, socio-economic consequences of management decisions.
- PLO14. Develop scenarios and strategies for the development of socio-economic systems.
- PLO15. Organize the development and implementation of socio-economic projects taking into account information, methodological, material, financial and staffing.
- PLO16. To determinate the key parameters of development projects, economically justify management decisions of strategic and operational nature, to form management structures, to apply tools for managing the content, time, quality, risks and cost of projects in construction.
- PLO17. To estimate the cost of construction, determine the impact of design, organizational and technological decisions on the formation of the cost of construction, justify the evaluation criteria and form cost models taking into account the costs at different stages of the life cycle of the object.

**Block 01 (Economics and management of construction business)**

- PLOS1.1. Apply international requirements and domestic regulations to the conclusion and insurance of construction contracts and the formation of internal and external contractual relations in construction.
- PLOS1.2. To substantiate financial decisions in the construction business using methods, tools and levers of financial management.
- PLOS1.3. Apply methodological principles of rationing and accounting of resources in construction to manage material, technical, and labor resources and ensure the efficiency of production processes of construction companies.

**Block 02 (Economics and management of construction company)**

- PLOS2.1. To substantiate the production program, form the production and organizational structure, plan, organize, control and regulate the economic activity of the construction company and its divisions.
- PLOS2.2. To substantiate management decisions on the formation, distribution and efficient use of financial resources, optimization of cash flow of the construction company based on the use of the financial mechanism.
- PLOS2.3. Substantiate the policy of conduct and contractual relations in the construction process both within the enterprise and with environmental agents (customers, contractors, regulatory authorities,



	suppliers, transport and logistics organizations, financial market participants, legal institutions, state and local authorities).
<b>Communication (COM)</b>	COM 1. Conveying to specialists and non-specialists information, ideas, problems, solutions and own experience in the field of professional activity. COM 2. Ability to effectively form a communication strategy.
<b>Autonomy and responsibility (AaR)</b>	AaR 1. Management of complex actions or projects, responsibility for decision-making in unpredictable conditions. AaR 2. Responsibility for the professional development of individuals and/or groups of individuals. AaR 3. Ability to further study with a high level of autonomy.

#### **8 – Resource support for the implementation of the program**

<b>The main characteristics of staffing</b>	90% of scientific and pedagogical workers involved in teaching professionally oriented disciplines in the specialty 051 "Economics" have scientific degrees and academic titles. All scientific-pedagogical workers have undergone relevant internships and professional development, including foreign.
<b>The main characteristics of material and technical providing</b>	Use of classrooms equipped with multimedia equipment, laboratories for conducting laboratory and practical classes using a PC. Use of modern software: Excel, ABK-5, AC-4 - software products for investor budget documentation calculation, contract prices and construction works execution acts forming; AS-4-graph, MS Project - software products for work schedules planning and construction, the resource support calculation; Audit Expert - a system for analyzing the enterprise's financial and economic condition; Autodesk Revit, Смета-P - the design system of VIM modeling and the program of data conversion into the cost-based normative base; Statistica for Windows - a system for processing statistical data; Project Expert - project management systems; FMS Diamond - Financial Management System; ARENA - simulation system; Rune WFI - business process management and administration of regulations; All Fusion Process Modules - Business Process Modeling System.
<b>The main characteristics of informational and methodical support</b>	Use of distance learning platform "Virtual educational environment" of NU "Lviv Polytechnic", MS Teams, Google Meet, Zoom, author's developments of scientific and pedagogical workers, in particular textbooks and training aids with the seal of the Ministry of Education and Culture of Ukraine and the seal of the Scientific Council of NU "Lviv Polytechnic".

#### **9 – Academic mobility**

<b>National Credit Mobility</b>	On the basis of bilateral agreements between the Lviv Polytechnic National University and technical universities of Ukraine.
<b>International Credit Mobility</b>	On the basis of bilateral agreements between the Lviv Polytechnic National University and universities of foreign partner countries.
<b>Teaching of foreign applicants for higher education</b>	It is possible in two language (Ukrainian, English)

**2. Distribution of content of  
Educational-professional program of the master's degree in specialty  
051 «Economics», specialization – economics and construction  
management**

**According to groups of components and preparation cycles**

№ s/n	Preparation cycle	The amount of learning capacity of the applicant of higher education (credits / %)		
		Mandatory components of educational-professional program	Selective components of educational-professional program	In total for the whole period of study
1.	General preparation cycle	3/3	3/3	6/6
2.	Cycle of professional preparation	64/71	20/23	84/94
In total for the whole period of study		67/74	23/26	90/100

**3. List of components of the Educational-professional program**

Code	Component' name EP	Components amount in credits ECTS	Form of final control
1	2	3	4
<b>MANDATORY COMPONENTS OF SPECIALTY</b>			
<i>I. General training cycle</i>			
MC1.1.	Foreign language by professional direction	4	credit with mark
<b>In total for a cycle:</b>		<b>4</b>	
<i>II. Cycle of professional training</i>			
MC2.1.	Strategies for the Development of Socio-Economic Systems	4	exam
MC2.2.	Economic Tools for Managing Projects and Programs for the Development of Socio-Economic Systems	4	exam
MC2.3.	Statistical analysis and modeling of socio-economic systems and processes	4	credit with mark
MC2.4.	Activities of economic entities on foreign markets	4	exam
MC2.5.	Cost engineering in construction	7	exam
MC2.6.	Development and Project Management in Construction	4	exam
MC2.7.	Ukrainian as a foreign language	3	credit with mark
MC2.8.	Development and Project Management in Construction (CP)	3	credit with mark
MC2.9.	Practice on the Theme of Master's Thesis	12	credit with mark



MC2.10.	Fulfilment of Master Thesis	15	PQW
MC2.11.	Defence of Master Thesis	3	
Total per cycle:		47	
Total for the group of mandatory components of the specialty:		50	
<b>Selective component of the educational-professional program</b>			
<i>I. General training cycle</i>			
<b>In total for a cycle:</b>		3	credit with mark
<i>II. Cycle of professional training</i>			
<b>Selective component blocks</b>			
<b>Selective component block 01 (Economics and management of construction business)</b>			
SC1.1.	Construction Contract Market and Contractual Relations in Construction	4	credit with mark
SC1.2.	Financial Management and Taxation in Construction	4	exam
SC1.3.	Rationing and Management of Construction Resources	4	exam
SC1.4.	Rationing and Management of Construction Resources (CP)	3	credit with mark
<b>Selective component block 02 (Economics and management of construction companies)</b>			
SC2.1.	Construction Enterprise Activity Planning and Organizing	4	exam
SC2.2.	Construction Enterprises Financial Management	4	exam
SC2.3.	Construction Business and Contractual Relations in Construction	4	credit with mark
SC2.4.	Construction Enterprise Activity Planning and Organizing (CP)	3	credit with mark
<b>In total:</b>		<b>15</b>	
<b>Selective components of other educational professional programs</b>			
<b>In total:</b>		<b>5</b>	credit with mark
<b>In total with the selective components</b>		<b>23</b>	
<b>Intotal for educational-professional program:</b>		<b>90</b>	

#### 4. Form of attestation of applicants for higher education

<b>Form of attestation of applicants for higher education</b>	Certification is carried out in the form of public defense of the qualification work.
<b>Requirements for qualification work (if available)</b>	<p>Qualification work should involve solving a complex specialized task or a practical complex problem or problem in the economic field that requires research and / or innovation and is characterized by uncertainty of conditions and requirements.</p> <p>There should be no academic plagiarism, falsification or writing off in the qualification work.</p> <p>Qualification work must be published on the official website or in the repository of the National University "Lviv Polytechnic". Publication of qualification works containing information with limited access should be carried out in accordance with the requirements of current legislation.</p>

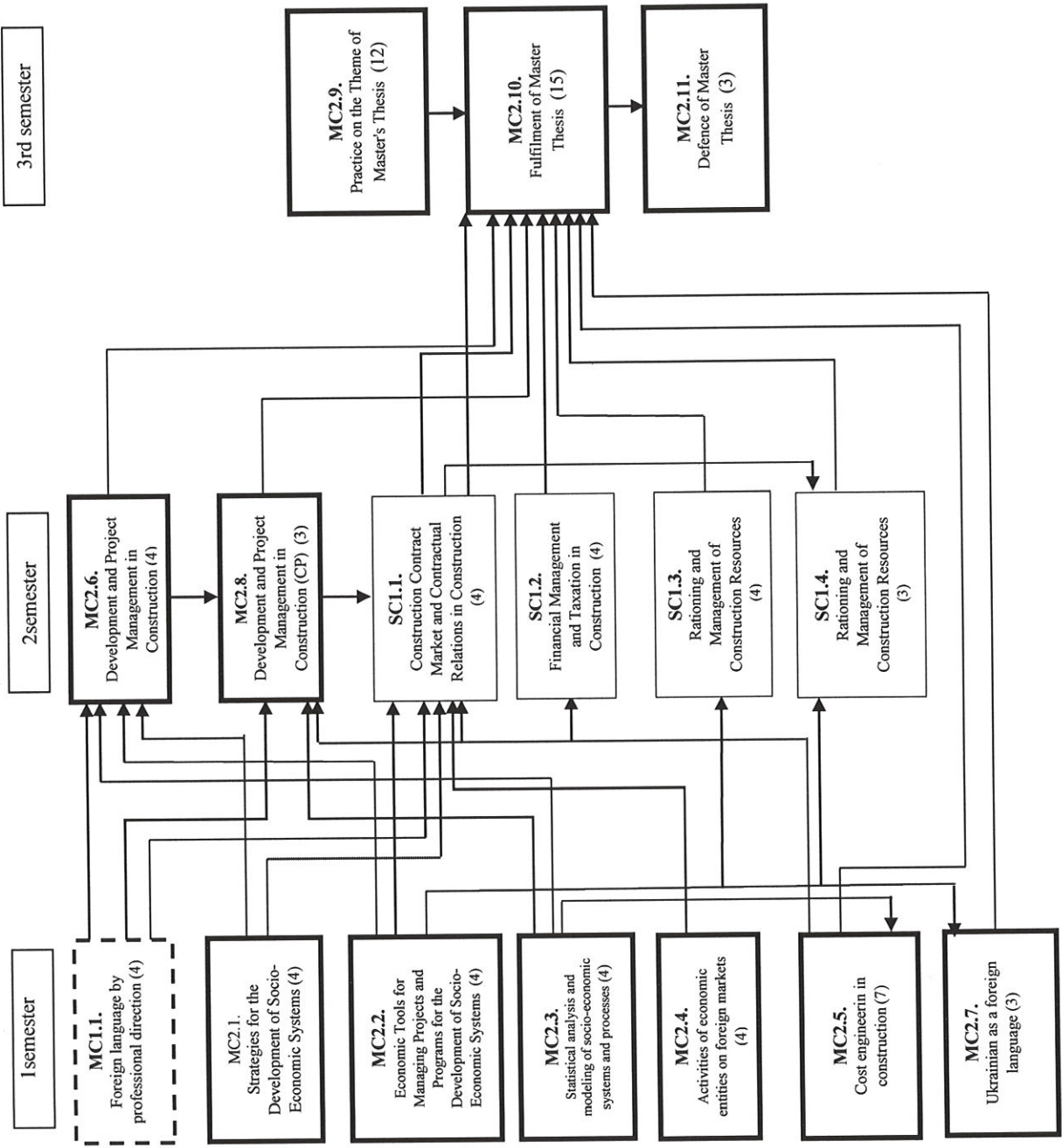


# Structural and logical scheme (selective block 01)

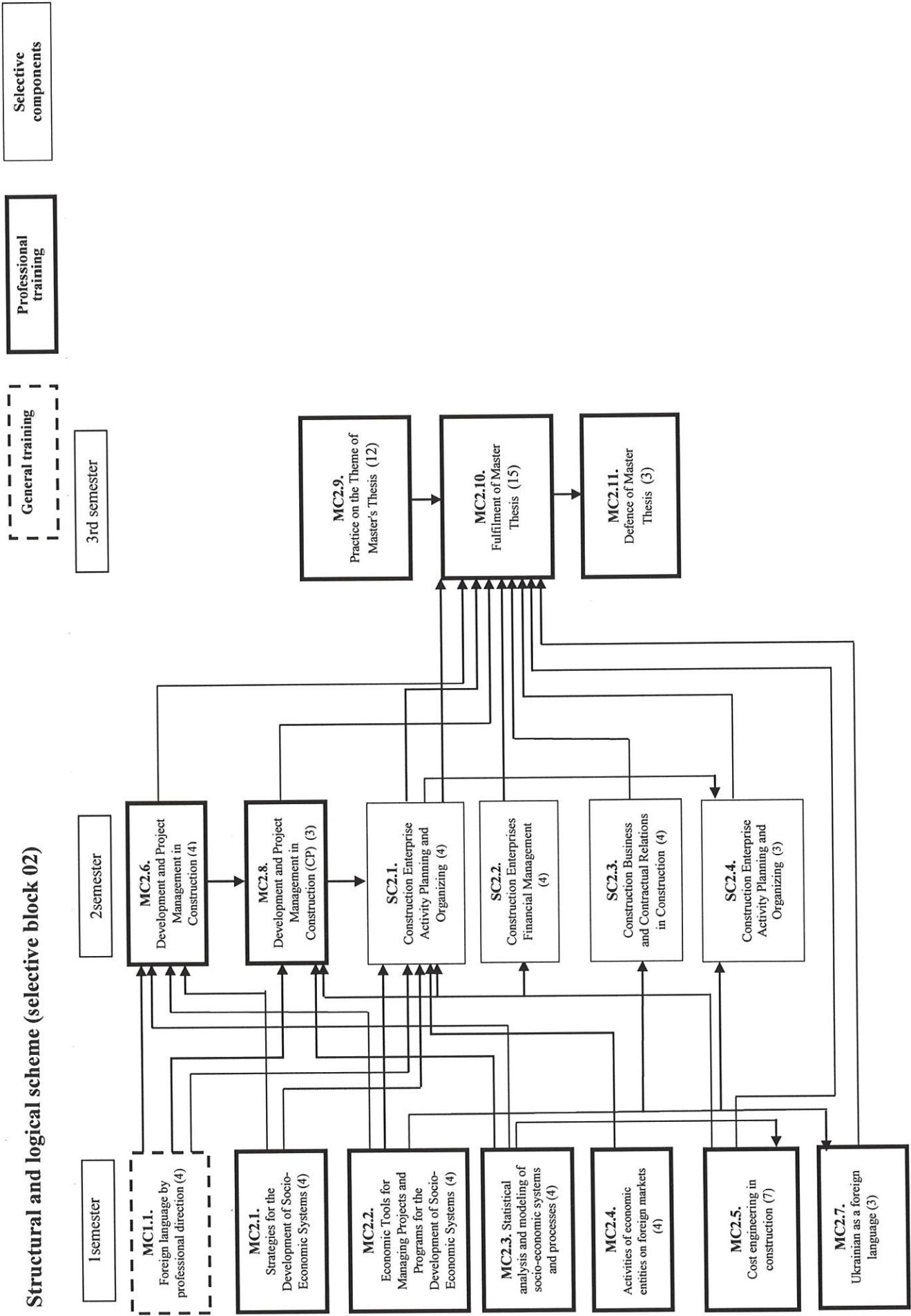
Selective components

Professional training

General training



# Structural and logical scheme (selective block 02)





## 5. Matrix of compliance of program competences with the educational components "

	MC1.1.	MC2.1.	MC2.2	MC2.3.	MC2.4.	MC2.5.	MC2.6.	MC2.7.	MC2.8.	MC2.9.	MC2.10	MC2.11	SC1.1	SC1.2	SC1.3	SC1.4	SC2.1	SC2.2	SC2.3	SC2.4
InC	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•
GC1	•	•	•	•	•	•	•		•	•	•	•		•	•	•	•	•	•	•
GC2	•	•	•	•	•			•	•	•	•	•		•	•		•	•	•	•
GC3						•				•		•		•			•	•	•	•
GC4		•	•		•	•	•	•	•	•			•	•				•	•	•
GC5	•					•			•		•						•			•
GC6			•			•	•		•		•	•			•	•	•			•
GC7		•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•
GC8	•					•	•	•		•		•	•	•	•	•				
PC1		•							•	•	•	•	•	•	•	•	•	•	•	•
PC2	•				•			•	•				•							
PC3	•					•	•			•		•	•			•			•	•
PC4	•	•	•	•		•	•		•	•	•	•		•	•	•	•	•		•
PC5	•	•							•		•		•						•	
PC6						•	•		•	•	•	•		•	•	•	•	•		•
PC7					•		•		•	•	•	•		•	•	•	•	•		•
PC8	•						•		•		•		•	•			•	•	•	•
PC9			•						•		•				•	•	•			•
PC10		•	•						•	•	•	•					•			•
PC11			•						•	•	•	•					•			•
PC12									•		•									
PC13										•		•								
PCS1.1													•							
PCS1.2														•						
PCS1.3															•	•				
PCS2.1																	•			•
PCS2.2																		•		
PCS2.3																			•	

**Conditional notations:** MC<sub>i</sub> – mandatory component, SC<sub>i</sub> – selective discipline, i – the number of disciplines in the list of components of educational constituent, InC – integral competence, GC<sub>j</sub> – general competence, PC<sub>j</sub> – special competence, j – number of competence in the list of competencies of the educational constituent.

6. The matrix of providing programme learning results to the relevant components of the Master's educational program"

	MC1.1.	MC2.1.	MC2.2.	MC2.3.	MC2.4.	MC2.5.	MC2.6.	MC2.7.	MC2.8.	MC2.9.	MC2.10.	MC2.11.	SC1.1.	SC1.2.	SC1.3.	SC1.4.	SC2.1.	SC2.2.	SC2.3.	SC2.4.
PLO1	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•
PLO2	•	•					•		•	•	•	•	•	•	•	•	•	•	•	•
PLO3	•				•		•	•	•				•							
PLO4			•						•		•						•			•
PLO5	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•
PLO6	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
PLO7			•		•	•	•		•	•	•	•	•	•	•	•	•	•	•	•
PLO8	•					•	•				•	•				•				•
PLO9	•	•	•	•			•			•		•			•	•				•
PLO10	•	•							•	•	•	•					•	•		•
PLO11	•	•	•		•	•	•		•	•	•	•	•	•			•	•	•	•
PLO12	•	•	•		•		•		•	•		•	•				•	•	•	•
PLO13	•	•	•		•	•	•		•	•	•	•	•	•			•	•	•	•
PLO14	•	•		•		•	•		•	•	•	•					•			•
PLO15			•						•		•					•	•			•
PLO16									•		•									
PLO17										•		•								
PLOS1.1													•							
PLOS1.2														•						
PLOS1.3															•	•				
PLOS2.1																	•			•
PLOS2.2																		•		
PLOS2.3																			•	
COM1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
COM2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AaR1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AaR2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AaR2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Conditional denotations: MCi – mandatory discipline, SCi – selective discipline, i – the number of disciplines in the list of components of educational constituent, PLOj –programm results (of specialty) , PLOSj – program results (of specialization), COM j – program results (communication), AaRj -program results (autonomy), j number of competence in the list of competencies of the educational constituent.