



"Approved"

Director ICSE

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EDUCATIONAL PROGRAM DEVELOPMENT PLAN

**6B06201 – "RADIO ENGINEERING, ELECTRONICS AND
TELECOMMUNICATIONS"**

FOR THE 2025–2029 ACADEMIC YEAR

Level of the basic educational program

(bachelor's degree level 6)

Institute of Communications and Space Engineering (ICSE)

2025

**EDUCATIONAL PROGRAM DEVELOPMENT PLAN
FOR THE 2025-2029 ACADEMIC YEAR**

Areas of activity	Events	Responsible	Implementation mechanism	Risks	Indicator	Implementation period
1	2	3	4	5	6	7
1. Effective management high-quality implementation Educational program and improvement of educational process management mechanisms	1. Providing the OP with regulatory documents of the Ministry of Education and Science of the Republic of Kazakhstan: State Educational Standards, Municipal Unitary Enterprises, Regional Unitary Enterprises with internal regulatory documents (Regulations, Instructions. (Forms))	Head of Department, University Administration	Formation of requests for the acquisition of regulatory documents in the Ministry of Education and Science of the Republic of Kazakhstan, the Regional Department for the OP in AUES. Working with the Department of Analysis and Strategic Development, QMS Department	Non-compliance of the educational program with the requirements of the State Educational Standards (GOS)/professional standards	1. Annual updating of discipline syllabi 2. Comparison of learning outcomes with the State Educational Standards and professional standards	Annually
	2. Improving the structure of the OP	Head of Department, University Administration, Head of the EP	Updating the educational program's content based on a review of current domestic and international training practices in this area, employer requirements, and labor market demands. Working with employers. Monitoring the program's achievement.		1 Share of disciplines updated during the year, % 2 Availability of the matrix "Learning outcomes – disciplines – state educational standards" (yes/no)	Annually

3. Development and improvement of the modular principle of formation of the OP.	Head of Department, Head of OP	Developing modules based on the logical and substantive interconnections between disciplines. Ensuring a unified methodological approach to teaching the module. Forming a contingent for independent study based on the integrated content of the educational material.	Fragmentation of knowledge if modules are poorly integrated.	1 Share of practical and laboratory classes, % 2. % of students completing the program, academic performance, alumni rating	Annually
4. Improvement of the Modular Curriculum (updateability). Strengthening in-demand scientific and educational disciplines and promising areas.	Head of Department, Head of OP	Monitoring and analysis of employer needs and graduate satisfaction. Analysis of modern international experience in the direction of OP.	Insufficient practical orientation of the program	1. Introduction of practice-oriented disciplines and cases 2. Implementation of project-based learning	Annually
5. Systematic improvement of educational and methodological support of the educational program (UMCS, UMKD, etc.)	Head of Department, University Administration, Faculty	Updating the educational and methodological contingent taking into account the needs of employers and the satisfaction of graduates. Advanced training and internships for teaching staff.	Insufficient qualifications of teachers	The share of teachers with PCs over the past 3 years	Annually

	6. Collaboration with manufacturing companies and government agencies to attract specialists in the field of electronic and telecommunications technologies, organize industrial internships, and employ graduates.	Head of the department, university management, head of the educational program, PPP	Conducting master classes and seminars with companies. Participation in organizing industrial internships.	Few meetings with manufacturing companies and government agencies	% of meetings completed compared to the previous year	Annually
	7. Development and implementation of a program for multilingual training of specialists in OP	Cafe Manager,	Preparation of programs, improvement of teaching staff qualifications and level of knowledge of foreign languages.	1. Insufficient level of foreign language proficiency among students at entry 2. Lack of educational materials in foreign languages	1. The share of disciplines taught in a foreign language 2. Provision of disciplines with educational and electronic resources	Annually
2. Training competitive personnel	1. Improving the educational program through the introduction of modern educational technologies into the educational process	Head of Department, University Administration, Head of the EP	Advanced training for faculty. Discussion of improving teaching methods at the department and faculty methodological seminar. Use of interactive teaching methods.	1. Insufficient level of digital competencies of the teaching staff; 2. Insufficient level of digital literacy of students;	% of teaching staff in terms of readiness for digitalization.	Annually

	2. Development and improvement of the CED taking into account the proposals of stakeholders, primarily taking into account the opinions of employers	Head of Department, University Administration, Head of the EP	Annual updates to the Modular Educational Plan's disciplines based on employer suggestions. Working with employers	The lag of MOP disciplines from the reality of production technologies	% of changes made to the disciplines of the International Educational Program	Annually
	3. Strengthening practical training of students at enterprises	Head of Department, University Administration	Concluding agreements on interaction and cooperation with leading IT companies of the city and leading telecommunications companies of the region, and the republic. Working with the Department of International Cooperation and Academic Mobility.	The practical training of students lags behind the production level	% of concluded internship contracts from the total number of interns	Annually
	4. Formation of a high-quality contingent of students based on a marketing strategy for ensuring the formation of a contingent of students	Head of Department, University Administration	Career guidance plan, ongoing updates to the department's website. Adherence to the marketing strategy for ensuring the development of a student body.	Not a large contingent when recruiting	% of admissions compared to the previous year	Annually
3. Improving the conditions for high-quality staffing of the OP	1. Improving the qualifications of teaching staff to organize work in new conditions	Head of Department, University Administration	Advanced training for teaching staff, participation in seminars of leading companies and international conferences.	Insufficient qualifications of teachers	% of teachers who do not undergo advanced training from the total number of teaching staff.	Annually

	2. Training of our own personnel through PhD studies	Head of Department, University Administration Department	Renewal of the department's teaching staff based on continuity: attracting the most competent PhD graduates, as well as practical specialists, to teaching and research activities.	Insufficient motivation of young teachers to enter PhD programs	Number of teaching staff in PhD doctoral studies in the profile of the Department of TI.	Annually
	3. Increasing the proportion of faculty with PhDs in the department	Cafe manager		Insufficient influx of young, qualified specialists.	% Percentage of PhD graduates who continued working in the department and new employees	As needed
	4. Invitation of leading scientists from partner universities	Head of Department, University Administration Department	A plan to invite foreign scientists to teach courses and organize joint research projects.	Insufficient influx of foreign scientists	% Share of foreign scientists employed at the Department of TI	Annually

4. Scientific-Research and innovation activities in development of the OP	1. Intensification of scientific research at the department	Cafe Manager, PPP	Involvement of teaching staff studying in initiative-funded research projects.	Insufficient involvement of students in research activities;	1. Number of students involved in research work; 2. The share of final qualifying works (final qualification works) completed on the topics of the department's scientific areas;	Annually
	2. Participation in grant and contractual research and projects	Cafe Manager, PPP	Increasing the number of innovative works with the filing of an application for an innovative patent and its application, the implementation of results in the educational process, publications in journals with a high IF and foreign ranking journals	High academic workload of teaching staff, which reduces activity in research and development; insufficient level of publication activity.	Number of publications by faculty and students; Number of patents	Annually
	3. Achieving commercialization of the results of scientific research of the department's teaching staff	Cafe Manager, PPP	Increasing the number of scientific projects and programs implemented jointly with national companies and private enterprises.		Number of grant projects	Annually

	4. Stimulating and motivating students to actively participate in scientific activities	Cafe Manager, PPP	Student participation in national and international competitions. Involvement of students in departmental research. Increasing the number of students studying in funded research projects.		Number of students participating in scientific conferences and competitions. Number of students participating in research.	Annually
	5. Increase in publications of faculty and doctoral students in journals with a non-zero impact factor	Cafe Manager, PPP	Preparation of scientific publications in journals with an impact factor that are included in the international scientometric databases Tomson Reuters, Scopus.	1. High number of publications with low citations 2. Low publication activity of doctoral students.	The number of publications in journals with an impact factor that are included in the international scientometric databases Tomson Reuters, Scopus.	Annually
5. Development of resource potential for the implementation of the OP	1. Purchase of office equipment, scientific equipment, technical teaching aids, visual aids, etc.	Head of Department, University Administration, Head of the EP	Annual procurement plans	1. Rising prices for equipment and consumables 2. Insufficient or reduced funding	1. Share of updated laboratory equipment, % 2. Fulfillment of the procurement plan within the established deadlines, %	Annually
	2. Purchase of new laboratory equipment	Cafe Manager, PPP	Annual procurement plans			Annually

	3. Development of the department's information and educational resources (website, portal, electronic teaching and methodological materials, etc.)	Cafe Manager, PPP	Activities to develop the university's information and educational resources	Lack of staff competencies, low motivation of teachers	% of students actively using Platonus	Annually
	4. Development of various forms of material and moral incentives for teaching staff	Cafe Manager,	PPP rating	Insufficient or reduced funding	% percentage of employees encouraged	Annually
	5. Opening of thematic laboratories from leading companies, manufacturers of innovative equipment	Head of Department, University Administration, Head of the EP	Conclusion of contracts, provision of audiences.	1. Difficulty in finding specialists to work with innovative OP. 2. High initial investment: equipment, licenses, qualified personnel.	1. Number of events held and participants. 2. Increasing brand awareness and positive reputation of the company.	Annually
6. Changing the role of the teacher in connection with the transition to student-centered learning	Conducting training seminars on changing the role of the teacher	Cafe Manager, PPS, head of the OP	1 Conducting methodological seminars, trainings and master classes on active and interactive teaching methods (case studies, project-based learning, problem-based learning, etc.). 2 Discussion of the results of the implementation of new approaches at department meetings and educational and methodological commissions.	Low involvement of some teachers in the implementation of new teaching methods	The proportion of teaching staff who have been trained in modern teaching methods.	Annually

MEASURES TO REDUCE THE IMPACT OF RISKS FOR OP

The following measures are used in the implementation of the educational program for risk reduction:

No. s/n	Name of possible risks	Measures to eliminate them
1	Insufficient supply of new educational and methodological literature on professional disciplines.	Plan the annual release of scientific and educational-methodological literature by the faculty of the departments in accordance with the working curriculum of students and its acquisition from outside
2	Traditional way of conducting classes	Improve and implement innovative teaching technologies into the educational process
3	Traditional classrooms and laboratories	Creation of state-of-the-art specialized auditoriums and research laboratories
4	Rejuvenation of teaching and scientific staff	Training highly qualified scientific personnel through master's and doctoral (PhD) programs in line with modern requirements

Head of the Department of TKI



E. Kadylbekkyzy

Head of the OP



Y. Garmashova