

**«KAZAKH NATIONAL AGRARIAN RESEARCH UNIVERSITY»
Non-commercial joint-stock company**

**EDUCATIONAL PROGRAM DEVELOPMENT PLAN
«7M08112 - BREEDING AND SEED PRODUCTION OF AGRICULTURAL
CROPS»**

2024-2026

Recommended by the Academic Committee
of the Faculty of Agrobiology
Protocol №10 dated 24.05.2024
Reviewed at the extended meeting of the
Department of Agronomy, breeding and
biotechnology
Protocol №11 dated 15.05.2024

Almaty, 2024

CONTENT

№	Name component	Page
1	Passport plan development educational programs (EP)	3
2	Analytical justification programs	4
3	Characteristic problems, on solution which directed plan development educational programs	7
4	Main goals And tasks plan development EP	7
5	Expected final results execution plan development EP	9
6	Events By decrease influences risks for EP	9
7	Scroll events plan implementations EP	9
8	Mechanism implementations plan development EP	10
9	Grade socio-economic efficiency implementations plan development of the EP	11
10	SWOT analysis	11
11	Model graduate By educational program «7M08112 - Breeding and seed production of agricultural crops»	12

1. Passport development plan for the educational program «7M08112 - Breeding and seed production of agricultural crops» on 2024-2026

1	Grounds For developmentsplan development of the EP	Strategy And subject matter plan development EP created based on employers' requests in accordance With educational politics Republics Kazakhstan, strategic plan development departments specialties "Breeding and seed production of agricultural crops."
2	Main developersplan development of the EP	Urazaliev K.R. k.b.s., assoc. professor Suleimenova S.E. d.b.s., professor Baiseitova G.A. PhD, senior lecturer Employer: Chairman of the Board of LLP «Kazakh Research Institute Agriculture and Plant Growing» Sh. Bastaubaeva
3	Timeframe for implementation of the plan development EP	2024-2026 years
4	Volume and sources financing	State budget and business contract work
5	Expected finalresults implementations plan development of the EP	Educating of highly qualified specialists of seed breeders with professional skills in the field of breeding and seed production of agricultural crops, capable of solving theoretical and practical problems of professional activity in modern conditions.
6	Appendix number to the license for the training of personnel	KZ89LAA00031870 05 August 2021
7	Accreditation of EP The name of the accreditation body The period of accreditation validity	Certificate №: AB4873 IAAR 16.06.2023 г. - 15.06.2028 г.

2 Analytical justification programs

2.1 Information about the educational program.

The content of the educational program is established by the following documents:
«On Education» The Law of the Republic of Kazakhstan dated 27 July, 2007 №. 319-III;
Order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated July 20, 2022 №2;

Classifier of training programs for personnel with higher and post-graduate education. Order of the Minister of Education and Science of the Republic of Kazakhstan of October 13, 2018 №. 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 of October 30, 2018 №. 595;

Rules of the organization of the educational process on credit technology of training. Order of the Minister of Education and Science of the Republic of Kazakhstan dated 12.10.2018 №. 563;

Algorithm of 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 №. 665 dated December 4, 2018;

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

Industry qualifications framework (Atameken NPP website <http://atameken.kz/>):

Professional standard: Teacher (faculty) of higher and (or) postgraduate education organizations Approved by order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated November 20, 2023 № 591.

Professional Standard «Nursery garden activities» Appendix № 17 to the order of the Deputy Chairman of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan «Atameken» dated 26.12.2019 г., № 263.

Atlas of new professions:

Agrogeneticist <https://www.enbek.kz/atlas/ru/profession/225>

The goal of the educational program «7M08112 - Breeding and seed production of agricultural crops» Educating of highly qualified specialists of seed breeders with professional skills in the field of breeding and seed production of agricultural crops, capable of solving theoretical and practical problems of professional activity in modern conditions.

The Master's degree program offers a scientific and pedagogical direction (2 years).

2.2 Information about students.

Currently, 5 master's students are studying in the educational program «7M08112 - Breeding and seed production of agricultural crops» (in the 1st year, 2 master's students study on a state grant, 1 paid-contractual basis (Republic of Karakalpakstan), 2 master's students in the 2nd year).

2.3 Internal conditions for the development of the EP. To implement 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 include computer labs with installed software and Internet access for subjects taught in computer labs; multimedia labs for foreign language classes;
- for master's students to complete independent academic work - access to electronic teaching aids, methodological recommendations for writing dissertations;

- for master's students to conduct research work, the graduating department has;
- The financial resources of the educational program are provided by the university budget, as well as by research and international projects;
- information resources are at the disposal of the educational institution and are represented by a library (including electronic publications), access for all students and teaching staff to the Internet, computer software, etc.;
- the staff is fully staffed, in accordance with the development plan of the OP; the material and technical base meets the requirements of the State Educational 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, teaching and methodological complexes for all areas of study, as well as relevant documentation for the training of master's students.

The direction of preparation of master's dissertations corresponds to the subject of scientific research of the department (initiative topics of scientific research). Particular attention is paid to such issues as increasing the degree level of the teaching staff, their completion of advanced training courses in domestic universities, in universities of the near and far abroad, and research institutions.

2.3 Characteristics of the surrounding society

The University has created conditions for practical training: programs have been developed, the content of which corresponds to the goals and objectives of training specialists; long-term and short-term contracts for conducting practical training have been concluded; during the practical training, managers from the University and the practical training base provide ongoing consultation to the student, guide, and help him/her conduct professional activities; upon completion, students' reporting documentation is collected and analyzed, work is carried out to summarize the practical training results, and together with the approved composition, the commission accepts a report from the master's students on the results of the practical training in the established manner. The final assessment for the practical training is determined as the assessment of the practical training manager from the enterprise of 100% and the assessment of the practical training manager from the department upon the defense of the report of 100%.

The result of satisfaction of students, faculty and employers with the places, conditions and content of internships, as well as the level of students and teachers is the opinion and feedback of organizations providing bases for internships. After completing a certain type of internship, a survey of master's students is conducted in order to identify an assessment of the satisfaction of students with the places and organization of internship, and a survey of the heads of internship bases is also conducted in order to assess satisfaction with the level of training of students.

Monitoring of the internship and tracking of its organization quality is carried out by the Department of Agronomy, Selection and Biotechnology and the Department of Internship and Employment. As a result of monitoring, the Department of Internship and Employment and the Department formulate recommendations for improving the organization of the internship.

The practice bases for the educational programs of the master's degree «7M08112 - Breeding and seed production of agricultural crops»: LLP «Kazakh Research Institute of Agriculture and Plant Growing», LLP «Kazakh Research Institute of Animal Husbandry and Forage Production», LLP «Kazakh Research Institute of Rice Growing named after I. Zhakhayev», LLP «East Kazakhstan Agricultural Experimental Station» and others.

2.4 Information about the teaching staff implementing the educational program.

The implementation of the Master's degree program in this area is provided by scientific and pedagogical staff in accordance with the requirements of the State Educational Standard RK. The list of scientific and pedagogical workers involved in the implementation of this EP is presented in the certificate on the staffing of the educational process and staffing.

Qualitative and quantitative composition of the department's teaching staff:

The Department of Agronomy, Selection and Biotechnology employs 23 teachers, including 3 doctors of science, 13 candidates of science and 5 PhD doctors. The department's degree holders rate is 91%, the average age of the teaching staff is 53 years, 100% of teachers conduct classes in the state language and the language of interethnic communication, and 1 in English.

The teaching staff takes refresher courses every year, which affects the quality of the educational content.

Employment of graduates of «7M08112-Selection and seed production of agricultural crops» is the first recruitment according to the OP, in connection with this there was no graduation.

The faculty of the department works in the direction of developing academic mobility, attracting the best foreign teachers, conducting joint research in the implementation of «7M08112-Selection and seed production of agricultural crops». All professional information regarding the faculty is available and posted on the website KazNARU website:

https://www.kaznaru.edu.kz/page/department/?name=agronomiia_selektciia_zhane_biotekhnologii&var=okytushyprofessorlar_kuramy_1341&lang=ru

2.5 Characteristics of the achievements of the OP.

The department conducts scientific research on initiative topics, in which master's students directly participate. The topics of their master's projects/dissertations correspond to this area of scientific research.

In accordance with the requirements of the labour market and at the suggestion of employers, new elective disciplines will be introduced into the work curricula.

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

Today the department faces the following problems:

Insufficient proficiency of students and teaching staff in professional English
Insufficient mobility and motivation of teaching staff to use innovative teaching methods

Reduction in the share of the teaching staff of the EP who have the academic degree of Doctor of Biological Sciences and Doctor of Agricultural Sciences due to their age. Annual increase in tuition fees for the EP.

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

The main goal of the educational program development plan is to improve it in accordance with the vision, mission and strategies of the university, aimed at developing competitive personnel in the selection and seed production of agricultural crops in demand in the sectors and areas of agronomy in Kazakhstan and in the global scientific and educational space, as well as for the development of a socially oriented, highly cultured and competent individual.

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

№	Task name	Event
1	Improving and improving 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 of employers 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 that meet the needs of the labor market, recommended by employers
3	Establishing strong ties with foreign partners for the purpose of implementing joint scientific research and publishing educational and methodological literature	Implementation of joint scientific research and publication of educational and methodological literature
4	Providing conditions for independent scientific research activities of the student within the framework of conducting research work throughout the entire training and publication process	Inclusion of research work in the EP for the purpose of its development and improvement
5	Organization of consultations for employers and scientists of research institutes in the selection of relevant and practically significant topics for master's dissertations, conducting research by master's students in the leading research institutes of the republic	Creation of a list of relevant and practically significant topics taking into account proposals from employers and scientists of the research institutes

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 international cooperation of the university with universities in the near and far abroad within the framework of scientific projects and academic mobility of students and teaching staff;
- Ensuring that graduates are in demand in the labour market;
- It is necessary to update and improve the content of the educational program, modernize the material base of educational laboratories, update the content of lecture materials and laboratory practical training taking into account the latest scientific achievements;
- Improving the system of communication with employers;
- Improving the qualifications of teaching staff in the field of innovative teaching technologies at the national and international levels.

To further increase the number of faculty members with degrees, the university should strengthen its efforts to attract young teachers and masters students to scientific research and their subsequent doctoral studies.

Taking into account the further development of the educational program, it is necessary to carry out work to increase the share of the teaching staff with an academic degree; plan to take courses to improve professional qualifications at the international level; increase the number of teaching staff who speak a foreign language to form multilingual education groups; increase the number of scientific papers published in journals with a high citation index; 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 EP.

Training of highly qualified specialists - breeders and seed growers, possessing professional skills in the field of selection and seed production of agricultural crops, capable of solving theoretical problems and practical tasks of professional activity in modern conditions.

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

Increasing the number of students, full provision of educational and methodological literature, concluding contracts with business entities for practical training and further employment, timely planned purchase of modern equipment and constant acquisition of modern biological preparations and instruments. Functioning of the biotechnology laboratory at the department.

7. Action plan of the development plan of the EP

№	Events	Form completion	Deadlines
1	Justification and implementation of educational programs that ensure continuous education of students, activation of the introduction of innovations into the educational process.	EP Master's degree	2024-2026
2	Improving the EP with the direct participation of potential employers.	EP Master's degree	2026
3	Improving the qualifications and qualifications of teaching staff through master's degree programs and attracting teachers with academic degrees.	Share of PPP with academic degrees will make up 95%	2026
4	Providing students with various types of practical training.	Agreements with enterprises, Research Institute	2025-2026
5	Publication of educational and methodological literature prepared by the teaching staff of the department and acquisition of educational and methodological literature for students at all levels of training.	Published and purchased by MLP	2026-2028
6	Activation of relations with foreign partners with the aim of implementing joint scientific research and publishing MLP.	Projects in progress, published MLP	2024-2028
7	Attracting professors from leading foreign universities to teaching and research activities at KazNARU.	Conducting classes	2026-2028
8	Involvement of leading seed breeders in the educational process.	Conducted classes	2026-2028
9	Organization of research by master's students in leading research institutes of the republic, including joint ventures with foreign partners.	Agreements with research institutes	2025-2028
10	Providing ongoing academic mobility for students and teaching staff.	Training and Internships in foreign university, certificate	2025-2028

№	Events	Deadlines execution
1	Formation of a commission for the development of an educational program	2024
2	Development of the goal and objectives of the educational program	2024
3	Definition of the competencies of the master's student and the disciplines of the educational program	2024
4	Development of a common position on the competencies of the Master's educational program with employers	2024
5	Development of a common position on the competencies of the educational program of specialty disciplines with employers	2024
6	Formation and coordination of master's student competencies and disciplines of the specialty with Dublin descriptors	2024
7	Formation of an educational program in accordance with professional standards	2024
8	Drawing up an academic calendar and a working curriculum for the specialty in accordance with the developed educational programs	2024
9	Consideration of the educational program at an extended meeting of the department with the participation of employers	2024
10	Review and approval of the educational program by the academic council of the faculty	2024

8. Justification for 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.

Conduct targeted work to increase the number of grants for master's programs. To implement the educational program, the department staff will develop catalogs of elective disciplines with the direct participation of employers. Trips for master's students to research institutes and higher education institutions in neighboring and distant countries will be organized. Leading scientists from neighboring and distant countries will be invited to conduct lectures and practical classes for master's students.

10. SWOT analysis

S (strength) – strengths <ul style="list-style-type: none"> • availability of master's degree students with basic competencies in agronomy; • qualitative composition of EPS; • participation of master's students in research projects of research institutes. 	W(weakness) – weak points <ul style="list-style-type: none"> • high workload of teaching staff; • low level of scientific developments; • weak level of foreign language proficiency among teaching staff; • low level of wages.
O (opportunity) – favorable opportunities <ul style="list-style-type: none"> • the possibility of self-study on international online courses; • cooperation with foreign universities and research institutes in scientific research; • adaptation of the educational program to professional standards, taking into account the interests of key employers. 	T (thread) – threats and risks <ul style="list-style-type: none"> • reduction in the number of graduate students; • outflow of university graduates and young scientists abroad • low probability of increasing salary levels to a level above the average for universities;

11. Model of a graduate of this EP

Names of EP	7M08112- Selection and seed production of agricultural crops
Be able to :	Demonstrate developing knowledge and understanding of the history and philosophy of agricultural science, ability to manage teaching activities and knowledge of the basics of psychology, fluency in a foreign language in professional activities and leadership qualities of a future Master of Science
Know and understand:	Know and understand the basics of psychology of education and management, psychology of cognitive and management activities, typology of conflicts, basics of personality behavior in conflict situations Know and understand the basics of modeling business processes and resolving problem situations, the basics of project management using modern innovative and digital technologies
Be competent	In the field of scientific research methodology: <ul style="list-style-type: none"> - in matters of innovative technical and technological production in all branches of agriculture; - in the field of scientific and scientific-pedagogical activity in educational organizations; - in the implementation of scientific projects and research in the professional field. Possessing: <ul style="list-style-type: none"> - the ability to independently organize and conduct scientific research using modern breeding and biological achievements;

	<ul style="list-style-type: none"> - the ability to organize the production of seeds and planting material for agricultural crops based on the latest achievements in agricultural science and biotechnology; - the ability to recognize genetic differences in selection of agricultural crop varieties for different environmental conditions; - readiness to apply public speaking skills, skills for conducting effective dialogue with the audience, methods and techniques of teaching disciplines in higher education institutions; - readiness to apply a variety of methodological approaches to modeling and designing varieties of field, forage, fruit and vegetable crops.
--	---

As a result, the graduate must:

Codes	Results of training in the educational program "7M08112-Selection and seed production of agricultural crops"
LO1	Demonstrate developing knowledge and understanding of the history and philosophy of agricultural science, ability in pedagogical management and knowledge of the basics of psychology, fluency in a foreign language in professional activities and leadership qualities of a future Master of Science.
LO2	Know and understand the foundations of the psychology of education and management, the psychology of cognitive and managerial activity, the typology of conflicts, the foundations of personality behavior in conflict situations.
LO3	Know and understand the basics of modeling business processes and resolving problem situations, the basics of project management using modern innovative and digital technologies.
LO4	Have the ability to set scientific and technical tasks, as well as develop and carry out research based on scientifically based methodology for planning and conducting experiments.
LO5	Ability to understand the basic laws in the field of general genetics, genomics, population genetics, physiology of plant growth and development, the role of genetic resources and starting material in the creation of new plant varieties.
LO6	Demonstrate knowledge and understanding of the basic concepts, laws, mechanisms and achievements of modern research in the field of breeding and seed production, in the creation and adaptation, reproduction and distribution of new and hybrids of agricultural crops.
LO7	Apply the Laws and other regulatory legal acts of the Republic of Kazakhstan in the field of creating and using new varieties and hybrids of agricultural crops to the existing requirements for the formation of judgments, taking into account social, ethical and scientific considerations, as well as when carrying out work on testing new varieties and hybrids in various soil -climatic conditions of the republic.
LO8	Interpret modern biotechnological methods and research in crop breeding and seed production, various methods of plant propagation and general principles of propagation biology in breeding research.

LO9	Collect and use information accumulated in databases on the structure of genomes, proteins and other biological information, possession of the main bioinformatics tools for the analysis of genomic, structural and other biological information.
LO10	Ability to use specialized knowledge of information technology to conduct research in the field of breeding and seed management of agricultural crops.

Head of the department
«Agronomy, breeding and biotechnology»

Y.Zhanbyrbaev

Dean of the Faculty of «Agrobiological»

E.Abildaev