

**MINISTRY OF EDUCATION AND SCIENCE
OF UKRAINE**

**NATIONAL TECHNICAL UNIVERSITY
“KHARKIV POLYTECHNIC INSTITUTE”**



APPROVED BY

Rector of NTU “KhPI”

Ievhen SOKOL
Ievhen SOKOL

» 05 2023p.

**«FINANCE AND BANKING»
PROGRAM OF PROFESSIONAL EDUCATION**

Second (Master's) level of higher education

Major **072 – “Finance, Banking, Insurance and Stock Market”**

Field of knowledge **07 – Management and Administration**

Qualification: Master in **Finance, Banking, Insurance and Stock Market**

APPROVED BY

ACADEMIC COUNCIL OF NTU «KhPI»

Head of Academic Council

Leonid Tovazhnianskyi
Leonid Tovazhnianskyi

Minutes of Council meeting # 4

dated « 05 » 05 2023

Kharkiv 2023


APPROVAL SHEET FOR

“Finance and Banking” program of professional education

Level of higher education	Second (Master's)
Field of knowledge	07 Management and Administration
Major	072 «Finance, Banking, Insurance and Stock Market»
Qualification	Master in <u>Finance, Banking, Insurance and Stock Market</u>

APPROVED BY


OP Workgroup for major «Finance, Banking, Insurance and Stock Market»
Head of educational program

 Tetiana NAZAROVA

«02» 05 2023

AGREED UPON

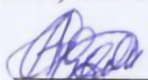
Chair of Accounting and Finance

 Oleksandr MANOYLENKO

«02» 05 2023

AGREED UPON

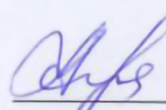
Student of Finance and Accounting
department, BEM-M422

 Artem ADAMENKO

«02» 05 2023

RECOMMENDED BY


Methodical Council of NTU “KhPI”
Deputy head of methodical council

 Ruslan MYHUSHCHENKO

«02» 05 2023

AGREED UPON

Deputy director of Educational and Research
Institute of Economics, Management and
International Business (EMIB)

 Valerii KOBELIEV

«02» 05 2023

INTRODUCTION

The Program corresponds to the Standard of Higher Education of Ukraine at the Master's level in the field of knowledge 07 Management and Administration, major 072 Finance, Banking, Insurance and Stock Market, which was approved and enacted by the order of the Ministry of Education and Science of Ukraine dated 20.06.2019 No. 866.

The Program is developed by the OP Workgroup of the Finance and Banking at Educational and Research Institute of Economics, Management and International Business of the National Technical University "Kharkiv Polytechnic Institute". The Workgroup consists of the following members:

Head of the program – Tetiana NAZAROVA, PhD in Economics, Associate Professor of Accounting and Finance department

Members of OP Workgroup:

Chair of Accounting and Finance, Doctor of Economic Science, Professor Manoylenko Oleksandr

Chair of Tourism and Hotel-Restaurant Business, Doctor of Economic Science, Professor Natalia YAKIMENKO-TERESCHENKO

Student of Accounting and Finance department Artem ADAMENKO

The Program reviews are attached.

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I. PROFILE OF THE PROGRAM FOR PROFESSIONAL EDUCATION
072 Major -
FINANCE, BANKING, INSURANCE AND STOCK MARKET

1 – General Information	
Higher education facility and department/institute	National Technical University “Kharkiv Polytechnic Institute”, Educational and Research Institute of Economics, Management and International Business, Accounting and Finance Department
Academic degree and qualification title in Ukrainian	Master, Master of Finance, Banking, Insurance and Stock Market. In Ukrainian:
Official title of educational program	Finance and Banking
Diploma type and credits in educational program	Master’s diploma, single, 90 ECTS credits, length of study - 1 year and 4 month
Accreditation	УД 21017670 certificate, valid until July 1, 2024
Cycle/level	HPK of Ukraine – 7 th level, QF EHEA – second cycle, EQF LLL – Level 7
Prerequisites	First (bachelor) level of higher education; Specialist or Masters in other majors
Language	Ukrainian, English
Educational program validity	Until the end of validity of major accreditation certificate Reviewed annually
Description of educational program URL	https://web.kpi.kharkov.ua/acctfin/osvitnya-programa-finansi-i-bankivska-sprava-2/
2 – Objective of Educational Program	
Ensuring the training of highly qualified specialists who possess fundamental knowledge, mastered technologies and practical tools in management, research and have expert analytical skills in the field of finance and banking at the macro- and micro-levels, taking into account the requirements of a dynamic business environment.	
3 – Features of Educational Program	
Subject area (field of study, major)	<p><i>Field of knowledge:</i> Management and Administration <i>Major:</i> Finance, Banking, Insurance and Stock Market <i>Object of study:</i> management and administration in the field of finance, banking, insurance and stock market <i>Learning objectives:</i> training of specialists capable of solving complex tasks and problems in the process of professional activity or training in the field of finance, banking, insurance and stock market, which involves research and/or innovation and is characterized by uncertainty of conditions and requirements. <i>Theoretical content of the subject area:</i> scientific concepts, categories, theories and concepts of financial science that determine the trends and patterns of functioning and development of finance, banking, insurance and the stock market. <i>Methods, techniques and technologies:</i> general scientific methods of cognition, mathematical, statistical and qualitative methods of financial analysis, economic and mathematical modeling, information and communication technologies, methods and achievements of technologies of world and domestic financial science and practice. <i>Tools and equipment:</i> modern information and analytical systems; standard, special and industry-specific software products; computers and presentation equipment</p>

Emphasis of educational program	Educational and professional program with hands-on orientation. Professional emphasis: skill set to be applied in business analysis, project management and other management and research activities using innovative technologies, tools and methods of financial systems management.
Main focus of educational program and major	General education, Major 072 "Finance, Banking, Insurance and stock market". Key words: financial systems, financial services, banking, insurance, corporate finance, portfolio investments, financial engineering, trading, hedging, financial technology, stock market, cryptocurrency market.
Program features	The program is multidisciplinary and provides practical training to develop skills in finance, banking, insurance and the stock market. Mastering up-to-date professional knowledge and skills in the field of Finance, Banking, Insurance, Stock Market in combination with in-depth study of English. Application of an integrated approach to professional growth with an emphasis on hands-on approach; combination of research and practice (educational process involves researches and academic writing: essays, term papers, articles, reports). Electives unit 1 Banking. The program offers Strategic Management methods in Banking, study of loans and credit and project financing opportunities . The students learn to apply a project-based approach to investment banking and to develop innovative financial services. Electives unit 2. Corporate Finance. The program offers a comprehensive approach to Corporate Finance in the context of structural changes in Capital Budgeting and operational activity financing. The students learn Risk Analysis methods in Corporate Finance, methods of controlling and internal audit in Corporate Finance. Electives unit 3. Stock Market and Crypto Trading. The program offers a comprehensive approach to the studying of classical and innovative financial instruments and technologies aimed to finance businesses. The students learn structure and functioning of the international stock market and impact factors, the impact of block-chain technologies on the architecture and functioning of the financial market, main provisions, features and factors of crypto trading.
4 – Employability and Continuing Education	
Employability	According to the National Classification of Business Activities (DK 009:2010) and taking into account the requirements of the labor market, the program graduates can work in the following spheres in finance, banking, insurance and stock market: K 64. Financial services, except insurances and pensions K 64.1 Financial intermediary K 64.11 Central bank K 64.19 Other types of financial intermediary K 64.9 Other financial services, except insurances and pensions K 64.91 Financial leasing K 64.92 Other types of lending K 64.99 Other financial services (except insurances and pensions), etc. K 65 Insurance, reinsurance and non-state pensions, except for compulsory social insurance K 65.1 Insurance K 65.11 Life insurance

	<p>K 65.12 Other types of insurance, except life insurance K 65.2 Reinsurance K 65.3 Non-governmental pensions K 66 Auxiliary activities in the field of financial services and insurance K 66.1 Auxiliary activities in the field of financial services, except insurance and pensions K 66.121 Financial markets management K 66.12 Mediation of contracts for securities or commodities K 66.19 Other auxiliary activities in the field of financial services, except insurance and pensions K 66.2 Auxiliary activities in the field of insurance and pensions K 66.21 Risk and damage assessment K 66.22 Activities of insurance agents and brokers K 66.29 Other auxiliary activities in the field of insurance and pensions K 66.3 Investment fund management O 84.3 Activities in the field of compulsory social insurance According to the Classification of Professions (DK 003:2010), a specialist in Finance, Banking, Insurance and Stock Market may hold the following positions: 12 Head of enterprises, institutions and organizations 1231 Head of finance, accounting, economic, legal and administrative departments and other 13 Managers of small enterprises without board 146 Financial activities managers 1461 Managers – financial intermediaries 1462 Financial leasing managers 1463 Loan managers 1465 Life and savings insurance managers 1466 Pension insurance managers 1467 Auxiliary activities in the field of finance managers 1468 Auxiliary activities in the field of insurance managers 1469 Financial intermediation managers 2413 Securities experts 2413.2 Foreign exchange professionals 2414 Professionals in the field of financial and economic security of enterprises, institutions and organizations 2414.2 Professionals in the field of financial and economic security 341 Specialists in the field of finance and trade 3411 Dealers (stock exchange traders) and brokers (intermediaries) in collateral and financial transactions 3412 Insurance agents 3419 Other specialists in the field of finance and trade 342 Commercial service agents and trade brokers A graduate may hold other positions in accordance with professional job titles characterized by special professional competencies.</p>
Continuing Education	Further education at third (educational and academic) level of higher education, training and doctoral/post-doctoral education is possible.
5 – Teaching and grading	
Teaching and learning	Student-centered learning in the form of lectures, seminars, workshops, consultations, self-study, coursework based on the study of textbooks, manuals, periodicals, and the use of the Internet. Teaching is student-centered and is implemented through research-

	based learning, that stimulates an individual approach to self-organization of the master's student through a combination of lectures, workshops (under the guidance of lecturers - professors and associate professors of the department), independent work (including distance education) and self-study (under the guidance of supervising instructors: phased preparation of the master's thesis, internship, etc.
Grading	On-going and final testing of knowledge (Q&A, individual tasks, testing, etc.), tests and exams (oral and written), presentations, project work, defense of the internship report, public defense of the thesis.
6 – Program Competencies	
Integral competencies	Ability to solve complex tasks and problems in professional activities or in the process of studying in the field of finance, banking, insurance, stock market, which involves research and/or innovation and is characterized by uncertainty of conditions and requirements.
General competencies	GC 1. Ability to think abstractly, analyze and synthesize. GC 2. Ability to communicate in a foreign language. GC 3. Ability to conduct sound research. GC 4. Ability to identify, state and solve problems. GC 5. Ability to make informed decisions. GC 6. Interpersonal interaction skills. GC 7. Ability to motivate people and move towards a common goal. GC 8. Ability to work in an international context. GC 9. Ability to act on the basis of ethical considerations (motives).
Special (professional) competencies (defined within the standard of higher education for the major)	PC 1. Ability to use the fundamental laws of development of finance, banking and insurance in combination with research and management tools for professional and academic activities. PC 2. Ability to use theoretical and methodological tools for financial activities assessment and modeling. PC 3. Ability to apply management skills in the field of finance, banking and insurance. PC 4. Ability to evaluate the effectiveness of academic, analytical and methodological tools to justify management decisions in the field of finance, banking and insurance. PC 5. Ability to assess the limits of their own professional competence and improve their professional skills. PC 6. Ability to apply interdisciplinary approaches to solving complex problems in the field of finance, banking and insurance. PC 7. Ability to search, use and interpret information necessary for solving professional and academic problems in the field of finance, banking and insurance. PC 8. Ability to apply innovative approaches in the field of finance, banking and insurance. PC 9. Ability to develop technical specifications for the design of information systems in the field of finance, banking and insurance.
Special (professional) competencies for electives unit 01 «Banking» (defined by higher education institution)	PC 1. Ability to solve complex specialized tasks and practical problems in the field of international banking, which involves the use of various decision-making methods in cross-border banking operations by forming targeted areas of investment capital, development and implementation of financial services based on the use of modern information technology.
Special (professional) competencies for electives unit 02 «Corporate	PC 2. Ability to identify financial state of corporate systems, to form an effective portfolio taking into account risks and possible changes through internal financial control and audit based on modern academic and practical methods.

Finance» (defined by higher education institution)	
Special (professional) competencies for electives unit 03 «Stock Market and Cryptotrading» (defined by higher education institution)	PC 3. Ability to form complex financial products, to evaluate risks of their introduction and operation in the context of globalization and internationalization of international stock markets, taking into account structural changes associated with the introduction of innovative financial technologies.
7 – Learning Outcomes	
Learning outcomes of educational program (defined by the standard of higher education for the major)	<p>LO01. To apply fundamental laws of development of finance, banking and insurance in combination with research and management tools for professional and academic activities.</p> <p>LO02. To be aware of the latest achievements, concepts and academic methodologies in the field of finance, banking and insurance.</p> <p>LO03. To adapt and modify existing academic approaches and methods to specific situations occurred during work.</p> <p>LO04. To search, process, systematize and analyze information necessary for solving professional and academic problems in the field of finance, banking and insurance.</p> <p>LO05. To communicate fluently in a foreign language on professional and academic issues, to present and to discuss research results.</p> <p>LO06. To present research results in an accessible and reasoned manner orally and in writing, to participate in professional discussions.</p> <p>LO07. To solve ethical dilemmas based on the law, ethical principles and universal values</p> <p>LO08. To be able to apply and manage innovative approaches in the field of finance, banking and insurance.</p> <p>LO09. To apply management skills in the field of finance, banking and insurance.</p> <p>LO10. To identify and model financial activities of business entities.</p> <p>LO11. To apply in-depth knowledge in decision-making in the field of financial, banking and insurance management.</p> <p>LO12. To justify the choice of management decision options in the field of finance, banking and insurance and to evaluate their effectiveness, taking into account the goals, existing constraints, legal and ethical aspects.</p> <p>LO13. To assess the degree of tasks complexity at planning and results processing stages.</p>
Learning outcomes of educational program for electives unit 01 “Banking” (defined by the standard of higher education for the major)	LO1 To master variety of methods and tools for banking strategy development, including investment capital management and design of complex financial instruments for various target markets providing banking services.
Learning outcomes of educational program for electives unit 02 “Corporate Finance” (defined by the standard of higher education for the major)	LO2 To master methodological tools for identifying the state of corporate finance, to justify the selection process of securities for international portfolio, to monitor and audit changes in its structure and to assess risk with subsequent adoption of appropriate effective management decisions

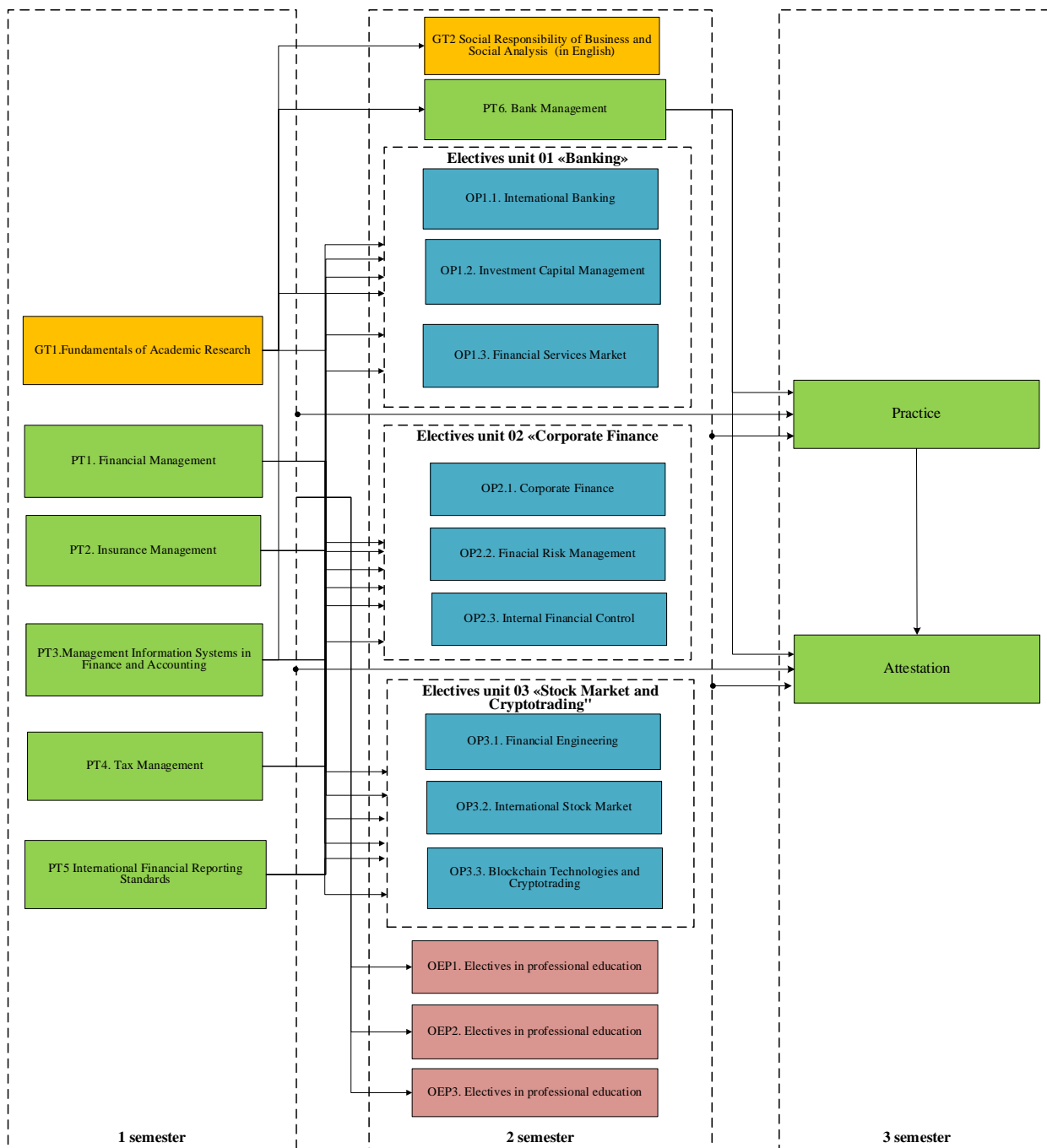
Learning outcomes of educational program for electives unit 03 “Stock Market and Cryptotrading” (defined by the standard of higher education for the major)	LO3 Ability to develop complex financial instruments, to analyze the benefits and risks of their implementation in the context of the implementation of innovative financial technologies in the international financial market and to evaluate opportunities and threats of arbitrage transaction
8 – Resources for Educational Process Implementation	
Personnel	Meets the staffing requirements for ensuring the implementation of educational activities in the field of higher education in accordance with the current legislation of Ukraine (Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Licensing Conditions for the Educational Activities of Educational Institutions" of December 30, 2015 No. 1187 (as amended by the Resolution of CM No. 180, No. 365 dated 24.03.2021)
Equipment	Meets the technological requirements for technical support of educational activities in the field of higher education in accordance with the current legislation of Ukraine (Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Licensing Conditions for the Educational Activities of Educational Institutions" of December 30, 2015 No. 1187 (as amended by the Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Licensing Conditions for the Conduct of Educational Activities of Educational Institutions"). NO. 347 dated 10.05.2018, No. 180 dated 03.03.2020, No. 365 dated 24.03.2021)
Information sources and learning materials	Meets the informational requirements for educational, methodological and information support of educational activities in the field of higher education in accordance with the current legislation of Ukraine (Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Licensing Conditions for the Educational Activities of Educational Institutions" of December 30, 2015 No. 1187 (as amended by the Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Licensing Conditions for the Educational Activities of Educational Institutions"). No. 347 dated 10.05.2018, No. 180 dated 03.03.2020, No. 365 dated 24.03.2021)
9 – Academic Mobility	
National credits mobility	On the basis of bilateral agreements between the National Technical University "Kharkiv Polytechnic Institute" and higher education institutions of Ukraine
International credits mobility	Academic mobility on the basis of bilateral agreements between the National Technical University "Kharkiv Polytechnic Institute" and Otto-von-Guericke University of Magdeburg (Germany), University of Wroclaw (Poland), University of Miskolc (Hungary), Sapienza University (Rome, Italy).
Foreign students learning	Possible after completing Ukrainian language course or studying in English is possible, if student is certified.

2. List of the Program Components and its Structure

2.1 List of educational program components

Code	Educational program components	Number of credits	Final examination form
1	2	3	4
Mandatory components of educational program			
<i>General education</i>			
GT1	Fundamentals of Academic Research	5	Pass
GT2	Social Responsibility of Business and Social Analysis (in English)	3	Pass
<i>Special (professional) education</i>			
PT1	Financial Management	5,0	Exam
PT2	Insurance Management	5,0	Exam
PT3	Management Information Systems in Finance and Accounting	5,0	Exam
PT4	Tax Management	5,0	Exam
PT5	International Financial Reporting Standards	5,0	Pass
PT6	Bank Management	3,0	Exam
	Practice	15	Pass
	Attestation	15	Pass
	Total credits of mandatory components	66	
Selective components of educational program			
Electives unit 01 «Banking»			
OP1.1	International Banking	4	Exam
OP1.2	Investment Capital Management	4	Exam
OP1.3	Financial Services Market	4	Exam
Electives unit 02 «Corporate Finance			
OP2.1	Corporate Finance	4	Exam
OP2.2	Financial Risk Management	4	Exam
OP2.3	Internal Financial Control	4	Exam
Electives unit 03 «Stock Market and Cryptotrading»			
OP3.1	Financial Engineering	4	Exam
OP3.2	International Stock Market	4	Exam
OP3.3	Blockchain Technologies and Cryptotrading	4	Exam
<i>List of electives in professional education</i>			
OEP1	Electives in professional education 1	4	Pass
OEP2	Electives in professional education 2	4	Pass
OEP3	Electives in professional education 3	4	Pass
	Total credits of electives:	24	
	TOTAL CREDITS PER EDUCATIONAL PROGRAM:	90	

3. Structural-Logic Scheme of the Educational Program



- general education
- special (professional) education
- selective components of educational program
- electives in professional education

4. Distribution of Educational Program Content According to the Components Groups and Education Cycles

#	Education cycle	Studying workload of student (credits / %)		
		Mandatory components of educational and professional program	Elective components of educational and professional program	Total credits per program
1	2	3	4	5
1	General education cycle	8 / 9,0	-	8 / 9,0
2	Special (professional) education cycle	58 / 64	-	58 / 64
3	Electives	-	24 / 27	24 / 27
Total credits per program		66 / 73	24 / 27	90 / 100,0

5. Certification of Graduates

The certification of the educational program graduates, major 072 "Finance and Banking, Insurance and Stock Market" is carried out in the form of a public defense of thesis (with mandatory plagiarism check) and is completed with the issuance of a document in the established form certifying that the holder received Master's Degree with the following qualification: Master of Finance, Banking, Insurance and Stock Market.

Attestation is carried out openly and publicly.

6. Compliance Matrix of Program Competencies with Educational Program Competencies

Learning outcomes	Competencies																	
	General									Special (professional)								
	GC01	GC02	GC03	GC04	GC05	GC06	GC07	GC08	GC09	PC01	PC02	PC03	PC04	PC05	PC06	PC07	PC08	PC09
LO01	GT1		GT1 PT1	GT1 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4 PT5 PT6		GT2	GT1 GT2 PT5 PT6	GT1 GT2	PT1 PT2 PT3 PT4	PT1 PT2 PT3 PT4 PT5 PT6	PT1 PT2 PT3 PT4	GT1 PT1 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4	GT1 PT3 PT5 PT6
LO02	GT1	GT2		GT1 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4 PT5 PT6		GT2	GT1 GT2, PT5 PT6	GT1 GT2	PT1 PT2 PT3 PT4	PT1 PT2 PT3 PT4 PT5 PT6	PT1 PT2 PT3 PT4	GT1 PT1 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4	GT1 PT3 PT5 PT6
LO03	GT1		GT1	GT1 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4 PT5 PT6	GT2		GT1 GT2 PT5 PT6	GT1 GT2	PT1 PT2 PT3 PT4	PT1 PT2 PT3 PT4 PT5 PT6	PT1 PT2 PT3 PT4	GT1 PT1 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4	GT1 PT3 PT5 PT6
LO04	GT1		PT1	GT1 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4 PT5 PT6		GT2	GT1 GT2 PT5 PT6	GT1 GT2	PT1 PT2 PT3 PT4	PT1 PT2 PT3 PT4 PT5 PT6	PT1 PT2 PT3 PT4	GT1 PT1 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4	GT1 PT3 PT5 PT6
LO05					GT1 PT1 PT2 PT3 PT4 PT5 PT6													
LO06	GT1		PT1	GT1 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4 PT5 PT6	GT2	GT2	GT1 GT2 PT5 PT6		PT1 PT2 PT3 PT4	PT1 PT2 PT3 PT4 PT5 PT6	PT1 PT2, PT3 PT4	GT1 PT1 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4	GT1 PT3 PT5 PT6
LO07	GT1				GT1 PT1 PT2 PT3 PT4 PT5 PT6	GT2	GT2	GT1 GT2 PT5 PT6	GT1 GT2									
LO08			GT1	GT1 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4 PT5 PT6			GT1 GT2 PT5 PT6	GT1 GT2	PT1 PT2 PT3 PT4	PT1 PT2 PT3 PT4 PT5 PT6	PT1 PT2, PT3 PT4	GT1 PT1 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4	GT1 PT3 PT5 PT6
LO09		GT2		GT1 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4 PT5 PT6		GT2 PT1	GT1 GT2 PT5 PT6	GT1 GT2	PT1 PT2 PT3 PT4	PT1 PT2 PT3 PT4 PT5 PT6	PT1 PT2 PT3 PT4	GT1 PT1 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4	GT1 PT3 PT5 PT6
LO10		GT2	PT1	GT1 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4 PT5 PT6			GT1 GT2, PT5 PT6	GT1 GT2	PT1 PT2 PT3 PT4	PT1 PT2 PT3 PT4 PT5 PT6	PT1 PT2 PT3 PT4	GT1 PT1 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4	GT1 PT3, PT5 PT6
LO11				GT1 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4 PT5 PT6			GT1 GT2 PT5 PT6	GT1 GT2	PT1 PT2 PT3 PT4	PT1 PT2 PT3 PT4 PT5 PT6	PT1 PT2 PT3 PT4	GT1 PT1 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4	GT1 PT3, PT5 PT6
LO12	GT1		PT1	GT1 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4 PT5 PT6	GT2	GT2 PT1	GT1 GT2, PT5 PT6	GT1 GT2	PT1 PT2 PT3 PT4	PT1 PT2 PT3 PT4 PT5 PT6	PT1 PT2 PT3 PT4	GT1 PT1 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4	GT1 PT3 PT5 PT6
LO13			GT1 PT1	GT1 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4 PT5 PT6		GT2 PT1	GT1 GT2 PT5 PT6	GT1 GT2	PT1 PT2, PT3 PT4	PT1 PT2 PT3 PT4 PT5 PT6	PT1 PT2 PT3 PT4	GT1 PT1 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 PT1 PT2 PT3 PT4	GT1 GT2 PT1 PT2 PT3 PT4 PT5 PT6	GT1 GT2 PT1 PT2 PT3 PT4	GT1 PT3 PT5 PT6