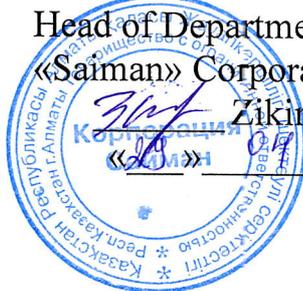


**MINISTRY OF EDUCATION AND SCIENCE OF THE REPUBLIC OF  
KAZAKHSTAN  
NON-PROFIT JSC “ALMATY UNIVERSITY OF POWER ENGINEERING  
AND TELECOMMUNICATIONS NAMED AFTER GUMARBEK  
DAUKEYEV”  
INSTITUTE OF SPACE ENGINEERING AND TELECOMMUNICATIONS  
DEPARTMENT OF ELECTRONICS AND ROBOTICS**



**«AGREED»**

Head of Department IT  
«Saiman» Corporation  
Zikirbay K.Y.  
2025



**«APPROVED»**

Rector of AUPET named  
after Gumarbek Daukeyev  
Nygymetov Gani  
Saktaganovich  
2025



**MODULAR EDUCATIONAL PROGRAM  
«6B07116 - ELECTRONIC ENGINEERING TECHNOLOGIES»**

Head of the educational program S.A. Yussupova

**Trajectories (specializations) of training:**

Electronics Engineering  
Mechatronics & Robotics Engineering

Duration - 4 years

Awarded an academic degree - Bachelor of Engineering and Technology

Qualification Level according to the national qualification degree – 6

Almaty 2025 r.

The educational program was 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 educational program was developed at the Department of Electronics and Robotics.

Head of the educational program

S.A. Yussupova

The EP was reviewed and approved at the meeting of the Department of "Electronics and Robotics" Protocol No. 7 of 08.04.2025

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 Telecommunications and Space Engineering (Protocol No 8 of ). 29.04.2025.

Director of ITSE

The EP was reviewed and approved by the Academic Council of the Gumarbek Daukeev AUE (Protocol No. 11 of "23" 05.25).

## List of designations and abbreviations

HE	- Higher education
SMSE	- State mandatory standard of education
EQF	- European Qualification Framework
HK3	- National Classifier of Occupations
RK	- Republic of Kazakhstan
NQF	- National Qualifications framework
NQS	- National qualifications system
GEM	- General educational module
EP	- Educational program
GED	- General education disciplines
RC	- Required component
HSC	- High school component
BD	- Basic disciplines
PD	- Profile disciplines
IET	- Individual educational trajectory
IQF	- Industry qualifications framework
PS	- Professional standard
PE	- Postgraduate education
ON	- Competencies
LR	- Learning result
CP	- Course paper
CGW	- Calculation and graphic work
RWS	- Research work of students
CED	- Catalog of elective disciplines

1. Passport data of EP «6B07116 – Electronic engineering technologies»

№	Field name	Note
1	Registration number	6B07100071
2	Code and classification of the field of education	6B07 – Engineering, manufacturing and construction industries
3	Code and classification of training areas	6B071 – Engineering and Engineering
4	Group of educational programs	B064 – Mechanics and metalworking
5	Name of the educational program	«6B07116 – Electronic engineering technologies»
6	Type EP	Existing educational program
7	The purpose of the educational program	Training of qualified specialists in the field of electronic technology who are able to independently develop electronic devices, identify and master the necessary knowledge and skills in this field to improve their professional activities, improve the efficiency of work results, and generally improve the state of the country's economy.
8	Educational program's mission	To release specialists who play a leading role in the invention and implementation of new electronic equipment, machinery and other tools. Training of specialists in economically important sectors of the Republic of Kazakhstan.
9	ISCED level	ISCED 6
10	The level of the NRK	6
11	ORC Level	6
12	Distinctive features of the OP	The Educational program is developed based on a professional standard
	Partner University (SOP)	No;
	Partner University (DDOP)	No;
13	List of competencies	ON-1 Possess basic knowledge of legal and ethical norms and be able to use them in professional activities. He will be able to independently build and implement promising areas of intellectual, cultural, physical, professional self-development and self-improvement. To scientifically substantiate objective knowledge on the history of Kazakhstan
14	Learning result	<p>ON-2 Demonstrate the ability to adapt to constantly changing social, economic and other conditions; be mobile and receptive to the improvement of technology and technology</p> <p>ON-3 Demonstrate and apply basic mathematical, physical, and other natural science knowledge, as well as the theoretical foundations of electrical engineering, electrical circuits, and the electromagnetic field in an interdisciplinary context to solve electrical engineering problems.</p> <p>ON-4 Correctly calculates and selects the means of electrical measurements, automatic control systems, characteristics of electronic devices, basic and backup types of protection of high and ultrahigh voltage power lines, based on complex relay protection devices and automation of microprocessor complexes.</p>

		<p>ON-5 The ability to use modern computer, information technologies, digital equipment and software in electronics, demonstrate skills in computer networks.</p> <p>ON-6. Show knowledge of the circuitry of analog and digital devices, the laws of control and regulation of automatic systems</p> <p>ON-7. To use devices for modeling systems, to take time and frequency characteristics of devices in various modes of operation. Diagnose and evaluate the technical condition of ON-8 electronic systems. To determine the fundamentals of the technology of production of electronics, systems and complexes, the possibilities of computer technology, methods and means of computer graphics.</p> <p>ON-9. To configure, program, and flash microcontrollers and microcomputers, to mount and assemble devices, to replace critical components and elements of electronic complexes.</p> <p>ON-10 The ability to collect, analyze, and systematize research information, to conduct patent searches, to formulate the goals and objectives of designing electronic systems, as well as to develop technical specifications, requirements, and conditions for the design of electronic complexes and systems.</p> <p>ON-11 Apply theoretical and practical knowledge to solve educational, practical and professional problems of the studied field; know the methods of scientific research and academic writing and apply them in the studied field; understand the importance of the principles and culture of academic integrity</p>
15	Form of training	Day Form of training time
16	Language of instruction	Kazakh, Russian, English
17	Volume of loans	240
18	Academic degree awarded	Bachelor of Engineering and Technology
19	Availability of an appendix to the license for the direction of training	License number KZ80LAA00018161 Date of license issue 05.05.2020
20	Availability of EP accreditation	There are Available
	Name of the accreditation body	IAAR NU "Independent Accreditation and Rating Agency"
	Validity period of accreditation	31.05.2024-30.05.2029
21	Information about the disciplines	Information about the disciplines university component/component for the choice of General education disciplines, BD, PD



29	Management and control microprocessor systems				v		v			v		
30	Basics of device modeling in LabVIEW				v			v				
31	Fundamentals of information measuring technology				v			v				
32	Predegree practice								v		v	
33	Sensors and converters				v			v				
34	Control of mechatronic and robotic systems						v	v		v		
35	Automated engineering systems				v		v				v	
36	Reliability of appliances and systems			v	v							
37	Fundamentals of mechatronics and robotics					v	v					
38	Control Systems in Electronic Engineering				v		v					
39	Computer technologies in instrumentation engineering						v			v		
40	Digital circuitry and computer architecture					v	v			v		
41	CNC programming								v	v		
42	Resistance of materials			v	v							
43	Fundamentals of Interchangeability		v	v								
44	Technology of materials and electronic products				v		v					
45	Programmable Logic Controller							v		v		
46	Hydraulic systems			v	v		v					
47	CUDA technology								v	v		
48	Design of industrial robots								v		v	
49	Machine parts			v	v							
50	KUKA industrial robots					v			v	v		
51	Embedded FPGAs					v			v	v		
52	Prototyping of electronic devices and control systems								v	v		
53	Installation, commissioning and operation of mechatronic systems									v	v	
54	Инженериядағы интеллектуалды жүйелер								v	v		
55	Pneumatic systems			v	v		v					