



DEVELOPMENT PLAN

EP "6B07316 – Cadastre and geospatial planning"

1 General information

The EP "6B07316 – Cadastre and Geospatial Planning" was developed in accordance with the National Qualifications Framework, corresponds to the Dublin Descriptors and the European Qualifications Framework, and is designed based on a modular system for studying disciplines that form general cultural and professional competencies.

The individuality and uniqueness of the EP "6B07316 – Cadastre and geospatial planning" consists in the formation of students' comprehensive competencies in the field of cadastre, including the principles of maintaining the land cadastre, registration of land rights, methods and technologies of cadastral measurements and assessment of the state of land resources.

The program is aimed at training specialists with in-depth knowledge and practical skills in the field of cadastral registration, land management, geodesy, territorial planning, as well as using modern geoinformation technologies for effective management of land resources and the development of territorial plans. Graduates of the program should be able to solve the problems of spatial planning, ensuring sustainable land use, creating and managing cadastral data, as well as monitoring changes in land management and ecology of territories.

Thanks to a practice-oriented approach and cooperation with public and private structures, students acquire the necessary skills for professional activity, which increases their competitiveness in the labor market.

The development plan of the EP "6B07316 – Cadastre and Geospatial Planning" is consistent with the key indicators of the development program of the MSG Department with the specification of strategic planning indicators, reflecting risk analysis and assessment, the implementation of activities depending on the identified risks, and guarantees for achieving planned results (Appendix).

2 Planning the educational program

Planning and management of the educational program "6B07316 – Cadastre and geospatial planning" is carried out on the basis of priority areas and strategic goals of K.I. Satpayev KazNTU (<https://official.satbayev.university.ru/university/mission-strategy>) and the O.A. Baikonurov Mining and Metallurgical Institute, reflecting the vision, mission, strategic directions and key performance indicators (<https://official.satbayev.university.ru/mining-metallurgy>),

3 The purpose of EP development

The purpose of the educational program is to prepare graduates as a competitive specialist in the field of cadastre and geospatial planning, with critical thinking, able to use theoretical and practical information for the cadastre, including the principles of maintaining the land registry, registration of land rights, methods and technologies of cadastral measurements and assessment of the state of land resources.

4 Objectives of EP development

4.1 Graduate's preparation for organizational activities that exclude negative phenomena in professional activities, the development of spiritual values, moral and ethical norms of a person as a member of society, the implementation of the legal and legislative system of the Republic of Kazakhstan with a high level of professional culture, civic position;

4.2 Preparing graduates for continuous self-improvement and self-development, mastering new knowledge, skills and abilities in innovative areas of cadastre and geospatial planning;

4.3 Graduate training based on the diversity and dynamism of the curriculum's catalog of elective subjects, with a predominance of practical skills in competencies, capable of performing professional functions within one or more types of activities based on the final learning outcomes that take into account the specifics of these types of activities, market requirements for organizational, managerial, and professional competencies;

4.4 Graduate training as a competitive specialist in the field of cadastre and geospatial planning, including on the basis of increasing the international aspect in educational and scientific programs, competent in the field of advanced technologies of cadastre and geospatial planning, and registration of research results.

5 Risks of EP implementation (SWOT analysis)

<i>S (strength) – strengths (potentially positive internal factors)</i>	<i>W (weakness) – weaknesses (potentially negative internal factors)</i>
1. Brand awareness of the university; 2. Positive image in the educational services market of the Republic of Kazakhstan; 3. Availability of opportunities and experience of using interactive technologies in the educational process based on modern information technologies; 4. Availability of information systems for determining borrowing in order to implement the principles of academic integrity; 5. Availability of partnerships and cooperation agreements with scientific organizations and foreign universities 6. Dynamically developing material and technical base and high level of informatization of the educational process. 7. Increasing the classroom fund and equipping it with modern technical facilities 8. Availability of sufficient book stock in libraries. 9. The provision of the UMKD of the entire complex of disciplines of the OP department. 10. Stable financial position 11. Involved teaching staff with experience in the scientific and educational field and production 12. Conducting classes on the bases of the department's branches. 13. Increasing the quality of the department staff	1. Insufficient volume of scientific work on a contractual basis; 2. Unmet need for a dormitory. 3. The lack of licenses to carry out a number of specialized works, which narrows the university's ability to participate in tenders. 4. Low commercialization rate. 5. Poor communication with regional universities.
<i>O (opportunity) – favorable opportunities (potentially positive external factors)</i>	<i>T (threat) – threats (potentially negative external factors)</i>
1. High demand for highly qualified scientific and pedagogical staff; 2. Introduction of new courses and disciplines in accordance with the requirements of the labor market; 3. Conducting PR events, career guidance	1. Increase in the cost of equipment due to inflationary costs; 2. Reducing the financial capacity of enterprises to allocate funds for research and development and conclude business contracts.

among applicants (bachelor's degree graduates). 4. Almaty is the largest financial, industrial, and socio-cultural center of the Republic of Kazakhstan, generating steady demand in the labor market. 5. Openness of mining and metallurgical and other manufacturing enterprises to cooperate with technical universities and provide internship opportunities. The demand for graduates of accredited educational institutions in the labor market.	3. Unstable level of automation of business processes during the UNT 4. Insufficient quality of information services provided by Internet providers in rural districts 5. Insufficient fundamental training of applicants entering the university and poor knowledge of foreign languages by applicants
--	--

Long-term action plan for the development and improvement of the educational program

	Event content	Responsible performers	Deadlines for execution
1	Study and analysis of the competitive environment, identifying opportunities of the department to enhance the image and attractiveness of the educational program for consumers of educational services (prospective students, current students, parents, business partners).	Head of the Department, teaching staff	2025-2029
2	Utilization of advanced marketing and digital technologies to promote distance education services.	Head of the Department, teaching staff	2025-2029
3	Strengthening career guidance activities and attracting prospective students through tripartite agreements.	Directorate, Head of the Department, teaching staff	2025-2029
4	Involving academic staff (teaching and research personnel) from among stakeholders in the educational process.	Head of the Department, teaching staff	2025-2029
5	Development and implementation of digital interactive learning formats, combining theoretical and practical teaching methods and approaches.	Head of the Department, teaching staff	2025-2029
6	Preparation of an educational program for specialized accreditation for compliance with education and agency quality standards	Head of the Department, teaching staff	2025-2029
7	Provision of all types of disciplines with textbooks, teaching aids, educational and methodical complexes with digital remote support, electronic educational materials, multimedia educational resources	SL, Head of the Department, teaching staff	2025-2029
8	Development and use of case databases, training thematic computer programs in the field of KiGP	Head of the Department, teaching staff	2025-2029
9	Conducting seminars and masterclasses, and mastering digital teaching formats with the involvement of IT-специалистов	Head of the Department, teaching staff	2025-2029
10	Development of new forms of independent student work, as well as electronic assessment materials for self-evaluation.	Head of the Department, teaching staff	2025-2029

11	Conducting seminars that involve student volunteer activities, as well as seminars and masterclasses aimed at enhancing knowledge and teaching methodologies, in collaboration with stakeholders, public foundations, non-governmental organizations, research institutes, and other universities.	Head of the Department, teaching staff	2025-2029
12	Development of a digital rating system for verifying students' knowledge, ensuring the accessibility of assessments	RO, DAW, Head of the Department, teaching staff	2025-2029
13	Ensuring the participation of faculty and students in inter-university and international conferences, as well as in competitions organized by the Ministry of Science and Higher Education of the Republic of Kazakhstan.	Head of the Department, teaching staff	2025-2029
14	Development of scientific schools, integration of faculty members' own research into the teaching process in the methodology of teaching academic disciplines	Head of the Department, teaching staff	2025-2029
15	Effective positioning of scientific research in the intellectual property market	Head of the Department, teaching staff	2025-2029
16	Attraction of foreign scholars with a high h-index	Head of the Department, teaching	2025-2029
17	Development of the department's educational programs	DAW, Head of the Department	2025-2029
18	Regular professional development of faculty and students	HR, Head of the Department, teaching	2025-2029
19	Strengthening of material and technical resources	Directorate, Head of the Department	2025-2029
20	Internal and external academic mobility of faculty and students	Directorate, Head of the Department	2025-2029
21	Expansion of multilingual education	Directorate, Head of the Department	2025-2029
22	Development of MOOCs for academic disciplines and additional training	Directorate, Head of the Department	2025-2029
23	Submission of an application for the grant funding competition for scientific and scientific-technical projects.	Directorate, Head of the Department, teaching staff	2025-2029
24	Ensuring safe and comfortable working, learning, and extracurricular conditions for students.	Directorate, Head of the Department	2025-2029
25	Development of an action plan in cooperation with associations and enterprises in the field of [KiGP —	Directorate, Head of the Department	2025-2029
26	Development of an action plan to expand external and internal mobility of students and faculty members, using modern distance learning technologies.	Head of the Department,	2025-2029

27	Organization of activities to ensure effective employment of graduates. Creation and development of an alumni community.	Head of Department, responsible for employment and career guidance	2025-2029
28	Formation of a fund of educational and scientific literature within the field of study.	Deputy Dean for Research, Department Chair, and Academic Staff	2025-2029
29	Equipping classrooms with new computer hardware, other equipment, and software	Head of the Department, teaching staff	2025-2029

Reviewed at the meeting of the Department of MSG Protocol №5 dated January 23, 2025y.

Head of MSG Department



Meirambek G.

The development plan of the EP with the specification of indicators of strategic planning, reflecting the analysis and assessment of risks, the implementation of activities depending on the identified risks, guarantees for achieving the planned results

№	Target indicators	Unit of measurement	Risks					
			2026-2027	2027-2028	2028-2029	Analysis and evaluation	Strategies	Guarantees
1	Percentage of employed graduates in the first year after graduation	%	-	-	90	Loss of connection with a graduate	Cooperation with stakeholders and business partners. Feedback from graduates.	Contact information with graduates, business partners, and stakeholders. Employment of graduates. Internal audit
2	Number of joint educational programs	Quantity	0	0	0	Organization analysis The educational process in foreign universities and the assessment of the possibility of creating a SOP.	Collaboration with national and international research centers, institutes, and universities. Involvement of highly qualified faculty in departmental activities. Development and implementation of additional assessment methods to evaluate key indicators of learning effectiveness. Development of an action plan for internal and external mobility of students and faculty.	Risk-oriented analysis (SWOT) of the implemented educational programs. Concluding agreements, approval and launch of educational programs, and admission of students to new programs. Internal audit.

3	Number of educational programs in English	Quantity	0	0	0	Insufficient English proficiency among faculty	Organization and delivery of English language courses for faculty at the university	Availability of international certificates assessing English language proficiency among faculty and students. Internal audit. Semi-annual and annual departmental reports.
4	Increase in student enrollment in distance education programs	Quantity	-	-	-	Poor awareness of applicants	To activate career guidance work. To intensify work on external and internal academic mobility of teaching staff using modern distance learning technologies	Digital resources of the university. Internal audit.
5	Development and implementation of educational, teaching materials reflecting the results of our	Quantity	6	8	10	Insufficient implementation of the results of research and development of teaching staff in the development of educational and teaching materials	To consider at the meeting of the department issues related to the development and implementation of teaching staff's own research in the field of teaching methods and to develop methodological guidelines for teaching	Teaching staff with high qualifications and extensive experience in scientific and pedagogical activities. F KazNITU 703-06.

6	The share of updating the scientific equipment fleet from the total number of scientific equipment, %*	Quantity	18	25	28	Increased cost of equipment due to inflationary costs	Opening and equipping of the scientific and educational laboratory in Geo-Information Engineering (GIE)	Conducting laboratory sessions in accordance with the curriculum of the educational program
7	Increase in protection documents and copyright certificates	Quantity	15	18	24	Insufficient patenting of faculty research results	Participation of faculty and students in grant competitions organized by the Ministry of Science and Higher Education of the Republic of Kazakhstan (MSHE RK)	Patenting of scientific developments. Patent Department
8	Number of faculty with sufficient English proficiency for conducting research and educational	Quantity	5	7	9	Low English proficiency among senior faculty members	Organization and delivery of English language courses for senior faculty members at the university	Availability of international English language proficiency certificates among faculty and students
9	Share of degree-holding faculty involved in research and experimental design work, %	Quantity	78	82	85	The percentage of science funding in Kazakhstan is among the lowest in the world (0.13% of GDP).	Increase faculty participation in grant competitions organized by the Ministry of Science and Higher Education of the Republic of Kazakhstan (MSHE RK).	Highly qualified faculty with substantial research experience.

10	Number of publications in scientific journals of the Republic of Kazakhstan recommended by COCSON,	Quantity	10	12	15	Lack of and insufficient funding for scientific research	Increase faculty and student participation in research and student research activities (R&D and SRA).	Faculty with high qualifications and extensive experience in conducting research. Published scientific articles.
11	Number of ongoing research projects	Quantity	4	5	6	The percentage of science funding in Kazakhstan is among the lowest in the world (0.13% of GDP).	Increase faculty participation in grant competitions organized by the Ministry of Science and Higher Education of the Republic of Kazakhstan (MSHE RK).	Faculty with high qualifications and extensive experience in conducting research.
12	Number of research outcomes implemented in the educational process	Quantity	4	6	7	Insufficient funding for scientific research	Development and integration of research results into the core disciplines of the curriculum.	Implementation report of research results in the educational process. Open classes.
13	Number of publications in international journals indexed in Scopus / WoS	Quantity	12	16	18	Insufficient funding for scientific research	Increase faculty participation in grant competitions organized by the Ministry of Science and Higher Education of the Republic of Kazakhstan (MSHE RK).	Faculty with high qualifications and extensive experience in conducting research.

14	Percentage of faculty holding academic degrees (%)	%	70	75	78	Insufficient number of grants for the training of master's and doctoral students	Recruitment and employment of new staff who have successfully defended their master's and doctoral theses	Awarding of academic and scientific degrees to graduates. Internal audit.
15	Increase in the proportion of faculty and research staff who have undergone professional development	%	90	92	95	Insufficient funding	Participation of faculty in the "Bolashak" competition, organization of professional development courses for faculty. Within the framework of the Industrial Advisory Board for the educational program, sign a	Certificate of professional development. Internal audit.

Reviewed at the meeting of the Department of MSG Protocol №5 dated January 23, 2025y.

Head of MSG Department



Meirambek G.

