

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
NATIONAL TECHNICAL UNIVERSITY OF UKRAINE  
«IGOR SIKORSKY KYIV POLYTECHNIC INSTITUTE»**

APPROVED BY  
Academic Council of Igor Sikorsky KPI  
(Protocol No 5 of 15.05.2017)

**PHYSICAL THERAPY  
EDUCATIONAL-PROFESSIONAL PROGRAM**

**Second (Master) level of higher education**

<b>In specialty</b>	<b>227 Physical Therapy, Ergotherapy</b>
<b>Field of knowledge</b>	<b>22 Health Care</b>
<b>Qualification</b>	Master of Physical Therapy, Ergotherapy in specialization Physical Therapy

Amendments and additions are agreed by  
SMCU in specialty 227 "Physical Therapy,  
Ergotherapy"  
(Protocol No 3 of 30.06.2020) Educational  
program as amended and supplemented  
came into force since 2020/2021 academic  
year  
(Order No 1/231 of 08.07.2020)

## **PREAMBLE**

### **DEVELOPED by the project team:**

*Project team leader:*

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*Project team members:*

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**Popadyukha Yuriy Andriyovich**, Doctor of Technical Sciences, Professor, Professor of the Department of Biosafety and Human Health

The Department of Biosafety and Human Health is responsible for training higher education students by the Educational program

### **AGREED:**

The Scientific and Methodical Council of the Igor Sikorsky KPI adopted the first version of the Educational program  
(Protocol No 8 of 20.04.2017)

The Scientific and Methodical Commission of the Igor Sikorsky KPI in specialty 227 "Physical Therapy, Ergotherapy" agreed amendments and additions to the Educational program  
(Protocol No 3 of 30.06.2020)

## **Feedback reviews of external stakeholders:**

**STRASHNY S.A.**, Director of the Kyiv State Experimental Prosthetic and Orthopedic Enterprise

**SAKOVSKY A.V.**, Orthopedist-traumatologist of the Center for Orthopedics and Rehabilitation "ZARTA"

**Dub A.G.**, Graduate student of the 1<sup>st</sup> year of study, Group BP-01 mp, Department of Biosafety and Human Health of the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"

**Zakharchenko I.V.**, Rehabilitation therapist, Ph.D. in Medicine, Center for Sports Traumatology and Rehabilitation Medicine of the National University of Physical Education and Sports of Ukraine

Feedback reviews of stakeholders are attached.

EPP was discussed after receiving all feedback and suggestions from stakeholders, students, and graduates and approved at an extended meeting of the Department of Biosafety and Human Health (Protocol No15 of June 26, 2020)

EPP was considered and approved by the Scientific and Methodological Subcommittee on specialty 227 "Physical Therapy, Ergotherapy" (Protocol No 3 of June 30, 2020)

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## 1. PROFILE OF THE EDUCATIONAL PROGRAM

### in specialty 227 "Physical Therapy, Ergotherapy"

<b>1 – General Information</b>	
Full name of HEI and institute/faculty	National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Faculty of Biomedical Engineering
Degree of higher education and name of qualification in the original language	Master Master of Physical Therapy, Ergotherapy in specialization "Physical Therapy"
The official name of the educational program	Physical Therapy
Type of diploma and scope of the educational program	Diploma of Master, single, 90 ECTS credits, training period 1 year and 4 months
Accreditation	Order of the Ministry of Education and Science of Ukraine dated October 10, 2019, No 969-1.
Cycle/level	NFQ of Ukraine – level 8; FQ-EHEA – the second cycle, EQF-LLL – level 7
Entrance qualification	Holding a bachelor's degree in the field of training "Human Health", specialties "Physical Rehabilitation" and a bachelor's degree in "Physical Therapy, Ergotherapy"
Language (s) of teaching	Ukrainian, English
The validity of the educational program	July 01, 2024.
Permanent link to the educational program	<a href="http://Osvita.kpi.ua">Osvita.kpi.ua</a> (page "educational programs"), <a href="http://bbzl.fbmi.kpi.ua">bbzl.fbmi.kpi.ua</a> (page "educational programs")
<b>2 – The goal of the educational program</b>	
Training of competitive health professionals in the specialty 227 Physical therapy, Ergotherapy able to identify and effectively solve complex specialized problems and practical problems of innovative and scientific nature in the field of physical therapy and ergotherapy, in particular in physical therapy. This includes deep rethinking and the creation of new holistic knowledge in health care, physical therapy, professional practice, which will make a significant contribution to the sustainable development of society	

through internationalization and integration of education, the latest research and innovative developments, and maintaining the image of the university.

### 3 – Characteristics of the educational program

<p>Subject area (field of knowledge, specialty)</p>	<p>Field of knowledge: 22 Health Care Specialty 227 Physical Therapy, Ergotherapy Specialization: 227.1 «Physical Therapy». *according to Order No 2013 dated November 02, 2018.</p> <p><b>The object of study and activity</b> – complex disorders of motor functions and human activity, their correction to restore full life following the desires and needs of man in the ecological, social and cultural environment.</p> <p><b>Goals of training:</b> creation, implementation, and correction of an individual physical therapy program to improve functionality, increase motor activity and health of people of different ages and abilities; preparation for research and teaching activities.</p> <p><b>The theoretical content of the subject area:</b> knowledge of both medical and biological disciplines, and disciplines of professional training, foreign language (languages) sufficient for the decision of difficult professionally applied, educational, and research tasks.</p> <p><b>Methods, techniques, and technologies:</b> examination and testing of patient/client functionality; information processing; planning, implementation, and correction of physical therapy programs; prevention of diseases and complications; conducting research; conducting the scientific discussion in oral and written forms; teaching activities.</p> <p><b>Tools and equipment:</b> devices, apparatus, and equipment for examination and testing of patient/client functions; devices, apparatus, and equipment for the implementation of the physical therapy program; devices and equipment for monitoring basic vital signs.</p>
<p>The orientation of the educational program</p>	<p>Educational and professional</p>

The main focus of the educational program	Special education and professional training in, ergotherapy, in particular in physical therapy. Keywords: physical therapy, rehabilitation, examination, intervention
Features of the educational program	Implemented with a combination of practical, theoretical, and integrated training. Teaching several disciplines in English. Carrying out of obligatory clinical practice.
<b>4 – Graduates’ employability and aptitude to further training</b>	
Employability	<b>Graduates can hold positions:</b> 222.9 Physical therapist; <a href="https://zakon.rada.gov.ua/rada/show/v2331282-18">https://zakon.rada.gov.ua/rada/show/v2331282-18</a> 85.42 Higher education; and other positions, the qualification requirements of which require a master's degree, in business entities and do not have specific requirements
Further training	Graduates can continue their studies for higher education at the third (educational and scientific) level.
<b>5 – Teaching and assessment</b>	
Teaching and training	The educational process is carried out based on student-centeredness, competence approach, a partnership of research and teaching staff and students, self-education, problem-oriented learning, integration of educational and scientific activities, professional orientation. Teaching is delivered in the form of lectures, workshops, training, scientific conferences, and seminars; involvement of students in project works, competitions, Olympiads, and research events. Independent work is carried out with the possibility of consultation with the teacher, the use of information and communication technologies (online lectures, distance-learning courses, for individual educational components). Involvement of qualified practitioners in training sessions.
Assessment	Current control: student’s recitation; speeches at practical (seminar) classes; express control; checking the results of various individual tasks; presentations; essay; assessment of the acquisition

	<p>of educational material planned for independent study by the student.</p> <p>Semester control in the form of written and oral exams, tests taking into account the number of points accumulated during the study of disciplines, defense of the practice report.</p> <p>Attestation of applicants for higher education is carried out in the form of an attestation exam or public defense of the qualification work, is assessed following specified criteria of the Rating system.</p>
<b>6 – Program competencies</b>	
Integral competence	Ability to solve complex tasks and problems during professional activities in the field of physical therapy and occupational therapy, in particular in physical therapy, or the learning process, which involves research and innovation and is characterized by the uncertainty of conditions and requirements
<b>General Competences (GC)</b>	
GC 1	Capacity for abstract thinking, analysis, and synthesis, solving the problems
GC 2	Ability to apply knowledge in practical situations
GC 3	Knowledge and understanding of the subject area and understanding of the professional activity
GC 4	Ability to research at the appropriate level
GC 5	Ability to adapt and act in a new situation
GC 6	Ability for interpersonal interaction and teamwork
GC 7	Ability to motivate people and move towards a common goal
GC 8	Ability to communicate with representatives of other professional groups of various levels (with experts from other fields of knowledge/types of economic activity)
GC 9	Appreciation and respect for diversity and multiculturalism, ability to work in an international context
GC 10	Ability to act based on ethical considerations (motives)
<b>Professional Competencies of the specialty (PC)</b>	



PC 1	Ability to understand the clinical diagnosis of the patient/client, the course of the disease, the principles, and the nature of the treatment.
PC 2	Ability to examine and determine the functional state, level of physical development, motor and other disorders of persons of different ages, nosological and occupational groups with complex progressive and multisystem pathology.
PC 3	Ability to predict the results of physical therapy, formulate goals, compile, discuss and explain a physical therapy program, or components of an individual physical therapy program
PC 4	Ability to determine the optimal level of therapeutic load, control the duration and intensity of rehabilitation measures to ensure their compliance with the state of health, the functional capabilities of the patient/client.
PC 5	Ability to monitor the condition of the patient/client with complex and multisystem disorders by appropriate means and methods.
PC 6	Ability to implement modern scientific data into practice.
PC 7	Ability to participate in training programs as a clinical supervisor/methodologist of training practices.
PC 8	Ability to manage physical therapy, manage the work of assistants and helpers.
PC 9	Ability to act independently in conditions of professional isolation.
PC 10	Ability for entrepreneurship in physical therapy.
PC 11	Ability to communicate in state and foreign languages orally and in writing.
PC 12	Ability to manage projects, organize teamwork, take the initiative to improve activities.
PC 13	Ability to analyze, verify, evaluate the completeness of information in the course of professional activity, if necessary, supplement and synthesize missing information and work in conditions of uncertainty
PC 14	Ability to comply with ethical and legal norms relating to health, physical culture, education, and social protection.
<b>7 –Programmatic results of studies (PRS)</b>	
PRS 1	Demonstrate knowledge of the conceptual, categorical apparatus of the basics of management in the field of health, physical therapy, ergotherapy, and features of innovation management
PRS 2	Demonstrate the basic provisions of the concept of sustainable development of physical therapy, ergotherapy, and the basic principles

	of building a safe existence of mankind, taking into account economic, social and environmental aspects
PRS 3	Demonstrate the principles of a legal framework, methodological approaches to research in physical therapy, ergotherapy, and data analysis
PRS 4	Demonstrate the ability to find, select, evaluate, discuss and apply research results in clinical, scientific, educational, and administrative activities.
PRS 5	Demonstrate the ability to perform examinations of patients/clients of different nosological groups and in complex progressive and multisystem pathology, using appropriate tools.
PRS 6	Demonstrate the ability to predict the results of physical therapy of patients/clients of different nosological groups and in complex progressive and multisystem pathology.
PRS 7	Demonstrate knowledge of a foreign language orally and in writing
PRS 8	Demonstrate the ability to implement individual physical therapy programs following available resources and environment.
PRS 9	Demonstrate knowledge of the biopsychosocial model of life limitations and the ability to analyze the medical, social, and personal problems of the patient/client.
PRS 10	Demonstrate the application of methods of observation, analysis, and synthesis, the principles of the structural and functional organization of objects and processes in the field of human health
PRS 11	Demonstrate the ability to solve in practice the issues of building a rehabilitation plan, its adjustment, and distribution of responsibility for its effectiveness
PRS 12	Demonstrate the ability to communicate on various topics in physical therapy in a foreign language
PRS 13	Demonstrate the ability to track, use the latest trends in development in the field of startup project management, and apply advanced information technology, software, and hardware for startup management
PRS 14	Demonstrate the ability to conduct physical therapy of patients/clients of different ages with complex pathological processes and disorders.
PRS 15	Demonstrate the ability to conduct independent practical activities.
PRS 16	Demonstrate the ability to calculate indexes of sustainable development, use the basic set of indicators of sustainable development and navigate in modern methods of determining man-made, environmental, economic, and social security.

PRS 17	Demonstrate the ability to search for information on modern methods of physical therapy, have the basics of patent search, and work with library and information resources.
PRS 18	Demonstrate the ability to determine the functional status of people of different ages, nosological and occupational groups with complex progressive and multisystem pathology, to conduct a survey of the patient/client to determine impaired function, activity, and participation.
<b>8 – Resource support for program implementation</b>	
Staffing	Research and teaching staff who carry out the educational process to implement the program meet the Licensing Conditions for Educational Activities in the Higher Education, approved by the Resolution of the Cabinet of Ministers of Ukraine dated 30 December 2015 No 1187 (current) in force as of 23 May 2018 No 347.
Logistics	<p>The area of classrooms for the educational process to implement the program, provision of computer workplace and multimedia equipment, social infrastructure meet the requirements for logistics of educational activities of the relevant level of higher education, approved by the Resolution of the Cabinet of Ministers of Ukraine dated 30 December 2015 No 1187 (current) in force as of 23 May 2018 No 347.</p> <p>The variant of remote information receiving and interaction with teachers is also envisaged. Logistics meets the license terms.</p>
Information, educational and methodological support	<p>Following the technological requirements for educational-methodological and informational support of educational activities of the relevant level of higher education, approved by the Resolution of the Cabinet of Ministers of Ukraine dated 30 December 2015 No 1187 (current) force as of 23 May 2018 No 347.</p> <p>Scientific works in the field of physical therapy, ergotherapy, materials of specialized portals, webinars, presentations, and papers from professional publications are used for teaching.</p> <p>The University provides degree-seeking students with access to information resources and electronic repository of the G.I. Denysenko Scientific and Technical Library of the Igor Sikorsky KPI for the organization of scientific research, ensures free access to the web-based ORCID scientist's toolkit, Scopus, Web of Science, etc., author's developments of scientific and pedagogical staff of the university.</p> <p>Educational and methodological support: educational and scientific program, curricula, work programs in academic disciplines, syllabuses.</p>
<b>9 - Academic mobility</b>	

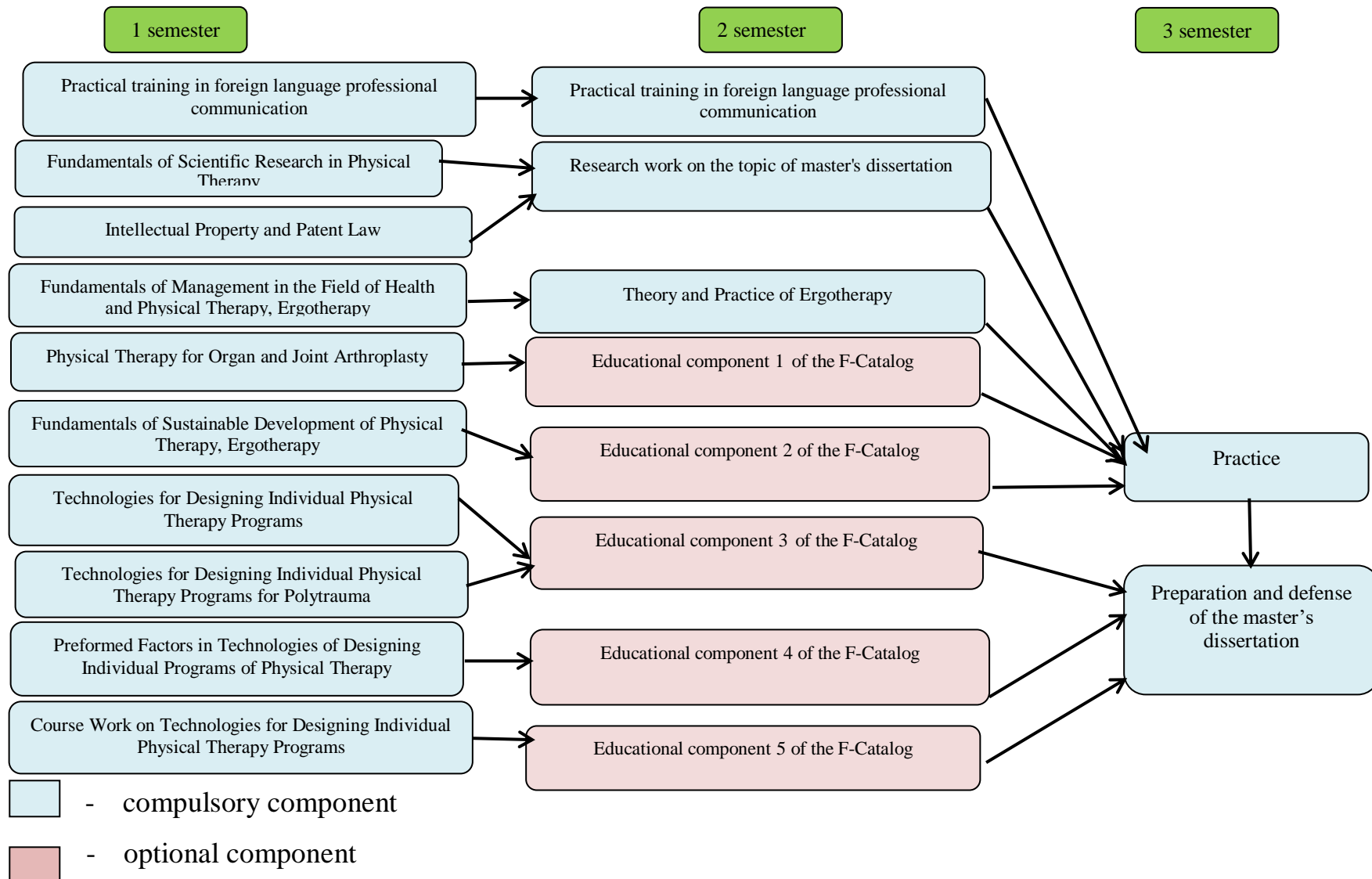
National credit mobility	Possibility to conclude agreements on academic mobility
International credit mobility	Agreements on international academic mobility (Erasmus+K1) have been concluded with universities: 1. ZKBC Biomedical Technology Co., Ltd (China) 2. Poznan University of Technology (Poland)
Training of foreign degree-seeking students	Opportunity to study in a foreign language.

## 2. LIST OF COMPONENTS OF THE EDUCATIONAL PROGRAM

Code	Components of the educational program (academic disciplines, course projects/works, practices)	Number of credits, ECTS	Form of final control
<b>NORMATIVE educational components</b>			
<b>The cycle of general training</b>			
GO1	Intellectual Property and Patent Law	3	Test
GO2	Fundamentals of Sustainable Development of Physical Therapy, Ergotherapy	2	Test
GO3	Fundamentals of Management in the Field of Health and Physical Therapy, Ergotherapy	3	Test
GO4	Practical Training in Foreign Language Professional Communication	3	Test
<b>The cycle of professional training</b>			
PO1	Technologies for Designing Individual Physical Therapy Programs	5	Exam
PO2	Course Work on Technologies for Designing Individual Physical Therapy Programs	1	Test
PO3	Theory and Practice of Ergotherapy	4	Test
PO4	Physical Therapy for Organ and Joint Arthroplasty	5	Exam
PO5	Technologies for Designing Individual Physical Therapy Programs for Polytrauma	4	Exam

PO6	Prefomed Factors in Technologies of Designing Individual Programs of Physical Therapy	3.5	Test
<b>Research (scientific) component</b>			
PO7	Scientific work on the topic of master's dissertation		
	1. Fundamentals of Scientific Research in Physical Therapy	2	Test
	2. Research work on the topic of master's dissertation	2	Test
PO 8	Practice	14	Test
PO 9	Preparation and defense of a master's dissertation	16	Test
<b>OPTIONAL EDUCATIONAL component</b>			
<b>The cycle of professional training (Optional educational components from faculty/departmental Catalogs</b>			
PC1	Educational component 1 of the F -Catalog	4.5	Exam
PC2	Educational component 2 of the F-Catalog	4.5	Test
PC3	Educational component 3 of the F-Catalog	4.5	Test
PC4	Educational component 4 of the F-Catalog	4.5	Exam
PC5	Educational component 5 of the F-Catalog	4.5	Exam
<b>Total compulsory components:</b>		67.5	
<b>Total optional components:</b>		22.5	
<b>TOTAL AMOUNT OF THE EDUCATIONAL PROGRAM</b>		<b>90</b>	

### 3. STRUCTURAL-LOGICAL SCHEME OF THE EDUCATIONAL PROGRAM



#### **4. FORM OF FINAL CERTIFICATION OF HIGHER EDUCATION SEEKERS**

Graduation attestation of higher education seekers according to the educational program “Physical Therapy” in the specialty 227 *Physical Therapy, Ergotherapy* is carried out in the form of public dissertation defense and ends with the issuance of a standard document on awarding the degree of Master of Physical Therapy, Ergotherapy in the specialization “Physical Therapy”.

Qualification work should be checked for plagiarism and after the defense it should be placed into the repository of the University’s STL for free access. Graduation certification is carried out publicly in form of open debates.

## 5. MATRIX OF PROGRAM COMPETENCIES COMPLIANCE TO THE COMPONENTS OF THE EDUCATIONAL PROGRAM

	GO 1	GO 2	GO 3	GO 4	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9
GC 1		+	+		+	+	+	+	+	+	+	+	+
GC 2					+	+	+	+	+		+	+	+
GC 3	+	+	+	+	+	+	+	+	+	+	+	+	+
GC 4					+	+	+	+	+	+	+	+	+
GC 5					+		+	+	+	+		+	
GC 6					+		+	+	+	+		+	
GC 7					+		+	+	+	+			
GC 8			+	+									
GC 9		+			+		+	+	+				
GC 10	+				+		+	+	+	+		+	
PC 1					+	+	+	+	+	+		+	+
PC 2					+	+	+	+	+	+		+	+
PC 3					+	+	+	+	+	+		+	+
PC 4					+	+	+	+	+	+		+	+
PC 5					+		+	+	+	+		+	
PC 6					+			+	+			+	
PC 7		+										+	
PC 8			+										
PC 9												+	
PC 10			+										
PC 11				+									
PC 12		+											
PC 13							+	+	+	+		+	
PC 14	+		+										



**6. MATRIX OF PROVIDING PROGRAM LEARNING OUTCOMES BY RELEVANT COMPONENTS  
OF THE EDUCATIONAL PROGRAM**

	GO 1	GO 2	GO 3	GO 4	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9
PRS 1			+										
PRS 2		+								+		+	+
PRS 3					+	+	+	+	+				
PRS 4					+	+	+	+	+	+	+	+	+
PRS 5					+	+	+	+	+	+		+	+
PRS 6					+	+	+	+	+	+			
PRS 7				+									
PRS 8					+	+	+	+	+	+		+	+
PRS 9					+		+	+	+	+		+	+
PRS 10					+	+	+	+	+	+		+	+
PRS 11					+		+	+	+	+		+	
PRS 12				+									
PRS 13	+	+	+										
PRS 14					+		+	+	+			+	
PRS 15					+		+	+	+			+	
PRS 16		+											
PRS 17		+				+					+		+
PRS 18					+		+	+	+	+			