“KAZAKH NATIONAL AGRARIAN RESEARCH UNIVERSITY”
Non-Profit Joint Stock Company

DEVELOPMENT PLAN OF THE EDUCATIONAL PROGRAM 7M 08101 – AGRONOMY

Recommended by the Academic Committee of the Faculty of “Agrobiology” Protocol No. 10 dated May 24, 2024

Reviewed at the extended meeting of the Department of “Agronomy, Breeding and Biotechnology” Protocol No. 11 dated May 15, 2024

Almaty – 2024

CONTENT

1. Passport of the Development Plan of the Educational Program 7M08101 – Agronomy for 2024–2028

1	Reasons for developing a development plan for the OP	The strategy and themes of the development plan of the OP have been created based on the request of employers in accordance with the Concept of Development of Higher Education and Science of the Republic of Kazakhstan for 2023-2029 and the Development Strategy of the Kazakh National Agrarian Research University for 2024-2028
2	The main developers of the development plan of the OP	Head of Department: assoc . Professor Zhanbyrbaev E. A .; Candidate of Agricultural Sciences , Professor Zholamanov K.K. ; Master of Agricultural Sciences , senior lecturer Kanatova M.K .; Employer: General Director of the Kazakh Research Institute of Agriculture and Plant Growing, PhD in Agricultural Sciences, Professor Bastaubaeva Sh.O.
Z	Deadlines for the implementation of the development plan of the OP	202 4 – 202 8 years
4	Scope and sources of the development plan of the OP	State budget and contractual basis of financing
5	Expected final results of the implementation of the development plan of the OP	The aim of the educational program is to train highly qualified specialists capable of scientific and pedagogical activity, possessing competent knowledge in the field of agricultural plant growing and able to apply this knowledge in the scientific and educational process.
6	Appendix number to the license for the training direction	KZ 89 LAA 00031870 August 5, 2021 , with changes and updates KZ69LAM00001188 0 4 March 2025
7	Accreditation of the OP Name of the accreditation body Validity of accreditation	Independent Agency for Accreditation and Rating 24.12.2020-23.12.2025

2. Analytical justification of the program

2.1. Information about the educational program

The content of the educational program is established by the following documents:

"On Education" Law of the Republic of Kazakhstan dated July 27, 2007 No. 319-III;

State Compulsory Standard of Higher Education. Order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated July 20, 2022 No. 2;

Classifier of training areas for personnel with higher and postgraduate education. Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 13, 2018, No. 569;

Standard rules for the activities of educational organizations implementing educational programs of higher and (or) postgraduate education. Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 30, 2018 No. 595;

Rules for organizing the educational process using credit-based learning technology. Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 12, 2018, No. 563;

Algorithm for inclusion and exclusion of educational programs in the Register of Educational Programs of Higher and Postgraduate Education. Order of the Minister of Education and Science of the Republic of Kazakhstan No. 665 dated December 4, 2018;

Order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated October 12, 2022 No. 106. Rules for maintaining the register of educational programs implemented by higher and (or) postgraduate education organizations, as well as grounds for inclusion in the register of educational programs and exclusion from it .

Professional standard in agronomy activities: " Forage production for farm animals " , "Nursery activities", National Chamber of Entrepreneurs Republic of Kazakhstan "Atameken" dated October 26, 2022 No. 190.

Professional standard: for teachers (faculty) of higher and/or postgraduate education institutions. Approved by Order No. 591 of the Minister of Science and Higher Education of the Republic of Kazakhstan dated November 20, 2023.

The goal of the educational program "7M08101 - Agronomy" is to train highly qualified specialists capable of scientific and pedagogical activity, possessing competent knowledge in the field of plant growing and agriculture and able to apply this knowledge in the scientific and educational process.

Designed to train masters in the educational program "7M 081 01 - Agronomy " at the Kazakh National Agrarian Research University

2.2 . Information about students

The contingent of master's students in the 2024-2025 academic year consists of 6 master's students studying on a state grant.

2.3. Internal conditions for the development of the OP

To achieve the above-mentioned goal of the educational program, the faculty has the appropriate material and technical resources;

- lecture halls equipped with computers with installed software and a projector for demonstrating presentations;
- classrooms for practical classes, which also include computer labs with installed software and Internet access for courses conducted in computer labs;
- multimedia classrooms for foreign language classes;
- for students to complete independent academic work - access to electronic teaching aids, methodological recommendations for writing coursework and theses;
- for students to conduct educational and research work, the graduation department has all the necessary equipment and reagents;
- The financial resources of the educational program are provided by the university budget, as well as by research and international scientific and educational projects;
- information resources are at the disposal of the educational institution and are represented by a library (including electronic publications), access of all students and the educational institution to the Internet, computer software, etc.;
- the staffing level is fully completed in accordance with the development plan of the OP;
- The material and technical base meets the requirements of the State Standard.

Educational and methodological documents for the specialty have been developed in accordance with existing regulatory documents such as state compulsory educational standards, standard curricula for the specialty, working curricula, academic calendars, catalogs of elective disciplines, and teaching and methodological kits for all areas of study.

The focus of theses corresponds to the department's research topics (initiative research topics). Particular attention is paid to issues such as increasing the academic qualifications of faculty members and their participation in advanced training courses at domestic universities, universities in neighboring and distant countries, and research institutions.

2.4. Characteristics of the surrounding society

The university has created conditions for internships: programs have been developed whose content aligns with the goals and objectives of specialist training; long-term and short-term contracts for internships have been concluded; during the internship, supervisors from the university and the internship site provide ongoing consultations to students, providing guidance and support in their professional activities; upon completion, student reports are collected and analyzed; and work is carried out to summarize the internship results, together with an approved committee, which assesses students' internship results in accordance with the established procedure. The final internship grade is determined by combining the internship supervisor's assessment from the company with the internship supervisor's assessment from the department's report defense.

The satisfaction of students, faculty, and employers with the placements, conditions, and content of internships, as well as the quality of students and teachers, is reflected in the opinions and reviews of organizations providing internship facilities. After completing a specific type of internship, students are surveyed to assess their satisfaction with the placements and organization of the internship, and internship facility managers are also surveyed to assess satisfaction with the level of student training.

The Department of Agronomy, Breeding, and Biotechnology and the Internship and Employment Department monitor the internship process and its quality. Based on these monitoring results, the Internship and Employment Department and the Department formulate recommendations for improving the organization of the internship.

The practice bases for the educational program 7M08101 - Agronomy are: JSC "Kazakh Research Institute of Agriculture and Plant Growing", JSC "Kazakh Research Institute of Animal Husbandry and Forage Production".

2.5. Information about the teaching staff implementing the educational program

The implementation of the bachelor's degree program in this field is supported by academic staff in accordance with the requirements of the State Educational Standard of the Republic of Kazakhstan. The list of academic staff involved in the implementation of this program is provided in the staffing and staffing report.

Qualitative and quantitative composition of the department's faculty:

The Department of Agronomy, Breeding, and Biotechnology has 23 faculty members, including two doctors of science, 13 candidates of science, and four PhDs . The department's faculty has a PhD with an average age of 50 years. All faculty members teach in the national language and the language of international communication, with only four of them teaching in English.

The implementation of OP 7M08101-Agronomy is ensured by teaching staff with a basic education corresponding to the profile of the taught disciplines and systematically engaged in scientific and/or scientific-methodological activities. Teachers of modules and disciplines in the core cycle typically hold a candidate's degree, a doctorate, or a PhD, and/or experience in the relevant professional field.

The relevance of the staffing of the Department of Agronomy, Breeding and Biotechnology lies in ensuring high-quality education and conducting scientific research that meets modern needs.

The department's staff includes faculty, teaching staff, and support staff, as well as graduate and doctoral students. The effectiveness of this staff in meeting its objectives determines the quality of the educational process, the implementation of new standards, and the university's scientific potential.

In order to improve the quality of educational services provided, teachers implementing the OP 7M08101-Agronomy improve their qualifications by completing advanced training courses, internships in the Republic of Kazakhstan and abroad, and participating in international and national scientific, scientific-practical, scientific-methodological conferences and seminars.

All professional information regarding the teaching staff is available and posted on the KazNAIU website at the following address:
https://www.kaznaru.edu.kz/ru/department/81

2.6. Characteristics of the achievements of the OP

The achievements of the 7M08101-Agronomy educational program include in-depth knowledge, practical skills, and research skills. The 7M08101-Agronomy educational

program is implemented in accordance with current labor market requirements, scientific and technological development trends, and the university's strategic goals of ensuring the quality of training competitive specialists.

1. *Research activities* . The department conducts research on grant topics reflecting current trends in plant science. Master's students participate in research projects, which helps them develop research competencies and practical skills in conducting experiments, analyzing data, and presenting scientific results.
2. *Improving the content of the educational program.* Based on an analysis of labor market requirements and at the suggestions of employers, necessary changes and new courses are regularly introduced into the curricula and elective course catalogs, aimed at developing students' practice-oriented and research competencies.

This flexibility and adaptability of the program ensure its relevance and compliance with modern professional standards.

3. *Interaction with employers.* Employers actively participate in shaping the curriculum, conducting internships, and assessing graduates' final competencies. Collaboration with various agricultural organizations helps strengthen the practical component of training and improve graduate employability.

4. *Achievements of the faculty.* The department's teaching staff is actively involved in research and methodological activities, develops and publishes teaching aids and monographs, and participates in grant projects and international scientific and practical conferences.

5. *Developing academic mobility and international cooperation.* The program includes academic mobility activities for master's students and faculty, research internships, and exchanges of experience with international partners. Involving foreign scholars in lectures and master classes helps to enhance the academic level of the program and expand international relations.

3. Characteristics of the problems that the development plan of the OP is aimed at solving and the justification for the need to solve them

Currently, there are the following problems with the implementation of the OP:

- insufficient use of innovative teaching methods in academic disciplines in the educational process;

- insufficient harmonization of the educational program with the educational programs of leading foreign universities, with the possibility of implementing double-degree education.

4. The main goals and objectives of the development plan of the OP

The aim of the educational program is to train highly qualified specialists capable of scientific and pedagogical activity, possessing competent knowledge in the field of agricultural plant growing and able to apply this knowledge in the scientific and educational process.

To achieve the goal, it is necessary to solve the following tasks:

No.	Task name	Event

1	Improving and enhancing the conditions for obtaining a full-fledged, high-quality professional education .	Development of measures to improve educational services for the formation of professional competencies and skills .
2	Involvement in the process of improving the educational program, determining the professional competencies of the graduate, preparing educational and methodological support for the disciplines proposed by the employer .	When updating the content of the EP, include disciplines and update the content of disciplines that meet the needs of the labor market and are recommended by employers .
3	Establishing strong ties with foreign partners for the purpose of implementing joint scientific and publishing educational and methodological literature .	Development and implementation of joint scientific research and publication of educational and methodological literature .
4	Creating prerequisites for independent research activities of the student within the framework of conducting an experiment at all stages of training	Inclusion of research work in the educational program with the aim of its development and improvement .
5	Development of measures to master work with scientific information using domestic and foreign experience in professional activities	Creation of a list of relevant and practically significant topics taking into account proposals from employers and research institute scientists .

To achieve the goal, it is necessary to solve the following tasks:

- Creation of an innovative educational environment;
- Expansion of the educational space;
- Attracting talented young people to scientific work;
- Development of multilingual education with the aim of expanding the range of languages studied ;
- Development of human resources;
- Development of a system for improving the qualifications of teaching staff
- Expansion of the university's international cooperation with universities in neighboring and far-abroad countries within the framework of research projects and academic mobility of students and faculty;
- Ensuring that graduates are in demand in the labour market.

To further improve the number of faculty members with PhDs, the university needs to strengthen its efforts to attract young faculty to scientific research and their subsequent doctoral training,

Given the further development of the educational program, it is necessary to increase the proportion of faculty members with academic degrees; plan for advanced training courses at the international level; increase the number of faculty members with foreign language proficiency; increase the number of scientific papers published in

journals with a high citation index; and participate in the development and implementation of scientific projects under international grants.

5. Expected final results of the implementation of the development plan of the OP

The expected final results of the educational program 7M08101-Agronomy assume a clear orientation to the future, which is manifested in the ability of the student to build an educational trajectory taking into account success in personal and professional activities that meets the requirements of employers.

As a result of the implementation of the activities of the development plan for the educational program 7M08101 – Agronomy, the following final results are expected to be achieved:

1. *Quality of training of specialists*

Training of qualified agronomists with theoretical knowledge and practical skills in agriculture, crop production, forage production, and seed production of field crops.

To develop graduates' ability for scientific research, production and innovation activities in the modern conditions of development of agronomy and related fields.

Developing critical thinking skills, a project-based and analytical approach to solving professional problems.

2. *Development of scientific research potential*

Active involvement of master's students in research activities , participation in scientific and practical conferences at various levels.

Creating conditions for conducting research at leading research institutes of the Republic of Kazakhstan and at joint facilities with domestic and foreign partners.

Increased publication activity of faculty and graduate students in peer-reviewed journals.

3. *Integration of education, science and production*

Strengthening interaction with employers and specialized enterprises to increase the practical orientation of the educational process.

Increasing the level of graduate employment and employer satisfaction with the quality of their training.

4. *International cooperation and mobility*

Expansion of academic mobility of students and faculty, participation in international programs (Erasmus + , DAAD , etc.).

Attracting professors from foreign universities to teaching and research activities at KazNAIU . Improving the international competitiveness of the educational program .

5. *Development of a digital educational environment*

Expanding the use of the university's educational portal for online course registration and access to digital educational materials.

Active use of international online educational platforms (Coursera , Aisana , Astana Hub , HUAWEI , etc.) to individualize learning and improve the digital competencies of graduate students and teachers.

6. *Improving educational, methodological and personnel support*

Publication and updating of educational and methodological literature by the faculty of the department.

Acquisition of modern educational, methodological and laboratory materials for all levels of training.

Advanced training for teaching staff, internships in scientific and industrial organizations, including abroad.

The implementation of the educational program development plan will ensure:

- improving the quality and attractiveness of OP 7M08101-Agronomy at the national and international levels;
- development of competitive, mobile and responsible specialists capable of working in the fields of science, education and agricultural production;
- Strengthening the image of KazNAIU as a leading university implementing innovative and internationally oriented educational programs.

6. Measures to reduce the impact of risks for the OP

In order to minimize potential risks affecting the implementation and sustainable development of the educational program 7M08101 – Agronomy, the following activities are planned:

No.	Event	Expected result	Responsible
1	Increasing the number of master's students through the intensification of career guidance work. Forming a list And Preparation bachelors 4 courses For receipts V Master's degree. Development of international recruitment (including from CIS countries).	Increase in the number of students, increasing the financial sustainability of the program.	Department, Admissions Committee of KazNAIU
2	Improving the Master's degree program in accordance with modern requirements . Full provision of students with educational and methodological literature (publication of the UML teaching staff of the department, updating of library collections, acquisition of modern literature and electronic resources).	Improving the quality of the educational process and the availability of educational resources.	Department, library of KazNAIU
3	Concluding agreements with leading economic entities to	Improving the practical orientation of	Department of Internship and

	organize research internships, as well as facilitating the employment of graduates.	training and the level of graduate employment.	Employment of KazNAIU
4	Timely scheduled upgrades and purchases of modern laboratory equipment, consumables, and reagents.	Modern material and technical base that meets the requirements of the educational process and scientific research.	Department, Procurement Department of KazNAIU
5	Improving the qualifications and developing the human resources of the teaching staff through internships, courses, and seminars	Improving the professional level of teachers and the quality of educational services.	Department, Department of Advanced Training KazNAIU
6	Activation of international cooperation and academic mobility of students and teaching staff. Participation in international educational and scientific projects	Expanding and strengthening academic exchanges, enhancing the international status of the EP.	Department, International Office KazNAIU
7	Development of digital infrastructure for the educational process (updating the university portal, introducing digital monitoring and feedback tools).	Reducing administrative risks, increasing transparency and manageability of the educational process.	Department of IT

7. List of activities of the development plan of the OP

No.	Direction of work	Event	Participants	Completion date	Expected result
1	Improving the content of the educational program	1. Conduct an analysis of the educational program's compliance with the requirements of the State Educational Standards of the Republic of Kazakhstan and professional standards. 2. Update learning outcomes to reflect labor market demands and graduate competencies.	Department, Academic Committee, DAV.	Annually, 1st quarter	Updated OP, compliant with the requirements of the International Organization for Standardization
2	Participation of employers in the implementation of the OP	1. Conclude cooperation agreements with specialized enterprises. 2. Involve employers in the development and evaluation of educational programs, in conducting research internships and final certification.	Employers, department	Constantly	Increasing the practical orientation of training
3	Development of research activities of graduate students	*Educational component:* Writing a master's thesis, which is the main form of scientific research work and includes elements of scientific research. Study of the theoretical foundations of scientific research methodology, experimental planning, and data processing within the framework of special courses. Completing research assignments during internship. *Extracurricular component:* Conducting research outside of class time. Participation in scientific conferences, seminars, project activities. *Scientific and organizational component:* Interacting with the supervisor and other faculty members to obtain professional advice and feedback.	department, research institute, foreign partners	Constantly	Increasing the scientific activity of graduate students

		Organizing independent research, including planning, collecting and analyzing data, as well as preparing scientific publications and presentations			
4	Publication and updating of educational and methodological support	*Development of new and updating of existing materials:* Publication of textbooks, methodological recommendations, and course curricula that reflect modern scientific and technological advances in agronomy. *Review and testing:* Expert evaluation of developed materials, their testing on pilot groups of master's students, and adjustments based on feedback. *Regular updating:* Continuous monitoring and updating of educational and methodological support to ensure its relevance and compliance with changing industry conditions.	Department teaching staff, library	Annually	Providing modern educational and methodological resources
5	International cooperation and academic mobility	1. Attracting professors from foreign universities to teaching and research activities at KazNAIU . 2. Ensuring continuous academic mobility of students and teaching staff.	International Department , Department	Constantly	Increasing the international competitiveness of the program
6	Internal and external quality assurance	Internal quality assurance *Development and implementation of standards:* setting internal quality standards. *Educational process:* Creation and updating of curricula, programs and teaching methods taking into account modern requirements. *Quality rating:* Assessment of the qualifications of teachers and their research activities. Monitoring students' academic performance and satisfaction with the educational process. Assessment of the quality of final theses (master's theses).	DAV , department , faculty, Academic Committee.	2025–2027	Program accreditation and quality improvement

		Feedback: Collecting and analyzing feedback from students, graduates, and employers to adjust the educational process. External quality assurance *State accreditation:* A procedure by which a university confirms that its educational programs comply with state educational standards. *State control:* Supervision by state bodies of compliance with educational standards in universities. *Review and evaluation:* External commissions review the teaching process, teacher qualifications, and the quality of educational programs. *Consumer information:* Government agencies inform customers and consumers of educational services about the compliance of programs with established requirements.			
7	Advanced training for teachers	Areas of advanced training for teaching staff: *Modern agricultural technologies:* Study of the latest methods in the field of plant growing. *Digitalization and automation:* Training in modern software , electronic document management systems, precision farming technologies, and agri-IT. *Teaching Excellence:* Developing methodological and didactic skills for teaching at the master's level, including online teaching and methods for assessing master's students' knowledge. *Research Project Management:* Training in the principles and methods of research management and preparing master's students for dissertation defense.	Department's teaching staff	Annually	Improving the professional competence of teachers
8	Working with graduates	1. Create an association of graduates of the OP. 2. Conduct annual monitoring of employment and surveys of graduates.	Department, graduates	Annually	Improving the educational program based on feedback from graduates

8. Justification of resource provision of the plan

- information resources;
- library collection of electronic educational materials and other accessible educational and methodological support;
- personnel;
- qualified teaching staff;
- material and technical base

9. Mechanism for implementing the development plan of the OP

The mechanism for implementing the development plan for OP 7M08101-Agronomy includes the development and approval of curricula, work programs for disciplines, as well as the assessment of learning outcomes.

To effectively implement the development plan for the educational program 7M08101 – Agronomy, a phased implementation of measures is envisaged aimed at improving the quality of specialist training and strengthening the competitiveness of the program.

1. *Increasing the number of students* . Targeted work is underway to increase the number of educational grants, attract foreign citizens, and implement a range of career guidance activities for fourth-year students. Particular attention is paid to promoting the educational program on international educational platforms and participating in exhibitions, forums, and career guidance meetings.

2. *Improving the content and structure of the educational program* . The department's staff develops and annually updates catalogs of elective courses with the participation of employers, ensuring that educational outcomes meet current labor market requirements and professional standards. Interdisciplinary approaches are being actively implemented.

3. *Development of practice-oriented learning.* Developing practice-oriented training for agronomy master's students involves strengthening the connection with real-world challenges in the agricultural sector through project work, internships, case studies, and involvement in research projects at research institutes. It is important to develop master's students not only in theoretical knowledge but also in professional competencies, experience with modern technologies, and the ability to apply knowledge to solve practical problems.

4. *Involvement of external experts and international cooperation* . Leading scientists and specialists from near and far abroad will be invited to conduct lectures, practical classes, master classes, and scientific consultations. Active development of academic mobility for master's students and faculty, and the development and implementation of joint educational and scientific projects with international partners.

5. *Information and digital support for the educational process* . Information and digital support for the educational process of master's students in OP 7M08101-Agronomy includes the use of modern digital tools and technologies in teaching. This includes online courses, learning management systems (LMS), digital libraries, as well as specialized digital solutions such as geographic information systems (GIS) , the Internet of Things (IoT), and artificial intelligence (AI) , which are applied directly to the agro-industrial complex.

6. *Monitoring and evaluating the effectiveness of the plan's implementation.* Key performance indicators for the program's implementation are monitored on an ongoing basis: graduate employment, employer satisfaction, academic performance, and

the level of research activity among students and faculty. The results of the analysis are used for further adjustment of the development plan and updating of the educational program.

10. SWOT analysis

S (strength) – strengths	W (weaknesses) – weaknesses
- with compliance of the educational program with the requirements of the State Educational Standard of the Republic of Kazakhstan and professional standards ; - qualified faculty with experience in scientific and practical activities. - free access for graduate students to study on international online platforms (Coursera , HUAWEI , etc.) ; - functioning of the university's educational portal, providing access to educational materials. - participation of master's students in research projects.	- insufficient participation of foreign teachers in the implementation of the program. - low level of publication activity of the teaching staff in international databases (Scopus , WoS). - poor knowledge of English among the department's faculty; uneven level of foreign language proficiency among master's students ; insufficient systematic participation of employers in the assessment of educational results.
O (opportunity) – favorable opportunities	**T (thread) – threats and risks**
- expansion of international cooperation with foreign universities and research centers ; - participation in international programs ; - attracting foreign professors to teaching and research activities ; - and the development of modern educational and methodological literature on the department’s special disciplines ; - participation of students and faculty in international conferences and seminars ; - acquisition of modern equipment within the framework of scientific projects.	- high competition in attracting talented students and young teachers; - low probability of increasing salary levels to a level above the average for universities; - rapid obsolescence of technologies and laboratory equipment ;

1 1 . Model of a graduate of OP 7M08101-Agronomy

No.	Graduate's characteristics	Key competencies	Learning outcomes	Potential areas of activity
1	Professionally trained specialist in the field of agronomy	Knowledge in the field of agriculture, plant growing, forage production and seed production of field crops. Proficiency in modern agricultural production management methods, including the use of digital technologies	- develop schemes of modern short-term crop rotations for farms and other enterprises, taking into account the specialization of farms, land and soil-climatic resources; - to draw up technological maps for the cultivation of agricultural crops with the introduction of elements of innovative technologies	- joint-stock companies, production cooperatives, limited liability partnerships, agricultural firms; - farms, small holdings and production cooperatives; - experimental research institutions in the field of agriculture; - enterprises for storage and processing of plant products; -institutions for testing varieties of agricultural crops - agricultural experimental stations.
2	Researcher and innovator	- Ability to formulate scientific hypotheses and conduct experiments. - Project and research skills.	- Participates in the development and implementation of scientific projects. - Able to analyze results, prepare reports and publications.	- research institutes and universities with an agricultural profile.
3	Practice-oriented specialist	- Ability to apply knowledge in practice. - have the skills to organize and develop an environmentally friendly, environmentally safe system of farming, and conduct tests of plant products for the presence of hazardous harmful substances	- Conducts laboratory research, analyzes results and implements innovative solutions. - Participates in production processes.	- joint-stock companies, production cooperatives, limited liability partnerships, agricultural firms; - farms, smallholdings and production cooperatives; - experimental research institutions in the field of agriculture; - enterprises for storage and

				processing of plant products; -institutions for testing varieties of agricultural crops
4	Communicatively and socially competent person	- Possession of business and scientific communication skills. - Work in a team and interdisciplinary environment. - Ability to present research results.	- Interacts effectively within the professional community. - Demonstrates leadership and communication skills.	Academic and corporate environment, project and research groups.
5	Ethically and environmentally responsible citizen	- Awareness of the social and environmental significance of bioengineering activities. - Compliance with the standards of scientific and professional ethics.	- Complies with ethical principles when conducting research. - Assesses environmental risks and consequences of biotechnological solutions.	- joint-stock companies, production cooperatives, limited liability partnerships, agricultural firms; - farms, small holdings and production cooperatives; - experimental research institutions in the field of agriculture; - enterprises for storage and processing of plant products; - institutions for testing varieties of agricultural crops
6	A competent and mobile specialist in information technology	- Proficiency in modern digital tools and databases. - Readiness for academic mobility and international cooperation.	- Uses digital platforms to analyze, share and visualize data. - Participates in international academic and research projects.	Universities, international research centers

As a result of training, the graduate should:

Codes	Learning outcomes for OP 7M08101-Agronomy
PO1	Understand the principles of natural sciences, occupational health and safety, environmental protection, and sustainable development, and moral development principles. Understand the importance of the principles and culture of academic integrity. Identify the individual educational needs of students with disabilities and provide psychological and pedagogical support.
PO2	Demonstrate knowledge and understanding of the weather, climate, and soil conditions of various regions of Kazakhstan for differentiated use in agricultural systems and the use of microorganisms and agrochemical indicators of soil in agronomic research.
PO3	Understand the fundamentals of agricultural technology management using information and communication technologies and AI elements ; soil conservation , biological farming , and organic production.
PO4	Conduct an economic analysis of the efficiency of an enterprise (organization), apply modern research methods in agronomy, based on physical and mathematical analysis in the intensive use of reclaimed lands.
PO5	To understand plant biology, the basics of plant pests, and the importance of genetics, selection, seed production, and variety science in increasing crop yields.
PO6	Conduct field experiments using innovative methods and apply the results in digitalization for the preservation and restoration of soil fertility in various natural and climatic zones of the republic.
PO7	Use the learning skills necessary for independent continuation in the adaptation of plant growing, forecasting and protection of agricultural crops from pests and diseases.
PO8	Explore biotechnological methods in breeding and seed production, know the importance and role of breeding and seed production in increasing crop yields.
PO9	To acquire theoretical and practical knowledge to solve educational, practical and professional problems in plant growing, animal husbandry , agriculture, forage production and fruit and vegetable growing.
PO10	Know and implement GOST requirements for the storage and processing of manufactured plant products.
RO11	in the development of technologies for the cultivation of industrial and oilseed crops and the machinery and equipment systems used in these technologies, as well as in matters of variety development and the importance of lawn grasses.
PO12	Be able to plan and calculate the needs of farms fertilizers, agricultural machinery and equipment depending on the agricultural technologies used in crop production.

Head of Department department
"Agronomy, selection And biotechnology" Zhanbyrbaev E.A.

Dean faculty "Agrobiology" Abildaev E.S.

Appendix

DEVELOPMENT PLAN OF THE MASTER'S EDUCATIONAL PROGRAM 7M08101 – Agronomy

Task 1. Integration of scientific and scientific-technical activities with the educational process at all levels of higher and postgraduate education.

№	Performance indicators	Unit of measur.	2024	2025	2026	2027	2028
1.	Contingent of students enrolled in the Educational Program	чел	5	8	10	12	13
2.	Share of graduates employed within the first year after graduation	%	72	87	88	90	100
3.	Share of international students in the total number of students in the Educational Program	%	0,1	0	1	1	2
4.	Share of students participating in academic mobility programs of the total number of students in the Educational Program, including international internships	%	1	1	1	2	2
5.	Compliance of the academic staff (faculty) of the Educational Program with qualification requirements regarding academic degrees	%	100	100	100	100	100
6.	Share of invited foreign experts involved in teaching activities	%	1	1	2	2	3
7.	Number of research institute (RI) scientists employed as part-time and/or hourly academic staff at the university	pers.	2	2	3	4	5
8.	Joint supervision and training of master's students based on research institutes	pers.	3	4	5	6	8
9.	Share of academic staff teaching in English in the total number of academic staff	%	16	16	17	17	18
10.	Number of educational and methodological publications developed by the academic staff according to the specifics of the Educational Program	qty.	10	11	11	12	12
11.	Updating of the Educational Program in accordance with labor market requirements	+/-	+	+	+	+	+
12.	Analysis of the Educational Program for compliance with the University Strategic Development Plan	+/-	+	+	+	+	+
13.	Integration of digital technologies into the disciplines of the Educational	+/-	+	+	+	+	+

	Program						
14.	Organization of round tables on the introduction of competencies into the educational process	+/-	+	+	+	+	+
15.	Participation of potential stakeholders as experts in the Educational Program	qty.	2	2	3	3	4
16.	Involvement of stakeholders in the development of the Educational Program and in evaluating the quality of specialist training (Students, Employers, Alumni)	+/-	+	+	+	+	+
17.	Position of the Educational Program in national rankings: — NAAR — NKAOKO — Atameken	rank	 1 1 1	1	 1 1 1	 1 1 1	 1 1 1
18.	Availability of accreditation of the Educational Program	+	+	+	+	+	+
19.	Share of disciplines incorporating online courses (Coursera, edX, etc.)	%	5	7	10	10	12
20.	Number of master's students who have completed at least one certified Coursera course related to the Educational Program	pers.	2	3	4	4	7
21.	Number of academic staff participating in the implementation of fundamental and applied research	unit	5	6	7	8	10
22.	Number of research projects carried out within international cooperation	unit	-	-	-	1	1
23.	Number of student publications in journals recommended by the Committee for Quality Assurance in Science and Higher Education (KKSON)	unit	2	3	4	6	7
24.	Number of students participating in research projects and academic competitions	unit	-	-	-	1	2

Task 2. Development of an effective model of corporate governance and strengthening of the university's intellectual potential.

№	Performance indicators	Unit of measur.	2024	2025	2026	2027	2028
1.	Share of young researchers in the total number of scientists and researchers engaged in R&D activities	%	1	1	1	2	3
2.	Share of academic staff who have completed professional development and international internships	%	4	2	3	4	4
3.	Participation of academic staff in annual	qty.	-	-	1	1	2

	competitions for the awards "Best Researcher," "Best University Teacher," as well as state awards and scholarships for outstanding achievements in science						
4.	Participation of the academic staff of the Educational Program in "Silver University" programs aimed at providing access to quality education for individuals of any age (specializations: digital education, inclusive education, digital technology-based learning)	+/-	-	-	-	1	1
5	Share of students of the Educational Program involved in organized social and community activities, including student self-governance, debate clubs, and volunteer initiatives aimed at strengthening civic responsibility and patriotism	%	1	2	2	3	4

Task 3. Activities aimed at the commercialization of the results of scientific and scientific-technical research and the implementation of scientific developments and technologies into production.

№	**Performance indicators**	**Unit of measur.**	**2024**	**2025**	**2026**	**2027**	**2028**
1.	Participation of students in startup projects	pers.	0	0	0	1	2

Task 4. Development of the university's scientific and educational infrastructure and digital architecture.

№	**Performance indicators**	**Unit of measur.**	**2024**	**2025**	**2026**	**2027**	**2028**
1.	Share of upgraded laboratory equipment	%	1	1	2	2	3
2.	Provision of student housing (availability of dormitory accommodation for students)	+/-	+	+	+	+	+