Graduate Model of the Educational Program
6M08701 - Agricultural Machinery and Technology

Upon graduation, the graduate should be able to:
Skills:

- Determine the efficiency indicators of machinery and equipment in industrial conditions.
- Apply energy- and resource-saving technologies and equipment in livestock production.
- Determine key parameters based on the analysis of drying and cooling processes of meat and dairy products.
- Plan and organize the technical operation of machinery and equipment in agricultural production.
- Analyze the state and development of engineering and technical services in crop production.
- Analyze existing business models and redesign them to significantly improve enterprise performance.
- Ensure the application of technologies and technical tools for processing crop and livestock products in a market economy.
- Design processing enterprises in crop production and animal husbandry.
- Protect intellectual property rights for scientific discoveries and developments.

Knowledge and Understanding:

- Fundamentals of operating agricultural machinery and equipment in crop production and livestock farming.
- Schemes and contents of systems for engineering and technical support in crop production.
- Basics of research methodology, principles, and structures of organizing scientific activities.
- Major trends in the development of agriculture and ways to apply theoretical knowledge to solve various scientific and practical tasks.
- Prospects for technical development and the specifics of institutions, organizations, and enterprises.
- Main provisions and regulatory requirements of the Constitution of the Republic of Kazakhstan and legislation related to the agricultural sector.
- Key issues in agriculture and the capabilities of modern scientific tools for their analysis and resolution.
- Methods and tools for conducting scientific research.
- Modern technical tools, computing technologies, communication systems, and trends in the development of information technologies.
- Rules, methods, and tools for preparing technical documentation; basics of economics, labor organization, production organization, and scientific research.

Competencies:

- Master research methodology.

- Address issues of innovative technical and technological production in agriculture.
- Organize the use of new agricultural machinery and equipment.
- Excel in scientific and pedagogical activities in higher education institutions.
- Implement modern educational technologies and conduct scientific projects and research in professional fields.
- Ensure continuous knowledge updates and the expansion of professional skills and abilities.
- Apply mathematical methods to solve research problems.
- Use computing technologies and software to conduct scientific research and process data.