MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

NATIONAL TECHNICAL UNIVERSITY «KHARKIV POLYTECHNIC INSTITUTE"

		APPROVE	D	
		The Rector	of NTU "Kl	hPI"
				_Ye.I. Sokol
		«»		_20
		·		
EDUCATIONAL	L AND PRO	OFESSIONA	L PROG	RAM
	«MANAG	EMENT »		
The secon	nd (master) lev	vel of higher ed	ucation	
		– Managemen		
in the field of know	· ·		<u> </u>	ration
qualif	ication Maste	er of Managem	<u>ent</u>	
	APPROVE		ICH OEN	
	THE ACA	DEMIC COUN	CIL OF N	TU "KhPI"
	The Head o	f the Academic	Council	
		/L	.L. Tovazhr	nyanskyy
	Protocol № dated «	 >	20	
	/	′ 		

APPROVAL SHEET for the educational and professional program

evel of higher education	Secon	nd (master)	
ield of knowledge	07 Ma	anagement and Administration	
pecialty	073 «I	Management»	
pecialization			_
Qualification	Maste	er of Management	
ENDORS by the Scientific and Methodolog Commission in specialty «Managem	gical	RECOMMENDED by the Methodological Counci of NTU "KhPI"	1
Head of the Commis	ssion	Deputy Head of the Methodological Council	
N.S. Krasnoku	ıtska		
«»20)	R.P. Mygushchenko	,
		« <u> </u>	-
AGR Head of the Department Management and TaxaN.S. Krasnoku	ntion	AGREE Head of the Department of Innovative Entrepreneurship Managemen and International Economic Relations	f t S
«»2	0	P.G. Pererv	'a
Head of the Department International Business and Final	ance	AGREED Director of the Institute of Education and Science in Economics, Management and International Business	l l
V.Ya. Mishcho		O.V. Manoylenko)
	0	«»20	

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FOREWORD

The program was developed by the project group formed by the departments of management and taxation, innovative entrepreneurship management and international economic relations, international business and finance at the Institute of Education and Science in Economics, Management and International Business of National technical university "Kharkiv polytechnic institute". The project group consisted of :

The Head of the project group (the program guarantor) – Krasnokutska Nataliia Stanislavivna, doctor of economic sciences, professor, the Head of the department of management and taxation.

The members of the project group:

- 1. Brin Pavlo Volodymyrovych candidate of economic sciences, associate professor, associate professor of the department of management and taxation.
- 2. Danko Taras Volodymyrovych candidate of economic sciences, associate professor, professor of the department of international business and finance.
- 3. Dyuzhev Viktor Gennadiyovych doctor of economic sciences, professor, professor of the department of innovative entrepreneurship management and international economic relations.
- 4. Pantelyeyev Mykhaylo Sergiyovych candidate of technical sciences, associate professor, associate professor of the department of innovative entrepreneurship management and international economic relations.
- 5. Prokhorenko Olena Viktorivna candidate of economic sciences, associate professor, associate professor of the department of management and taxation.
- 6. Chaikova Olena Igorivna candidate of economic sciences, associate professor, associate professor of the department of international business and finance.

I. PROFILE OF THE EDUCATIONAL AND PROFESSIONAL PROGRAM IN SPECIALTY 073 – MANAGEMENT

1 – General information										
Full name of higher	National technical university "Kharkiv polytechnic institute"; the									
educational institution	institute of education and science in economics, management and									
and structural unit	international business; the department of management and taxation,									
	the department of international business and finance, the department									
	of innovative entrepreneurship management and international									
The decree of higher	economic relations Mostor Mostor of Mostor parameters									
The degree of higher education and	Master, Master of Management									
qualification title										
Official name of the	The educational and professional program "Management"									
educational program	The educational and professional program wanagement									
Type of diploma and	Unitary, 90 ECTS credits, term of study - 1 year and 4 months									
scope of the										
educational program										
Availability of	Certificate HД № 2192126, valid until July 1, 2025									
accreditation										
Cycle/level	National Qualification Framework (Ukraine) – level 8, EQF LLL –									
	Level 7; QF EHEA – Second cycle									
Prerequisites	Bachelor's degree, specialist's degree, master's degree									
Language of instruction	Ukrainian									
The validity period of	Corresponds to the validity period of the accreditation certificate									
the educational										
program Internet-address of the	http://www.kpi.kharkov.ua/ukr/									
permanent description	http://www.kpi.kharkov.ua/uki/									
of the educational										
program										
	- The purpose of the educational program									
	ied professionals capable of solving practical problems and complex									
	field of management of organizations under uncertain conditions and									
requirements, carrying or	at profession-related research and innovation activities.									
3 -	- Characteristics of the educational program									
Subject area	Field of knowledge: 07 Management and Administration									
(field of knowledge,	Specialty: 073Management									
specialty,										
specialization)										
Orientation of the	The educational and professional program has a practical									
educational program	orientation.									
	The program's emphasis is on the formation of capabilities for									
	carrying out administrative, entrepreneurial, project, and research activities using innovative approaches and methods of managing									
	organizations.									
The main focus of the	Comprehensive general education in specialty 073 «Management».									
educational program	Key words: management, administration, organization, leadership,									
and specialization	managerial decisions, project management, strategy, change									
	management, corporate governance.									

Features of the program	The program is multidimensional and involves practical training
	aimed at developing skills in the sphere of management of
	contemporary organizations and their structural subdivisions
4 – Suitabi	ity of graduates for employment and further training
Suitability for	Graduates can be employed in the following groups of positions
employment	(according to the National classifier of Ukraine: Classification of
	occupations SC 003:2010):
	12. Heads of enterprises, establishments and organizations.
	13. Directors of small enterprises without administrative apparatus
	(intermediate management levels).
	14. Managers (administrators) of enterprises, establishments,
	organizations and their departments. 23. Lecturers.
	24. Other professionals.
Further training	Graduates can continue their studies at the third (educational and
Turner training	research) level of higher education, as well as can get advanced
	training and acquire additional, post-qualifying education.
	5 – Teaching and evaluation
Teaching and learning	Student-centered teaching in the form of lectures, seminars,
	practical classes, consultations. Classroom activities are
	supplemented by students' independent work, preparation of term
	papers based on working with textbooks and scientific periodicals
	and using the Internet resources
Evaluation	Ongoing and final assessment of students' knowledge (oral quizzes,
	written exam works, individual assignments, tests and other forms),
	examinations (oral and written), presentations, project works,
	defense of internship reports, public defense of qualification works.
Integral competency	6 – Program competencies Ability to perform tasks and solve problems of any complexity in
integral competency	the sphere of management or in the process of learning that involves
	conducting research and/or developing innovations and is
	characterized by uncertainty of conditions and requirements
Generic competencies	GC01. Capacity for abstract thinking, analysis, synthesis and
1	revealing interconnections between phenomena and processes
	GC02. Ability to conduct research at an appropriate level
	GC03. Ability to communicate with representatives of various
	professional groups and in an international context
	GC04. Skills in the use of information and communication
	technologies for searching, processing, analyzing information from
	various sources and making decisions
	GC05. Ability to organize and motivate people to move towards a
	common goal, work in a team GC06. Ability to act on the basis of ethical reasoning, in a socially
	responsible and conscientious way
	GC07. Ability to identify and solve problems, generate new ideas
Professional (specialty-	SC01. Ability to choose and use appropriate management concepts,
specific) competencies	methods and tools, in particular in accordance with international
(defined by the	standards
specialty standard of	SC02. Ability to manage organization and organizational change
higher education)	SC03. Ability to analyze and structure organizational problems,
	make organizational decisions and ensure their implementation

	SC04. Ability to define criteria for determining future directions in organizational development, develop and implement corresponding strategies and plans
	SC05. Capacity for self-development, life-long learning and effective self-management
	SC06. Ability to effectively use human resources and ensure
	personnel development in an organization
	SC07. Ability to create and organize effective communications in
	the management process
	SC08. Skills related to developing and exercising leadership
	SC09. Ability to develop and manage projects, take the initiative
	and demonstrate entrepreneurial capability
	SC10. Ability to use psychological technologies when working with
Due ferral and (2002) 160	personnel
Professional (specialty- specific) competencies	SC1.1. Ability to choose and use methods and instruments of crisis management in organizations
for optional block 01	SC1.2. Ability to develop and use criteria of customer-oriented
«Management of	management, management of outsourcing and organizational
Organizations and	effectiveness
Administration»	
(defined by the higher	
education institution)	
Professional (specialty-	SC2.1. Ability to plan, implement and control business-processes
specific) competencies	aimed at achieving efficiency of international business operations of
for optional block 02 «International Business	enterprises SC2.2. Ability to develop and implement activities related to
Operations Operations	SC2.2. Ability to develop and implement activities related to distribution of products and services in international markets
Management» (defined	distribution of products and services in international markets
by the higher education	
institution)	
Professional (specialty-	SC3.1. Ability to develop logistics strategies for enterprises and use
specific) competencies	methods of logistics management
for optional block 03	SC3.2. Ability to choose and use methods of marketing
«Business Administration»	management for accomplishing tasks of enterprise functioning and development
(defined by the higher	development
education institution)	
Professional (specialty-	SC4.1. Ability to organize business consulting and diagnose
specific) competencies	enterprise activities
for optional block 04	SC4.2. Ability to build and manage enterprise potential
«Management of	SC4.3. Ability to manage innovation activities of enterprises
Enterprises and	
Organizations» (defined by the higher	
education institution)	
Professional (specialty-	SC5.1. Ability to develop policy and manage innovation activities
specific) competencies	of enterprises
for optional block 05	SC5.2. Ability to develop innovation marketing strategies on the
«Management of	basis of the principle of efficient use of results
Innovation Activity»	SC5.3. Ability to manage the process of commercialization of
(defined by the higher	intellectual property relations in organizations and technology
education institution)	transfer

Professional (specialty-specific) competencies for optional block 06 «Entrepreneurial activity management» (defined by the higher education institution) Professional (specialty-specific) competencies for optional block 07 «International business» (defined by the higher education institution)	SC6.1. Ability to identify the structure of the innovation environment of an enterprise, approaches to assessing the innovation potential and climate of an enterprise SC6.2. Ability to use creative technologies in an entrepreneurial activity SC7.1. Ability to plan, implement and control business-processes aimed at attaining international goals of enterprises SC7.2. Ability to plan and carry out international marketing activities of enterprises in foreign markets
,	7 – Program learning outcomes
Specialty-specific program learning outcomes (defined by the specialty standard of higher education)	PO01. To use management concepts, methods and tools for effective and efficient management of organizations PO02. To analyze and structure organizational problems, make organizational decisions and create conditions for their implementation PO03. To establish links and relations between elements of organization management system PO04. To justify and manage projects, generate entrepreneurial ideas PO05. To plan organization activities from both strategic and tactical perspectives PO06. To be able to manage organization, organizational changes by providing informational, methodological, material, financial and human resource related support, in particular in accordance with international standards and recommendations of models of perfection PO07. To use modern information and communication technologies in management PO08. To demonstrate the capacity for self-development, life-long learning, and effective self-management PO09. To demonstrate the ability to interact with people and influence their behavior PO10. To organize and carry out communications with representatives of various professional groups and in an international context PO11. To defend one's own point of view in a discussion using ethical reasoning and appealing to social responsibility PO12. To employ analytical and methodological tools for evaluating organizational environment and protecting intellectual property PO13. To carry out research activities
Program learning outcomes for optional block 01 «Management of Organizations and Administration» (defined by the higher	PO1.1. To demonstrate problem-solving skills related to crisis management in organizations PO1.2. To define and use criteria of customer-oriented management, management of outsourcing and organizational effectiveness PO1.3. To demonstrate the ability to make organizational decisions on the basis of corporate social responsibility principles

education institution)	
Program learning outcomes for optional block 02 «International Business Operations Management» (defined by the higher education institution) Program learning outcomes for optional	PO2.1. To study business environment of international business operations of an enterprise PO2.2. To plan and organize international investment activities of enterprises PO2.3. To develop a marketing strategy for a foreign market PO3.1. To determine optimal parameters of logistics flows at an enterprise
block 03 «Business Administration» (defined by the higher education institution)	PO3.2. To use marketing management methods for attaining the goals (creating conditions for) of an enterprise functioning and growth PO3.3. To demonstrate skills related to making organizational decisions on the basis of corporate social responsibility principles
Program learning outcomes 3a for optional block 04 «Management of Enterprises and Organizations» (defined by the higher education institution)	PO4.1. To apply methods of business consulting and diagnostics of an enterprise activity PO4.2. To build and use the enterprise potential PO4.3. To plan, organize and assess the innovation activities of enterprises
Program learning outcomes for optional block 05 «Management of Innovation Activity» (defined by the higher education institution)	PO5.1. To demonstrate abilities to manage the processes of developing and implementing product, technological, marketing, organizational, managerial and other types of innovations PO5.2.To demonstrate abilities to develop and implement a strategy of innovation marketing in the activities of enterprises and organizations PO5.3.To assess the effectiveness of the use of intellectual property and technology transfer PO5.4.To use methods and heuristic techniques for stimulating creative thinking
Program learning outcomes for optional block 06 «Entrepreneurial activity management» (defined by the higher education institution)	PO6.1. To apply instruments for estimating costs and benefits of innovative entrepreneurship PO6.2. To master methods of critical analysis of domestic and international practice of innovative transformations occurring under integrative processes in regions PO6.3. To demonstrate problem-solving skills related to commercialization of scientific and technological innovations under conditions of uncertainty and risk
Program learning outcomes for optional block 07 «International business» (defined by the higher education institution)	PO7.1. To manage international competitiveness of an enterprise PO7.2. To plan international financial activity of an enterprise PO7.3. To develop an international marketing strategy for an enterprise

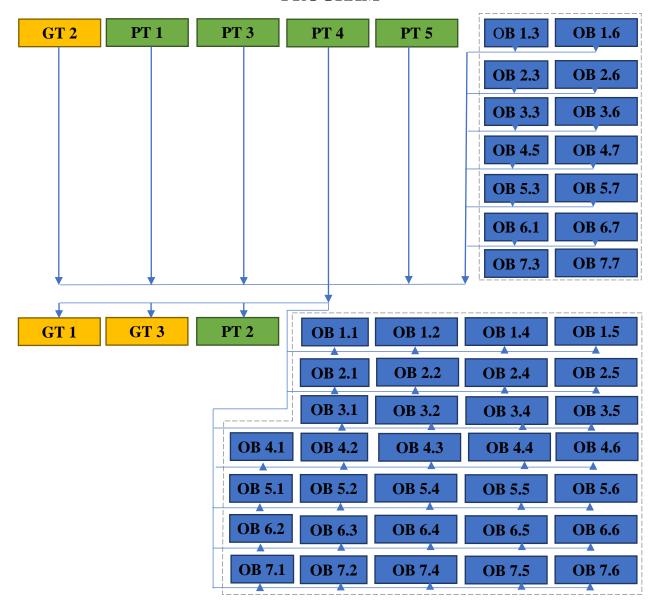
8 - Resou	rce support for the implementation of the program											
Personnel support	Meets the staffing requirements related to conducting educational											
	activities in the sphere of higher education in accordance with											
	current legislation of Ukraine (the Resolution of the Cabinet of											
	Ministers of Ukraine "On approval of the licensing conditions for											
	conducting educational activities of educational institutions" of											
	December 30, 2015, № 1187 (with the changes introduced in accordance with the Resolution of CM № 347 of 10.05.2018)											
Material and technical	Meets the technical requirements related to the material and											
support	technical base of educational activities in the sphere of higher											
Support	education in accordance with current legislation of Ukraine (the											
	Resolution of the Cabinet of Ministers of Ukraine "On approval of											
	the licensing conditions for conducting educational activities of											
	educational institutions" of December 30, 2015, No 1187 (with the											
	changes introduced in accordance with the Resolution of CM № 347											
	of 10.05.2018)											
Informational support	Meets the technical requirements regarding informational support											
and availability of	and availability of instructional materials for educational activities											
instructional materials	in the sphere of higher education in accordance with curren											
	legislation of Ukraine (the Resolution of the Cabinet of Ministers of											
	Ukraine "On approval of the licensing conditions for conducting											
	educational activities of educational institutions" of December 30,											
	2015, № 1187 (with the changes introduced in accordance with the											
	Resolution of CM № 347 of 10.05.2018)											
	9- Academic mobility											
National Credit	Academic mobility is based on bilateral agreements between											
Mobility	National technical university "Kharkiv polytechnic institute" and											
	other Ukrainian higher educational institutions											
International Credit	Academic mobility is based on bilateral agreements between											
Mobility	National technical university "Kharkiv polytechnic institute" and											
	Miskolc university (Hungary), Maribor university (Slovenia), Otto											
	von Guericke university Magdeburg (Germany), University of											
	Szczecin (Poland)											
Training of foreign	Students are offered the opportunity to study in English.											
applicants for higher												
education												

2. The list of components of the educational and professional program

Components of the educational program	1	Form of final
	credits	assessment
2	3	4
	1 0	~
	1	Credit
		Credit
Occupational Safety	3	Credit
Professional training		
Organization Management	5	Exam
Strategic Change Management	5	Exam
Information Systems and Technologies in Management	4	Exam
Project Management	4	Exam
Leadership and Conflict Management	4	Credit
Total amount for obligatory components	31	
Optional components of EP		
Optional block 01 "Management of Organizations and	Administrat	tion''
Business Ethics and Social Responsibility	4	Credit
Entrepreneurial Activity	5	Exam
Fundamentals of Management Consulting	6	Exam
Crisis Management	5	Exam
Special Course on Modern Challenges of Management	5	Credit
Fundamentals of Scientific Research	4	Credit
Practice	15	Credit
Attestation	15	Credit
Optional block 02 "International Business Operation	s Manageme	nt''
	4	Credit
	5	Exam
	6	Exam
Activity		
International Marketing	5	Exam
International Investment Management	5	Credit
Fundamentals of Scientific Research	4	Credit
Practice	15	Credit
Attestation	15	Credit
Optional block 03 "Business Administrat	ion''	
	4	Credit
Business Diagnostics	5	Exam
	6	Exam
	5	Exam
	5	Credit
	4	Credit
Practice	15	Credit
	15	Credit
		Exam
	Organization Management Strategic Change Management Information Systems and Technologies in Management Project Management Leadership and Conflict Management Total amount for obligatory components Optional components of EP Optional block 01 "Management of Organizations and Business Ethics and Social Responsibility Entrepreneurial Activity Fundamentals of Management Consulting Crisis Management Special Course on Modern Challenges of Management Fundamentals of Scientific Research Practice Attestation Optional block 02 "International Business Operation Strategic Controlling in International Business Management of Foreign Economic Activity Modern Problems of Management of Foreign Economic Activity International Marketing International Investment Management Fundamentals of Scientific Research Practice Attestation Optional block 03 "Business Administrat Business Ethics and Social Responsibility Business Diagnostics Personnel Management and Organizational Behavior Logistics Management Marketing Management Fundamentals of Scientific Research Practice Attestation	Contractual Law 3

	Organizations		
OB4.2	Management of Enterprise Potential	5	Exam
OB4.3	Modern Technologies in Management of Enterprises	3	Credit
02	and Organizations		010010
OB4.4	Innovation Management	4	Credit
OB4.5	Business Consulting	6	Exam
OB4.6	Business Ethics and Social Responsibility	3	Credit
OB4.7	Fundamentals of Scientific Research	4	Credit
	Practice	15	Credit
	Attestation	15	Credit
	Optional block 05 «Management of Innovation	Activity»	
OB5.1	Marketing of Innovation	4	Credit
OB5.2	Technology Transfer	5	Exam
OB5.3	Innovation Economics and Management	6	Exam
OB5.4	Patent and Conjuncture Researches	3	Exam
OB5.5	Innovation Policy	3	Credit
OB5.6	Creative Management	4	Credit
OB5.7	Fundamentals of Scientific Research	4	Credit
	Practice	15	Credit
	Attestation	15	Credit
	Optional block 06 "Entrepreneurial activity man	nagement''	
OB6.1	Creative Thinking and Idea Generation	6	Exam
OB6.2	European Economic Integration and EU Innovation	3	Credit
	Policy		
OB6.3	Organizational and Legal Principles of Entrepreneurship	3	Credit
OB6.4	Innovative Entrepreneurship	5	Exam
OB6.5	Human Resource Management in International Business	4	Credit
OB6.6	Entrepreneurship and Regional Development	4	Exam
OB6.7	Fundamentals of Scientific Research	4	Credit
	Practice	15	Credit
	Attestation	15	Credit
	Optional block 07 "International Busine		
OB7.1	Strategic Controlling in International Business	3	Credit
OB7.2	International Entrepreneurship	5	Exam
OB7.3	Modern Problems of International Business	6	Exam
OB7.4	International Marketing	4	Exam
OB7.5	International Investment	4	Credit
OB7.6	International Financial Management	3	Credit
OB7.7	Fundamentals of Scientific Research	4	Credit
	Practice	15	Credit
	Attestation	15	Credit
	Total amount for optional components:	59	
	TOTAL AMOUNT FOR THE EDUCATIONAL	90	
	PROGRAM		

3. STRUCTURAL-LOGICAL SCHEME OF THE EDUCATIONAL PROGRAM



4. ALLOCATION OF THE CONTENT OF THE EDUCATIONAL PROGRAM AMONG GROUPS OF COMPONENTS AND TRAINING CYCLES

№		Academic load on applicants for higher education (credits / %)											
1/10	Training cycle	Obligatory components	Optional components of	Total number									
		of the educational and	the educational and	for the entire									
		professional program	professional program	period of study									
1	2	3	4	5									
1	General training	9 / 10,0	-	9 / 10,0									
	cycle	·		·									
2	Professional and practical training cycle	22 / 24,4	59 / 65,6	81 / 90,0									
Total number for the entire period of study		31 / 34,4	59 / 65,6	90 / 100,0									

5. FORM OF CERTIFICATION OF APPLICANTS FOR HIGHER EDUCATION

Certification of graduates of the educational program in specialty 073 «Management» is carried out in the form of a public defense of the qualification work and ends with the issuance of the document of a standard form on awarding a Master's degree and the qualification "Master of Management".

The attestation takes place openly and publicly.

6. Matrix of correspondence between program competencies and components of the educational program

	GT 1	GT 2	GT 3	PT 1	F1 2	F1 3	F1 4	617	OB 1.1	OB 1.2	06 1.3	OB 1.4	OB 1.5	OB 1.6	OB 2.1	OB 2.3	OB 2.4	OB 2.5	OB 2.6	OB 3.1	OB 3.2	OB 3.3	OB 3.4	OB 3.5	OB 3.6	OB4.1	OB4.2	OB4.3	OB4.4	OB4.3	OB4.6	OB5.1	OB5.2	OB5.3	OB5.4	OB5.5	OB5.7	OB6.1	OB6.2	OB6.3	OB6.4	OB6.5	OB6.6	OB6.7	OB/.1	27/GD	OB7.3 OB7.4	OB7.5	OB7.6	OB7.7
GC01					+							+		+			Ť	Ť	+		+					+				+	-	-					+						-	+		T	1			+
GC02										T	Ì	Ť	1	+		+	+		+		+			+		+	+					+ +			+		+	_					_	+		1-	+ +	-		+
GC03	+	+	+				+	-	+	1-	+				+	_	+			+		+							-	+	+								+			+			+	F	+		-	
GC04					1-	+	+	_					-	+ +	-		+		+		+		+	+	+			+		T	-	+					+							+	+		+			+
GC05				+ +	+	-			-	+												+														+	+	+		+	+	+	+		+	+				
GC06	+	+	+				+	-	+											+											+																			
GC07						-	F		-	+					+	+													+					+		+ +	+	+	+	+	+		+		+	<u> </u>	+			
SC01				+	-	+						-	+		+	-							+	+																								+	- +	
SC02				+ +	+	-	-								+	+							+	+																			\blacksquare			-	+			
SC03				+ +	+					-	+ -	+ -	+			+					+					+			-	+													\blacksquare			-	+		+	
SC04				+ +	+					-	+ -	+		+	-		+	+									+		+ -	+				+		+							\blacksquare	-	+		+	+ +	+	
SC05							+	H					-	+					+			+			+						+	F					+					+		+						+
SC06				+			+	H														+																				+								
SC07				+	-	+			+						+	-				+		+						+			+								+											
SC08							+	H														+																				+								
SC09				+	+	-	F		-	+								+											+					+		+ +	+	+		+	+		+		+	F		+	-	
SC10							+	+														+						+														+								
SC1.1											-	+																																						
SC1.2													+																																					
SC2.1														+	F			+																																
SC2.2																	+																																	
SC3.1																							+																											
SC3.2																								+																										
SC4.1																										+			-	+																				
SC4.2																											+																							
SC4.3																													+																					
SC5.1																																		+		+														
SC5.2																																+																		
SC5.3																																	+		+															
SC6.1																																							+		+									
SC6.2																																						+												
SC7.1																																													+			+	+	
SC7.2																																															+	-		

7	. N	<u>Ia</u>	trix	x of correspondence between program learning outcomes													(P	O) a	nd	co	m	001	nei	nts	of	the	e e	du	cat	io	na	l p	ro	gr	am	1												
	GT 1	$\operatorname{GT} 2$	GT 3	PT 2	PT 3	PT 4	PT 5	OB 1.1	OB 1.2	OB 1.3	OB 1.4	OB 1.5	OB 1.6	OB 2.1	OB 2.2	OB 2.4	OB 2.5	OB 2.6	OB 3.1	OB 3.2	OB 3.3	OB 3.4	OB 3.5	OB 3.6	OB4.1	OB4.2	OB4.3	OB4.4	OB4.5	OB4.6	OB4.7	OB5.2	OB5.3	OB5.4	OB5.5	OB5.6	OB6.1	OB6.2	OB6.3	OB6.4	OB6.5	OB6.6	OB6.7	OB7.1	OB7.2	OB7.4	OB7.5	OB7.6	OB7.7
PO01			+	+						+	+	+			+ +							+	+				+												+			+				+			
PO02			+	+	+	+				+	+				+	-				+		+	+		+		+	-	+			+					+		+			+			ر ا	+			
PO03			+	+	+	+				+	+	+								+		+	+		+			-	+											+		+							
PO04				+		+			+																		-	+ -	+		+	-		+			+	+		+				-	+				
PO05				+		+			+	+			-	+ -	+ +	- +	+									+															+	+	-	+ -	+ +	+ +	+	+	
PO06			+	+	+	+					+	+		-	+ +	- +						+	+			+	-	+												+	+			-	+ +	+ +	-		
PO07					+	+							+					+		+		+	+	+			+				+					+		+					+						+
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PO6.3																						+	+	+											
PO7.1																													+	+	+	+	+	+	+
PO7.2																													+	+	+	+	+	+	
PO7.3																															+	+			