


CATALOG OF ELECTIVE DISCIPLINES
For students in the direction of preparation 8D082. Animal production.
Brief description of the elective disciplines of the educational program 8D08201. Animal Science

| EPC | EP | Form of education | The name of discipline | Code of subject | Discipline cycle | Component | Number of credits | Level of training | Department | Course | Academic period | Pre-requisites | Post-requisites | Brief content of the discipline | Key learning outcomes | Name of the alternative discipline |
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| D132 - «Animal breeding» | 8D08201 - «Animal science» | Full-time (PhD 3 years) semester | Detailed feeding of high-producing animals | DKV Zh 7301 | AS | Elective subjects | 5.0 | Doctoral studies by specialization (scientific & pedagogical direction) | Technology of production of products of stock-raising | 1 | 1 | Feeding of agricultural animals. Technological innovation of livestock products | PHD student's research work, incl. doctoral thesis. Research practice. Teaching practice | Principles of drawing up detailed and balanced diets. Features of feeding highly productive and breeding farm animals. Detailed feeding of lactating cows, dry cows and breeding bulls-producers of meat and dairy products. Scientific justification of directed feeding of young animals. Control of the usefulness of feeding highly productive animals. The scientific foundations of feed production and the necessary conditions for obtaining high-quality feed. Features and scientific foundations of feeding sheep, horses and poultry by periods of their development and productivity. | To demonstrate systemic understanding the organization and control of the full feeding of animals; to demonstrate the ability to implement and adapt as an organizer of strengthening the feed base of livestock and providing a highly productive livestock with all the necessary energy, protein, mineral and vitamin feed and feed additives, ensuring good health and high productivity. To analyze critically, evaluate and synthesize detailed norms for the energy and nutrient needs of highly productive animals and to apply their knowledge and achievements in the preparation of scientifically based comprehensively balanced diets for farm animals from available feeds. | Energy-protein feeding of productive animals |
| D132 - «Animal breeding» | 8D08201 - «Animal science» | Full-time (PhD 3 years) semester | Energy-protein feeding of productive animals | EPKP Zh 7311 | AS | Elective subjects | 5.0 | Doctoral studies by specialization (scientific & pedagogical direction) | Technology of production of products of stock-raising | 1 | 1 | Feeding of agricultural animals. Technological innovation of livestock products | PHD student's research work, incl. doctoral thesis. Research practice. Teaching practice | Energy-protein usefulness of animal feeding diets and control over it. Balanced diets for energy (heat production) and structural compounds for the biosynthesis of products (protein). Energy-protein rate, which allows to reduce feed consumption for production. | To demonstrate systemic understanding the organization and control of the full feeding of animals; to demonstrate the ability to implement and adapt as an organizer of strengthening the feed base of livestock and providing a highly productive livestock with all the necessary energy, protein, mineral and vitamin feed and feed additives, ensuring good health and high productivity. To analyze critically, evaluate and synthesize detailed norms for the energy and nutrient needs of highly productive animals and to apply their knowledge and achievements in the preparation of scientifically based comprehensively balanced diets for farm animals from available feeds. | Detailed feeding of high-producing animals |
| D132 - «Animal breeding» | 8D08201 - «Animal science» | Full-time (PhD 3 years) semester | Technology and problems of livestock production | TPPP Zh 7303 | AS | Elective subjects | 5.0 | Doctoral studies by specialization (scientific & pedagogical direction) | Technology of production of products of stock-raising | 1 | 2 | Information technologies in livestock. Technological innovation of livestock products | PHD student's research work, incl. doctoral thesis. Research practice. Teaching practice | Putting forward the problems of scientific research in the livestock industry. Foreign experience in solving the problems of livestock production. The main problems in animal husbandry in Kazakhstan. Use and results of application of advanced technologies in Kazakhstan. Ways to solve the problems of increasing the productivity of animals on the basis of improving, improving the conditions of feeding and keeping. Ways to solve the problems of using valuable genetic resources on the basis of our own breeding base. Technological methods for increasing productivity, scientific approaches to improving the efficiency of production and sales of livestock products. | To analyze, to evaluate the main problems of development in livestock production in Kazakhstan, to facilitate advancement in an academic and professional context the latest achievements in the development of intensive technology for the production of livestock products in order to increase production efficiency, improve living conditions, and use valuable genetic resources based on our own breeding base. | Technology and problems of precision animal husbandry |

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| D132 - «Animal breeding» | 8D08201 - «Animal science» | Full-time (PhD 3 years) | Technology and problems of precision animal husbandry | TPTZ AS h 7312 | Elective subjects | 5.0 | Doctoral studies by specialization (scientific & pedagogical direction) | Technology of production of products of stock-raising | 1 | 2 | Information technologies in livestock. Technological innovation of livestock products | PHD student's research work, incl. doctoral thesis, Research practice, Teaching practice | Application of advanced technologies in order to optimize the contribution of each animal to the production process. environmental factors, climatic conditions, feed supply and additives for precision animal husbandry. Discipline gives an understanding of the processes occurring in the room and provides the ability to respond to them if necessary. Course studies technologies and problems of precision animal husbandry, optimal management in all stages of production, system-forming elements of management in the field of animal husbandry. | To analyze, to evaluate the main problems of development in livestock production in Kazakhstan, to facilitate advancement in an academic and professional context the latest achievements in the development of intensive technology for the production of livestock products in order to increase production efficiency, improve living conditions, and use valuable genetic resources based on our own breeding base. | Technology and problems of livestock production |
| D132 - «Animal breeding» | 8D08201 - «Animal science» | Full-time (PhD 3 years) | Selection and reproduction of farm animals | SVSZ AS h 7310 | Elective subjects | 5.0 | Doctoral studies by specialization (scientific & pedagogical direction) | Technology of production of products of stock-raising | 1 | 2 | Breeding and selection of agricultural animals. Technological innovation of livestock products | PHD student's research work, incl. doctoral thesis, Research practice, Teaching practice | Scientific achievements in the field of breeding and reproduction of farm animals. Fundamental and applied methods of breeding and reproduction. Organization of breeding work in conditions of intensification of animal husbandry, application of modern achievements in the field of breeding and reproduction. Forms, principles of evaluation, methods of selection and assortment of highly productive farm animals. | To contribute with own original research to solve problems of reproduction and selection of farm animals. To demonstrate the ability to implement and adapt methods in the field of selection. | New methods of reproduction assessment of agricultural animals |
| D132 - «Animal breeding» | 8D08201 - «Animal science» | Full-time (PhD 3 years) | New methods of reproduction assessment of agricultural animals | NMO AS VSZh 7313 | Elective subjects | 5.0 | Doctoral studies by specialization (scientific & pedagogical direction) | Technology of production of products of stock-raising | 1 | 2 | Breeding and selection of agricultural animals. Technological innovation of livestock products | PHD student's research work, incl. doctoral thesis, Research practice, Teaching practice | Principles and practice of monitoring the reproduction of farm animals, anatomical structures and physiological characteristics of groups of animals associated with reproduction. Animal husbandry requirements associated with breeding animals, behavioral changes in animals during pregnancy, territorial behavior, and environmental processes that can affect reproduction, birth and hatching. Factors that can interfere with reproduction, natural, normal and abnormal behavior of farm animals during breeding. | To contribute with own original research to solve problems of reproduction and selection of farm animals. To demonstrate the ability to implement and adapt methods in the field of selection. | Selection and reproduction of farm animals |

The catalogue of elective disciplines is approved by the "Veterinary and animal husbandry technology" Faculty Council, minutes No. 1A of 28.08.2023.

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