MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
NATIONAL TECHNICAL UNIVERSITY
"KHARKIV POLYTECHNIC INSTITUTE"

EDUCATIONAL-PROFESSIONAL PROGRAMME
Information technologies in the media industry
The First (Bachelor) Level

speciality	**186 Publishing and printing production**
field of knowledge	**18 Production and technology**
qualification	**Bachelor of publishing and printing production**

APPROVED by Academic Council
Chairman of the Academic Council
NTU "KhPI"

_____L. L. Tovazhnyanskyy

«____» _____ 20___ .
protocol No__ from «___» _____ 2019.

The educational programme is put into action
from _____ 2019.
Rector _____ Y. I. Sokol
(Order No __ from «___» _____ 2019.)

NTU «KhPI»
Kharkiv 2019

PREFACE

Developed by a working group

Chairman of the working group

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Members of the working group:

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Bezmenov Mykola Ivanovych, candidate of technical sciences, Associate Professor, Professor of the Department of System Analysis and Information-Analytical Technologies of the National Technical University "Kharkiv Polytechnic Institute"   _____

C O N T E N T S

1. PROFILE OF EDUCATIONAL PROFESSIONAL PROGRAMME

Information technologies in the media industry
by speciality 186 Publishing and printing production

1 – General information	
Full name of higher educational institution and structural subdivision	National Technical University "Kharkiv Polytechnic Institute" Faculty of Computer Science and Software Engineering
Higher education and the name of the qualification in the language of the original	Higher education level– Bachelor Qualification – Bachelor of publishing and printing production
The formal name of the educational programme	Educational-professional bachelor's degree programme Information technologies in the media industry
Type of diploma and volume of the educational programme	Bachelor's degree diploma, unit, 240 credits, ECTS the term of training is 3 years 10 months
Accreditation	Accreditation certificate: series BC No. 1192650 dated September 25, 2017
Cycle / Level	NRK of Ukraine – the 7-th level, FQ-EHEA – the first cycle, EQF-LLL – the 6-th level.
Preconditions	General secondary education
Teaching language (s)	Ukrainian/English
Validity of the educational programme	Until the next accreditation
Internet address of permanent placement of the educational programme	http://web.kpi.kharkov.ua/say
2 – The purpose of the educational programme	
Training of a specialist capable to use the modern information technologies in the field of publishing and printing production and to implement innovative professional activity.	
3 – Characteristic of the educational programme	
Subject area (field of knowledge, speciality, programme)	Field of knowledge: 18 Production and technology Speciality: 186 Publishing and printing production Programme: Information technologies in the media industry
Orientation of the educational programme	Educational-professional
The main focus of educational programme and specializations	Special education in the field of production and technology by speciality Publishing and printing production of the programme Information technology in the media industry. Keywords: publishing, printing, design, print publications, electronic publications, software, multimedia information products
Features of the programme	The difference of this programme from others is the professional and practical emphasis on the training of publishing and printing specialists who are focused on the use of modern IT multimedia technologies. Special practice in the IT companies of the department's partners is mandatory.

	4 – The ability of graduates to find employment and further education	
Suitability to employment	Types of economic activity: 72 Activities in the field of informatization 80 Education Professional titles: 22.1 Publishing activities 22.11 Publishing books 22.3 Replication of recorded media 22.33 Replication of video recordings 22.2 Printing and service activities related to printing 2139.2 System engineer of the publishing and printing production 2149.1 Technologist-researcher (publishing and printing production) 2149.2 Technologist of electronic multimedia editions	
Further training	Ability to continue education at the second (educational-scientific) level for obtaining a master's degree	
5 – Teaching and evaluation		
Teaching and teaching	Lectures, workshops and seminars, computer workshops and laboratory work; mixed learning technology; Baccalaureate work.	
Evaluation	Oral and written examinations, testing. Evaluation is carried out on a national scale (excellent, good, satisfactory, unsatisfactory); 100-point scale and ECTS scale (A, B, C, D, E, FX, F).	
6 – Programmatic competencies		
Integral competence	Ability to solve complex specialized problems and practical problems of professional activity in publishing and printing or in the process of study, which envisages application of theoretical foundations of natural sciences, humanities, social sciences, methods of information technologies, theories, methods and means of designing, manufacturing, distribution of all kinds of products. Publishing and printing is characterized by complexity and uncertainty of the conditions.	

General competences (GC)	
GC 1	Ability to think abstractly, apply methods of analysis and synthesis.
GC 2	Ability to apply knowledge in practical situations.
GC 3	Ability to plan and manage time.
GC 4	Ability to know and understand subject area and professional activity.
GC 5	Ability to communicate in the state language orally and in writing.
GC 6	Ability to communicate in a foreign language.
GC 7	Ability to search, process and analyse information from various sources.
GC 8	Ability to be critical and self-critical.
GC 9	Ability to flexibly adapt to different professional situations.
GC 10	Ability to systematically analyse their professional and social activities, evaluate the accumulated experience.
GC 11	Ability to generate new ideas (creativity).
GC 12	Ability to work in a team.
GC 13	Professional computer skills and information technology.
GC 14	Ability to work in an international context.
GC 15	Ability to assess and ensure the quality of work performed.
GC 16	The ability to exercise their rights and responsibilities as a member of society, to realize the values of the civil (free democratic) society, the rule of law, human and civil rights and freedoms in Ukraine.
GC 17	Ability to generalize the main categories and concepts of the subject area in the context of the general histoire process.

	Professional competences of the specialty (PC)
	Professional competences of the specialty (PC)
PC 1	Ability to understand the processes and phenomena inherent in all stages of production of printed and electronic publications, packages, multimedia information products and other types of products of publishing and printing.
PC 2	Ability to apply appropriate mathematical and technical methods and computer software for solving engineering problems of publishing and printing.
PC 3	Ability to demonstrate the practical skills of a specialist in publishing and printing; apply and integrate knowledge and understanding of other industries and technologies.
PC 4	Ability to apply the principles of processing, registration, formation, reproduction, storage of text, graphics, sound and video information and features of its use for the production of printed and electronic publications, packages, multimedia information products and other types of products of publishing and printing.
PC 5	Ability to make rational choice of technologies, materials, equipment, hardware-software, methods and means of control for the development of the technological process of manufacturing printed and electronic publications, packages, multimedia information products and other types of products of publishing and printing.
PC 6	Ability to design the structure, design and design of printed and electronic publications, packages, multimedia information products and other types of publishing and printing products using modern software and hardware.
PC 7	Ability to demonstrate understanding of metrological support, standardization, problems and directions of quality assurance of production and technologies.
PC 8	Ability to understand and take into account the social, environmental, ethical, economic, legal and commercial factors that influence the implementation of technical solutions in publishing and printing.
PC 9	Ability to make informed technical and economic decisions regarding the implementation of a specific project of publishing and printing activity within the framework of publishing, production plans of the enterprise; development of normative and technical documentation of the production process of manufacturing products.
PC 10	Ability to plan and organize the production, operation, maintenance, distribution of products in publishing and printing, taking into account all aspects of the problem to be solved.
	Professional competences of specialization (PCS)
PCS 1	Ability to design and evaluate the quality of modern Web-resources.
PCS 2	Ability to demonstrate understanding of standardization, colour design of problems and directions of quality of Web-resources.
PCS 3	The ability to make a rational choice of technology, hardware and software when publishing media products.
PCS 4	Ability to make informed technical and economic decisions regarding the creation and implementation of electronic publications.
	7 – Programmatic results of learning
	Programmatic results of learning in the specialty
RL 1	Apply basic professional and scientific knowledge in the field of natural sciences, socio-humanities and economics in cognitive and professional activities.

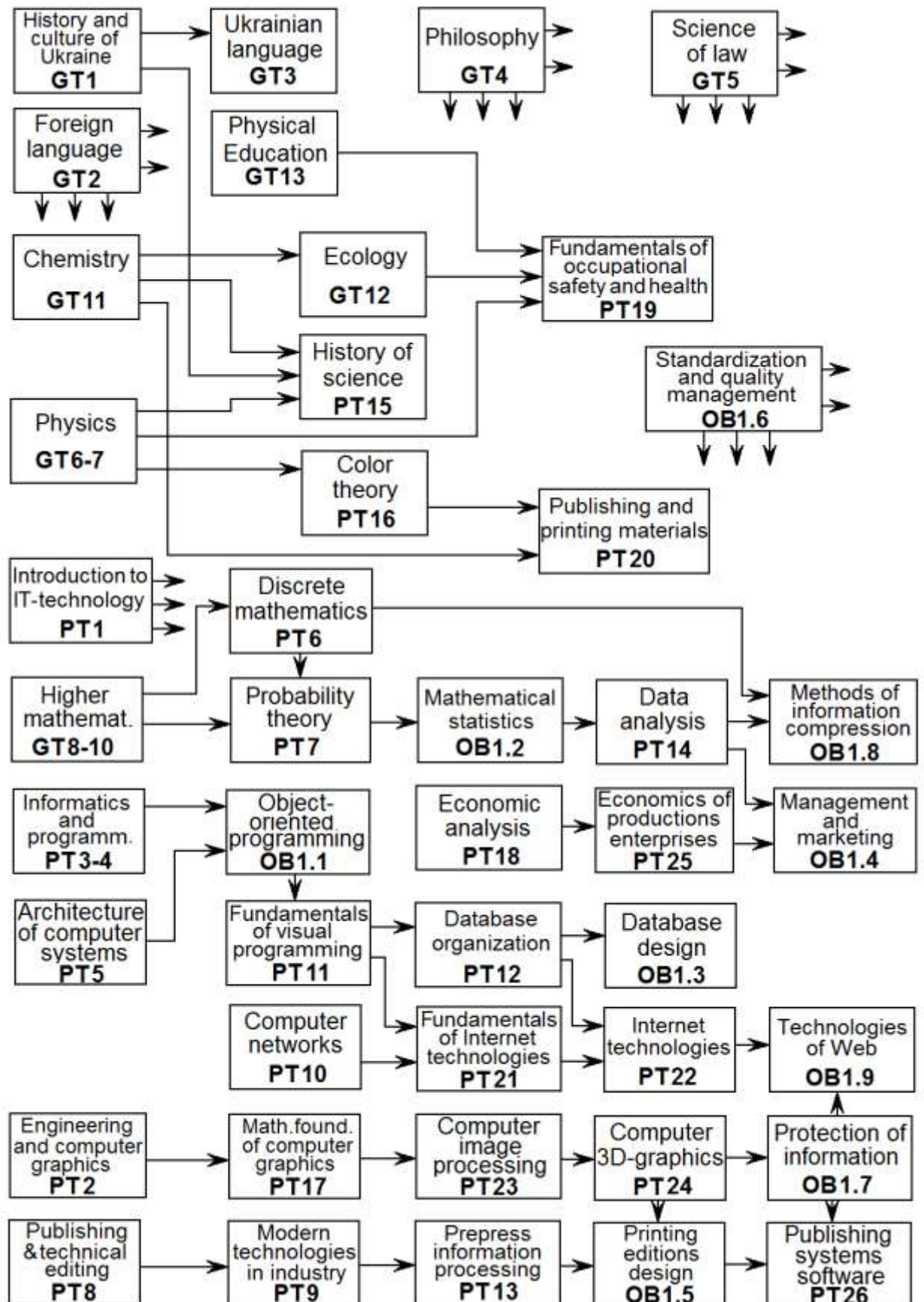|	
RL 2	To carry out information research in order to ensure the reasonableness and competitiveness of technical solutions: to find, evaluate and use information from various sources necessary for solving practical and professional tasks.
RL 3	Apply modern methods that ensure the safety of people's lives and their protection against the possible consequences of accidents, disasters and natural disasters, apply methods of rational use of raw materials, energy and other types of resources.
RL 4	Demonstrate the ability to organize their activities, work autonomously and in a team; have the skills of interaction in the team to perform tasks in professional activities, apply effective forms of professional and interpersonal communication; create creative and friendly microclimate in the team; to establish a non-conflict relationship.
RL 5	Have the skills of communication in state and foreign languages, using professional terminology.
RL 6	Use knowledge of preprinting technology, printing and postprinting processes, colour theory, text and multimedia information processing techniques to ensure the quality of print and electronic publications, packaging, multimedia information products and other types of publishing and printing products in accordance with current standards.
RL 7	Have methods and methods for working out text, graphic and multimedia information, use of information technologies and software during development of publishing projects.
RL 8	Design, structure, design and evaluate the specifications of printed and electronic publications, packages, multimedia information products and other types of publishing and printing products using modern technological solutions and software products.
RL 9	To substantiate the concept of the publication, to develop the structure, structure, design and apparatus of all types of products of publishing and printing, to develop working documentation to ensure the process of their creation.
RL 10	Use software and computer information technology to prepare products for the production, organization and management of production processes.
RL 11	To develop, provide and implement the technological process, to select appropriate materials, quality control systems, hardware and software complexes, equipment, personnel and other resources; to argue the chosen decisions.
RL 12	Placing workplaces of production units of enterprises of the publishing and printing industry with materials, components, means of control, technological equipment, taking into account the rules of labour protection for enterprises and organizations of publishing and printing.
RL 13	Control industrial discipline, accuracy and stability of technological processes, technical condition of equipment, quality of materials, semi-finished products, finished products with the help of modern means and control methods; to organize the metrological support of technological processes using standard methods of product quality control.
RL 14	Analyse and evaluate production and non-production costs to ensure the required quality of products, analyse the performance of production units.

RL 15	To select and apply devices and devices for measuring the quality parameters of materials, equipment, semi-finished products and finished products during the manufacture of all types of products of publishing and printing; to organize the metrological support of technological processes using standard methods of product quality control.
RL 16	Present the results of professional activity in the form of abstracts, presentations, projects, reports, etc.
RL 17	Have the skills of exploiting the technical means of publishing systems; know the operating rules of printing equipment.
	Programmatic results of learning by specialization
RLS 1	Select and apply software applications for creating Web sites.
RLS 2	Develop 3D graphics for electronic editions and Web applications, use the appropriate 3D editing software.
RLS 3	To select and apply software solutions for the protection of information in publishing systems.
RLS 4	Analyse and evaluate colour solutions for Web sites and electronic publications, develop their own solutions and colour templates.

8 – Resource support for the implementation of the program	
Personnel support	It meets the personnel requirements for ensuring the implementation of educational activities in the field of higher education for the second (master's) level in accordance with the requirements of Appendix 12 to the Licensing Terms, approved by the Resolution of the Cabinet of Ministers of Ukraine dated December 30, 2015 № 1187.
Material and technical support	Complies with the technological requirements for the logistics of educational activities in the field of higher education for the second (master's) level in accordance with the requirements of Appendix 13 to the Licensing Terms, approved by the Resolution of the Cabinet of Ministers of Ukraine dated December 30, 2015 № 1187.
Information and educational and methodological support	Corresponds to the technological requirements for teaching and methodological provision of educational activities in the field of higher education for the second (master's) level in accordance with the requirements of Appendix 14 to the Licensing Terms, approved by the Resolution of the Cabinet of Ministers of Ukraine dated December 30, 2015 No. 1187.

9 – Academic mobility	
National Credit Mobility	Possibility to conclude agreements on academic mobility and double diploma.
International Credit Mobility	Possibility of concluding agreements with the countries of the European Union on academic mobility and double diploma.
Training of foreign applicants for higher education education	

2. LIST OF COMPONENTS OF THE EDUCATIONAL AND PROFESSIONAL PROGRAM

Code	Components of the educational program (study disciplines, course projects / term papers, practice, qualification work)	Amount of credits	Form of final control
1	2	3	4
1. General training cycle			
Compulsory components of the educational program			
GT 1	History and culture of Ukraine	4	Exam
GT 2	Foreign language	12	Exam, Credit
GT 3	Ukrainian as a foreign language	3	Exam
GT 4	Philosophy	3	Exam
GT 5	Science of law	3	Credit
GT 6-7	Physics. Part 1. Part 2.	4+4	Credit
GT 8-10	Higher mathematics. Part 1, Part 2, Part 3.	5+5+5	Exam, Credit
GT 11	Chemistry	4	Credit
GT 12	Ecology	3	Credit
GT 13	Physical Education	12	Credit
2. Professional training			
Compulsory components EP			
PT 1	Introduction to computer science and information technology	3	Credit
PT 2	Engineering and computer graphics	4	Exam
PT 3-4	Informatics and programming. Part 1. Part 2.	6+6	Exam
PT 5	Architecture of computer systems	4	Exam
PT 6	Discrete mathematics	4	Exam
PT 7	Probability theory	4	Credit
PT 8	Publishing and technical editing	5	Exam
PT 9	Modern technologies in publishing and the media industry	5	Credit
PT 10	Computer networks	4	Exam
PT 11	Fundamentals of visual programming	5	Exam
PT 12	Database organization	5	Exam
PT 13	Prepress information processing	5	Exam
PT 14	Data analysis	5	Exam
PT 15	History of science and technology	3	Credit
PT 16	Color theory	4	Exam
PT 17	Mathematical foundations of computer graphics	4	Exam
PT 18	Economic analysis	3	Credit
PT 19	Fundamentals of occupational safety and health	3	Exam
PT 20	Publishing and printing materials	4	Credit
PT 21-22	Fundamentals of Internet technologies. Part 1. Part 2	6+5	Exam
PT 23	Computer image processing	5	Exam
PT 24	Computer 3D-graphics and animation	4	Exam
PT 25	Economics of productions and printing enterprises	3	Credit

1	2	3	4
PT 26	Publishing systems software	4	Exam
Selective components EP			
Optional disciplines in blocks 1			
OB 1.1	Object-oriented programming	5	Exam
OB 1.2	Mathematical statistics	4	Exam
OB 1.3	Database design	4	Exam
OB 1.4	Management and marketing in publishing and printing systems	4	Exam
OB 1.5	Fundamentals of printing editions design	4	Exam
OB 1.6	Standardization and quality management	3	Credit
OB 1.7	Protection of information in publishing systems	4	Exam
OB 1.8	Modern methods of information compression	4	Exam
OB 1.9	Technologies of Web resources development	4	Exam
Optional disciplines in blocks 2			
OB 2.1	Software visualization of graphic data	5	Exam
OB 2.2	Algorithms and systems of plagiarism search	4	Exam
OB 2.3	Database design	4	Exam
OB 2.4	Network planning	4	Exam
OB 2.5	Advertising technologies	4	Exam
OB 2.6	Internet marketing of publishing and printing production	3	Credit
OB 2.7	Security printing technologies	4	Exam
OB 2.8	Electronic publishing preparation technologies	4	Exam
OB 2.9	Computer design of illustrated production	4	Exam
General training total:		**67**	
P**rofessional training** total:		**113**	
Compulsory components total:		**180**	
Disciplines of free choice total:		**60**	
EDUCATIONAL PROGRAMME TOTAL		**240**	

3. STRUCTURAL-LOGICAL SCHEME OF EDUCATIONAL-PROFESSIONAL PROGRAMME "PUBLISHING AND PRINTING PRODUCTION"

4. FORM OF GRADUATE ATTESTATION OF HIGHER EDUCATION APPLICANTS

Final certification of higher education graduates for the educational program of specialty 186 Publishing and printing production is carried out in the form of defense of qualifying work and ends with the issuance of the document (diploma) of the established sample on awarding a bachelor's degree with qualification: a **bachelor of publishing and printing production** for the educational program **Information technologies in the media industry**.

Final certification is carried out openly and publicly.

5. MATRIX OF RELEVANCE OF PROGRAMMATIC COMPETENCIES TO THE COMPONENTS OF EDUCATIONAL-PROFESSIONAL PROGRAMME

	GT 1	GT 2	GT 3	GT 4	GT 5	GT 6-7	GT 8-10	GT 11	GT 12	GT 13	PT 1	PT 2	PT 3	PT 4	PT 5	PT 6	PT 7	PT 8	PT 9	PT 10	PT 11	PT 12
GC 1				+		+																
GC 2	+																					
GC 3				+			+			+												
GC 4						+		+	+									+	+			
GC 5	+		+		+																	
GC 6		+																				
GC 7		+	+								+									+		+
GC 8				+	+																	
GC 9										+	+								+			
GC 10				+			+										+					+
GC 11				+																		
GC 12										+												
GC 13											+		+	+	+	+				+	+	+
GC 14		+									+									+		
GC 15					+														+			
GC 16	+		+		+					+												
GC	+			+																		
PC 1																						
PC 2							+				+		+	+	+	+	+		+	+	+	+

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	GT 1	GT 2	GT 3	GT 4	GT 5	GT 6-7	GT 8-10	GT 11	GT 12	GT 13	PT 1	PT 2	PT 3	PT 4	PT 5	PT 6	PT 7	PT 8	PT 9	PT 10	PT 11	PT 12
PC 3											+							+	+			
PC 4						+										+		+	+			
PC 5													+	+	+				+	+		
PC 6																						
PC 7																						
PC 8	+		+	+					+													
PC 9																						
PC 10				+							+								+			
PCS 1												+	+							+	+	+
PCS 2																+				+	+	
PCS 3						+																
PCS 4						+					+		+	+	+				+	+		

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MATRIX OF RELEVANCE OF PROGRAMMATIC COMPETENCIES TO THE COMPONENTS OF EDUCATIONAL-PROFESSIONAL PROGRAMME (TABLE CONTINUATION)

	PT 13	PT 14	PT 15	PT 16	PT 17	PT 18	PT 19	PT 20	PT 21-22	PT 23	PT 24	PT 25	PT 26	OB 1.1	OB 1.2	OB 1.3	OB 1.4	OB 1.5	OB 1.6	OB 1.7	OB 1.8	OB 1.9
GC 1			+																			
GC 2	+																					
GC 3		+	+			+																
GC 4	+					+	+										+					
GC 5																						
GC 6																						
GC 7									+							+	+				+	+
GC 8			+																			
GC 9	+		+				+															
GC 10		+	+			+									+	+						
GC 11			+																			
GC 12			+																			
GC 13					+				+	+	+		+	+		+					+	+
GC 14									+			+								+		+
GC 15							+					+						+	+	+		
GC 16			+			+	+					+							+			
GC			+																			
PC 1					+	+		+	+	+	+				+			+	+		+	+
PC 2		+							+	+	+			+	+	+					+	+

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	PT 13	PT 14	PT 15	PT 16	PT 17	PT 18	PT 19	PT 20	PT 21-22	PT 23	PT 24	PT 25	PT 26	OB 1.1	OB 1.2	OB 1.3	OB 1.4	OB 1.5	OB 1.6	OB 1.7	OB 1.8	OB 1.9
PC 3																						
PC 4	+				+			+	+	+	+		+							+		+
PC 5	+												+									+
PC 6	+				+			+		+	+		+	+								+
PC 7								+										+	+			
PC 8			+				+						+									
PC 9								+					+				+		+	+		
PC 10							+						+				+					
PCS 1					+				+		+					+				+		+
PCS 2				+	+				+	+	+				+			+			+	+
PCS 3									+				+							+	+	+
PCS 4						+			+			+	+				+		+		+	+

6. MATRIX OF PROVISION OF PROGRAMMATIC EDUCATION RESULTS OF THE RELEVANT COMPONENTS OF THE EDUCATIONAL-PROFESSIONAL PROGRAMME

	GT 1	GT 2	GT 3	GT 4	GT 5	GT 6-7	GT 8-10	GT 11	GT 12	GT 13	PT 1	PT 2	PT 3	PT 4	PT 5	PT 6	PT 7	PT 8	PT 9	PT 10	PT 11	PT 12
RL 1				+		+	+	+	+													
RL 2		+	+		+																	
RL 3				+		+		+	+										+			
RL 4	+			+						+	+											
RL 5	+	+									+							+	+			
RL 6											+							+	+			
RL 7												+	+	+		+	+		+		+	+
RL 8												+	+	+						+	+	+
RL 9																						
RL 10																						
RL 11						+		+														
RL 12										+									+			
RL 13										+												
RL 14																						
RL 15																						
RL 16				+																		
RL 17																			+			
RLS 1																				+		
RLS 2							+													+	+	
RLS 3							+								+					+	+	
RLS 4																						

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	PT 13	PT 14	PT 15	PT 16	PT 17	PT 18	PT 19	PT 20	PT 21-22	PT 23	PT 24	PT 25	PT.26	OB 1.1	OB 1.2	OB 1.3	OB 1.4	OB 1.5	OB 1.6	OB 1.7	OB 1.8	OB 1.9
RL 1																	+		+			
RL 2			+									+					+		+	+		
RL 3							+															
RL 4			+				+															
RL 5																						
RL 6	+	+						+				+						+				
RL 7	+	+			+					+				+	+	+						
RL 8									+				+			+				+	+	
RL 9				+	+			+		+	+							+				+
RL 10				+				+		+	+		+					+	+			
RL 11	+									+												
RL 12	+	+										+					+					
RL 13				+			+						+						+			
RL 14		+		+									+						+			
RL 15								+					+					+				
RL 16			+		+				+	+	+		+		+						+	+
RL 17													+									
RLS 1				+					+		+							+				+
RLS 2									+		+							+				+
RLS 3													+							+		+
RLS 4				+	+						+							+				+

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