

MINISTRY OF EDUCATION AND SCIENCE OF THE REPUBLIC OF
KAZAKHSTAN
NON-PROFIT JOINT STOCK COMPANY
«Almaty University of Power Engineering and Telecommunications named
after Gumarbek Daukeyev»
Institute of Communication and Space Engineering



«AGREED»
Head of IT department
«Saiman» Corporation
K.Ye.Zikirbay
«29» 04 2025

«APPROVED»
Rector of AIPET
G.S. Nygymetov
2025

PASSPORT OF THE EDUCATIONAL PROGRAM
6B07123 -" SYSTEM ENGINEERING "

Head of the educational program Orazalieva S.K.

Trajectories (specializations) of training:

Electronic Engineering
Software Engineering
Electrical Engineering

EP developed: on the basis of the laws of the Republic of Kazakhstan and regulatory documents: the State mandatory standard of higher Education, the State mandatory standard of postgraduate education (Decree of the Government of the Republic of Kazakhstan dated 23.08.2012 No. 1080), Standard rules for the organization of higher and postgraduate education (Decree of the Government of the Republic of Kazakhstan dated 17.05.2013 No. 499), Rules for the organization of the educational process on credit technology of education (order of the Ministry of Education of the Republic of Kazakhstan dated 20.04.2011 No. 152)

The EP was reviewed and approved at the meeting of the Department of "Electronic Engineering" Protocol No. 7 of 08.04.2015

Head of the Department of ER  _____

The EP was reviewed and approved at a meeting of the Scientific and Methodological Council of the Institute of Communications and Space Engineering (Protocol No. 8 of 29.04.15).

Director of ICSE  _____

The EP was reviewed and approved by the Academic Council of the Gumarbek Daukeev AUE (Protocol No. 11 of 23.05.15).

1. Passport data of EP "6B07109 - INSTRUMENTATION"

№	Field name	Note
1	Registration number	6B07100071
2	Code and classification of the field of education	6B07 – Engineering. Manufacturing industries
3	Code and classification of training areas	6B071 – Engineering and Engineering
4	Group of educational programs	B062 – Electrical engineering and power engineering
5	Name of the educational program	6B07123 – System Engineering
6	Type of EP	Current EP ;
7	Purpose of the EP	Training of qualified specialists who are able to independently determine and master the necessary knowledge and skills to improve their professional activities, improve the efficiency of work results and, in general, improve the state of the country's economy.
8	ISCED level	ISCED 6 Bachelor's degree or its equivalent
9	HPK level	6
10	OPK level	6
11	EP's specifications	No ;
	Partner university (COII)	Anhalt University, Germany
	Partner university (ДЦОП)	No ;
12	List of competencies	ON-1. Have the ability to self-improvement and self-development, mastering new knowledge throughout active life.
13	Learning outcomes	ON-2. To carry out research and management activities; to possess a humanitarian culture, ethical and legal norms regulating the attitude towards man, society and the environment.
		ON-3. To understand the importance of information and computer technologies in the formation of modern civilization, socio-philosophical problems of technology, the purpose of engineering and technical activities, its moral and humanistic meaning.
		ON-4. Be able to adapt to constantly changing social, economic and other conditions; be mobile and receptive to the improvement of technology and technology.
		ON-5. Know the regulatory and guidance materials for the design, development and execution of technological documentation.
		ON-6. Know the circuitry of analog and digital devices, the laws of control and regulation of automatic systems,
		ON-7. Be able to simulate devices and systems, remove the time and frequency characteristics of devices in various modes of operation.
		ON-8. Be able to model devices and systems, record time and frequency characteristics of devices in various operating modes.
		ON-9. Be able to configure, program and flash microcontrollers and microcomputers, installation and assembly of devices.

		ON-10. Be able to develop and design computer networks, remote control and data collection systems, diagnostic and non-destructive testing systems. (appendix 2.1)
14	Form of study	Daytime
15	Language of education	Kazakh, Russian, English
16	Number of credits	240
17	Awarded academic degree	Bachelor of Engineering and Technology
18	Availability of an annex to the license for the direction of personnel training	License number KZ80LAA00018161 Date of license issue 05.05.2020
19	Availability of EP accreditation	yes
	Accreditation body name	IAAR
	Period of validity of accreditation	31.05.2024-30.05.2027
20	Information about disciplines	Information about the disciplines UK /EV GED, BD, MD (Appendix 1)

29	Sensors and Transducers							v				
30	Fundamentals of Electronic Circuit Simulation in LabVIEW			v								
31	Socio-Economic Knowledge Module (Economics and Law, Entrepreneurship and Financial Literacy)				v							
32	Sustainable Development: Ethics, Inclusion, and Safety		v									
33	Physics	v										
34	Materials, Components, and Technologies								v		v	
35	Probability Theory and Elements of Mathematical Statistics	v										
36	Introduction to Systems Engineering					v		v				
37	Industrial Electronics						v			v		
38	Fundamentals of Information and Measurement Technologies			v					v			
39	Control Engineering						v	v				
40	Interdisciplinary Project			v								
41	Information and Communication Technologies							v				
42	Fundamentals of Big Data	v										
43	Python Programming Technologies			v		v						
44	IoT Technology					v						
45	Assembly and Installation of Electronic Components						v		v			
46	Industrial Controllers						v	v	v			
47	Engineering Problem Modeling Methods							v	v			
48	Application of Programmable Logic			v			v			v		
49	Reliability of Devices and Systems					v		v				
50	CUDA Technology			v						v		
51	Digital Image Processing and Computer Vision Systems for Automation and Robotics							v				
52	Internet Security								v			
53	Augmented and Virtual Reality – Principles and Practice										v	
54	Electromagnetic Compatibility										v	
55	Reliability of Control and Measuring Instruments					v		v				
56	Power Electronics						v					
57	Fundamentals of SCADA Systems Design in Electric Power Engineering			v				v				

