

The list of academic disciplines of the university component

6B08 - Agriculture and bioresources
(Code and classification of the field of education)

6B083 - Forestry
(Code and classification of the direction of training)

0821
(Code in the International Standard Classification of Education)

B079 - Forest resources and forestry
(Code and classification of the educational program group)

6B08303 - Forest resources and hunting
(Code and name of the educational program)

bachelor
(Level of preparation)

set of 2023

Developed

By the Academic Committee of the OP
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Reviewed

At the meeting of the Commission on Quality Assurance of Veterinary Medicine and Agricultural Management
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Protocol № 4.1 "06" April 2023
Chairman of the Commission Jamanova G.

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Approved

at the meeting of the Academic Council of the University
Protocol № 1 "01" of September 2023
Chairman of the Academic Council of the University Orynbekov D.

Bases of economics, law and ecological knowledge

Discipline cycle	General educational disciplines
Course	1
Credits count	5
Knowledge control form	Examination

Short description of discipline

The integrated discipline includes the main issues and principles in the field of fundamentals of law and anti-corruption culture, economics, entrepreneurship and leadership, ecology and life safety. Features of the use of regulatory legal acts, the ability to use the business, ethical, social, economic, entrepreneurial and environmental standards of society. Specifics of environmental-legal, economic, entrepreneurial relations, leadership qualities and principles of combating corruption.

Purpose of studying of the discipline

It consists in studying the basic patterns of the functioning of living organisms, the biosphere as a whole and the mechanisms of their sustainable development under the conditions of anthropogenic impact and emergency situations; in understanding the concept of corruption, the legitimacy of the fight against it, the content of the state penal policy; in the formation of students' basic fundamental stable knowledge on the basics of economic theory, in instilling the skills and abilities of economic thinking; in introducing students to the theory and practice of entrepreneurship, to the basics of creating their own business; in the formation of theoretical knowledge and practical skills for the development and improvement of leadership qualities.

Learning Outcomes

ON 1 Demonstrate socio-cultural, economic, legal, environmental knowledge, communication skills, apply information technologies taking into account current trends in the development of society.

Learning outcomes by discipline

- ☒ analyzes the issues of safety and conservation of the natural environment as the most important priorities of life;*
- ☒ demonstrates knowledge of the fundamentals of nature management and sustainable development, assesses the impact of man-made systems on the environment;*
- ☒ shows knowledge of the main regulatory legal acts of the Republic of Kazakhstan, their understanding and application;*
- ☒ shows knowledge of the patterns of development of economic processes, clearly formulates his own position, finds and clearly sets out arguments in its defense;*
- ☒ is able to characterize the types of entrepreneurial activity and the entrepreneurial environment, draw up a business plan, create an entrepreneurial structure and organize its activities;*
- ☒ knows the fundamental provisions about the role of leadership in managing large and small social groups.*

Prerequisites

School course

Postrequisites

Basic and profile disciplines of the EP

Introduction to the specialty

Discipline cycle	Basic disciplines
Course	1
Credits count	3
Knowledge control form	Examination

Short description of discipline

The discipline studies the history of forestry development, professional, labor education, the basic laws of natural science disciplines in professional activities, regulatory documents in the field of forestry, meeting the needs of the state in wood, preserving the environment-forming, sanitary and hygienic, recreational functions of the forest, modern problems forest industry, prospective development, experience of foreign countries.

Purpose of studying of the discipline

The purpose of studying the discipline is to master the system and methods of conducting forestry activities.

Learning Outcomes

ON 4 To use the process of forest formation and design various types of logging and reforestation; to predict the yield and determine the sowing qualities of forest seeds; to conduct a morphological analysis of the structure of plants as a whole and their individual organs; to determine the biometric characteristics of forest stands and individual trees.

Learning outcomes by discipline

- 1) the ability to use the basic laws of natural sciences in professional activities;*
- 2) use the main normative documents in the field of forestry;*
- 3) analyze and evaluate the current problems of the forest industry.*

Prerequisites

School course

Postrequisites

Educational practice

Educational practice

Discipline cycle	Basic disciplines
Course	1
Credits count	2
Knowledge control form	Total mark on practice

Short description of discipline

Botanical description of forest plants. Functions of forests. The history of the formation of forestry. Practical measures for the protection, rational use reproduction of birds and forest animals. Systematics of higher and lower plants. Phylontogenesis of forest animals. Observations, experiments, experiments. The number of predatory, forest birds. External, internal structure of insects. Pests,

useful forest insects.

Purpose of studying of the discipline

The purpose of the training practice is to obtain the necessary practical skills to master the ability in the field to give a botanical characteristic of the surveyed area, to determine the stage of age development of forest insects and animals.

Learning Outcomes

ON 4 To use the process of forest formation and design various types of logging and reforestation; to predict the yield and determine the sowing qualities of forest seeds; to conduct a morphological analysis of the structure of plants as a whole and their individual organs; to determine the biometric characteristics of forest stands and individual trees.

Learning outcomes by discipline

- perform measurements of trees and shrubs, determine and evaluate the quantitative and qualitative characteristics of forests;
- use methods of observation, description, identification, classification of objects of forest and urban ecosystems of various hierarchical levels;
- in the field to determine the systematic affiliation, the names of the main types of forest and ornamental plants.

Prerequisites

Introduction to the specialty

Postrequisites

Dendrology

Animal biology

Discipline cycle	Basic disciplines
Course	2
Credits count	5
Knowledge control form	Examination

Short description of discipline

The discipline studies the species composition of birds, animals, practical measures for the protection, reproduction of birds, mammals, their significance, systematics, anatomy, morphology, physiology, nature, methods of nutrition, reproduction, dynamics abundance, an overview of regional amphibians, reptiles, the rational use of game birds, based on modern methods, the number of predatory animals, rodents, waterfowl, upland, field game.

Purpose of studying of the discipline

The main purpose of studying the discipline is to study the structure, vital activity of animals, the patterns of their settlement and the relationship with the environment.

Learning Outcomes

ON 3 To be guided in the systematics, anatomy, morphology, physiology, laws of the ontogenesis of animals and birds; rational use of hunting and commercial birds, based on modern methods; to regulate the number of forest animals, to carry out biotechnical measures; to organize and carry out accounting works of predatory animals, rodents, waterfowl, records of hog and field game; to carry out accounting of feeds of plant and animal origin, mushroom, twig; to carry out bonitization and assessment of hunting assigned, forest, steppe, swamp, mountain lands, to make a report on the accounting of hunting grounds.

Learning outcomes by discipline

- 1) to be guided in systematics, anatomy, morphology, physiology, patterns of ontogenesis of animals and birds;
- 2) rational use of hunting and commercial birds, based on modern methods;
- 3) to estimate the number of predatory animals, rodents, waterfowl, hog and field game

Prerequisites

School course

Postrequisites

Ornithology

Dendrology

Discipline cycle	Basic disciplines
Course	2
Credits count	5
Knowledge control form	Examination

Short description of discipline

The discipline studies the anatomical structure of woody plants, morphological and anatomical features of conifers, geographical distribution and economic use, ecological features of woody and shrubby plants, characteristics of the main types of forest-forming forest and forest-steppe zones, form varieties, compositions of trees and shrubs, taking into account their decorative and biological properties.

Purpose of studying of the discipline

The purpose of mastering the discipline "Dendrology" is free orientation in the native and introduced dendroflora, the ability to use information about the morphological and ecological features of tree species in professional activities.

Learning Outcomes

ON 4 To use the process of forest formation and design various types of logging and reforestation; to predict the yield and determine the sowing qualities of forest seeds; to conduct a morphological analysis of the structure of plants as a whole and their individual organs; to determine the biometric characteristics of forest stands and individual trees.

Learning outcomes by discipline

- 1) make compositions of trees and shrubs, taking into account their decorative, biological, properties;
- 2) apply morphological, biological and ecological features of woody and shrubby plants;
- 3) use geographical distribution and economic use of tree and shrub species.

Prerequisites

Forest botany

Postrequisites

Forestry

World of Abai

Discipline cycle	Basic disciplines
Course	2
Credits count	3
Knowledge control form	Examination

Short description of discipline

The discipline is aimed at studying historical facts, the philosophical and artistic foundations of the works of Abay Kunanbaev, Shakarim Kudaiberdiyev, which form worldview and aesthetic values, the student's ability to express his opinion, practical skills and perception of such human qualities as morality, honesty, artistic character. The genius of the writers of Kazakh literature and the role of M. Auezov in the study and popularization of Abai's heritage, the significance of his works for history, literature and science are determined.

Purpose of studying of the discipline

Formation of the meaning of philosophical and ideological being, understanding of the problems raised in the works of Abai Kunanbayuly, Shakarim Kudaiberdiyev, Mukhtar Auezov and application of the acquired knowledge in the practice of everyday life.

Learning Outcomes

ON 1 Demonstrate socio-cultural, economic, legal, environmental knowledge, communication skills, apply information technologies taking into account current trends in the development of society.

Learning outcomes by discipline

- 1) Analyzes the philosophical and artistic foundations of works, historical facts related to the creative heritage of Abai Kunanbayev, Shakarim Kudaiberdiyev, Mukhtar Auezov*
- 2) Uses in practice the humanistic ideas of Abai's philosophical and artistic works*
- 3) Assesses the place and significance of Abai's works in the history of literature and science*

Prerequisites

The module of socio-political knowledge (sociology, political science, cultural studies, psychology)

Postrequisites

Basic and profile disciplines of the EP

Forest Biometrics

Discipline cycle	Basic disciplines
Course	2
Credits count	3
Knowledge control form	Examination

Short description of discipline

The discipline studies methods of conducting quantitative experiments in forestry, forest taxation; trends in the patterns of the studied objects, the results of experiments, observations, experiments, variational statistics, correlation and variance analysis; modeling patterns of formation of forest objects; practical application of statistical models; laws of distribution of random variables; parameters and criteria for the reliability of regression models; models of the course of growth and productivity of stands.

Purpose of studying of the discipline

The purpose of this course is to ensure the disclosure of the content of the basic principles, laws and concepts of each section of the course and the development of genetic thinking skills for conscious perception and assimilation of genetic methods.

Learning Outcomes

ON 4 To use the process of forest formation and design various types of logging and reforestation; to predict the yield and determine the sowing qualities of forest seeds; to conduct a morphological analysis of the structure of plants as a whole and their individual organs; to determine the biometric characteristics of forest stands and individual trees.

Learning outcomes by discipline

- 1) analyze the results of experiments, observations, experiments;*
- 2) to identify trends in the patterns of the studied objects;*
- 3) apply statistical processing methods in practice*

Prerequisites

Bases of economics, law and ecological knowledge

Postrequisites

Forest taxation

Forestry

Discipline cycle	Basic disciplines
Course	2
Credits count	5
Knowledge control form	Examination

Short description of discipline

The discipline studies the components of the forest, the signs of the stand, their origin, the organization, conduct of work on forest reproduction, reforestation, increasing forest productivity, methods of logging, protection, protection of forests, forest care, the structure of the forest fund, forestry measures, conservation of ecological functions, technology of logging, forestry requirements for machines.

Purpose of studying of the discipline

The purpose of mastering the discipline "Forestry" is to study the theoretical foundations of forestry at the present stage of its development, based on the provisions and requirements of the current forest legislation.

Learning Outcomes

ON 4 To use the process of forest formation and design various types of logging and reforestation; to predict the yield and determine the sowing qualities of forest seeds; to conduct a morphological analysis of the structure of plants as a whole and their individual organs; to

determine the biometric characteristics of forest stands and individual trees.

Learning outcomes by discipline

1) is capable of organizing and carrying out works on forest reproduction, reforestation, afforestation, protection and protection of forests;

3) analyze the structure of the forest fund, its current state and prospective changes;

3) assign different methods of logging in forests, taking into account the purpose of forests, the type of forest and the characteristics of tree species

Prerequisites

Dendrology

Postrequisites

Forest crops

Seed business

Discipline cycle	Basic disciplines
Course	2
Credits count	5
Knowledge control form	Examination

Short description of discipline

The discipline studies seeds of woody and shrubby plants, biological characteristics of species, interstate standards, forecasting methods, accounting for seed yields, harvesting methods, storage rules, preparation for sowing, quality control of forest seeds, zoning of seeds, creation of a permanent forest seed base, forest seed plantations, processing of deciduous fruits, coniferous cones.

Purpose of studying of the discipline

The purpose of this course is to get acquainted with the main issues of forest seed business.

Learning Outcomes

ON 4 To use the process of forest formation and design various types of logging and reforestation; to predict the yield and determine the sowing qualities of forest seeds; to conduct a morphological analysis of the structure of plants as a whole and their individual organs; to determine the biometric characteristics of forest stands and individual trees.

Learning outcomes by discipline

1) apply biological features of the main tree and shrub species;

2) draw up documentation on the quality of forest seeds, determine the sowing qualities of forest seeds;

3) interstate standards.

Prerequisites

Dendrology

Postrequisites

Sylvulas

Ornithology

Discipline cycle	Basic disciplines
Course	2
Credits count	5
Knowledge control form	Examination

Short description of discipline

Ornithology is a science that studies birds. Systematics, structure, functions, evolution, migration, reproduction, ecology, behavior of birds. Species diversity, the number of individuals in the studied territories. Ethology, physiology, ecological features, groups of birds, bird phenology, problems of protection of rare species (artificial nesting sites for birds, ornithological reserves).

Purpose of studying of the discipline

The purpose of this course is to study the biology of birds, to develop the biological foundations of the rational use of the resources of commercial birds, their protection and reproduction.

Learning Outcomes

ON 3 To be guided in the systematics, anatomy, morphology, physiology, laws of the ontogenesis of animals and birds; rational use of hunting and commercial birds, based on modern methods; to regulate the number of forest animals, to carry out biotechnical measures; to organize and carry out accounting works of predatory animals, rodents, waterfowl, records of hog and field game; to carry out accounting of feeds of plant and animal origin, mushroom, twig; to carry out bonitization and assessment of hunting assigned, forest, steppe, swamp, mountain lands, to make a report on the accounting of hunting grounds.

Learning outcomes by discipline

1) to be guided in taxonomy, anatomy, morphology, physiology, patterns of ontogenesis of birds;

2) rational use of hunting and commercial birds, based on modern methods;

3) regulate the number of harmful birds;

Prerequisites

Animal biology

Postrequisites

Biotechnological and breeding of game birds

Production practice 1

Discipline cycle	Basic disciplines
Course	2
Credits count	5
Knowledge control form	Total mark on practice

Short description of discipline

Application of forestry machines: for tillage, planting and others. Methods of collecting seeds of tree species. Assessment of their quality. Remote survey of forest resources. Logging, forest care. Fighting fires. Accounting of ungulates, predatory animals, accounting of rodents and birds. Identify harmful and beneficial insects. Make geodetic measurements and work. Choose the optimal electronic document management system.

Purpose of studying of the discipline

The purpose of practical training 1 is to acquire practical skills in accounting for animals, birds, insects; processing topographic maps; designing logging, forecasting yields

Learning Outcomes

ON 5 Use machines, machine-tractor fleet and technological processes in forestry and agriculture; use ways to increase the efficiency of aggregates, the development of power plants; use the theory of cutting logs for sawn products; use the forms of whips, logs and methods for determining their volumes; apply heat treatment processes and their technologies; apply classifications and standardization of forest products in accordance with GOST standards; to determine resource-saving technologies in logging production.

Learning outcomes by discipline

- 1) knows the economic categories that reveal the essence of the economy of the agro-industrial complex, legislative and legal acts regulating the activities of the agro-industrial complex;
- 2) analyzes the initial data necessary for the economic analysis of the enterprises of the agro-industrial complex;
- 3) has the skills of self-mastering new knowledge and ways of transferring acquired knowledge and skills to new economic conditions.

Prerequisites

Educational practice

Postrequisites

Production practice 2

Sylvulas

Discipline cycle	Basic disciplines
Course	3
Credits count	5
Knowledge control form	Examination

Short description of discipline

The discipline studies the design of forest nurseries, the technology of growing different types of planting material of tree and shrub species, soil preparation, production of seeds and seed care, cultivation of seedlings, seedlings and vegetative planting material, the use of fertilizers and herbicides.

Purpose of studying of the discipline

- formation of special professional knowledge and competencies in the field of planting material production, reforestation and protective afforestation.

Learning Outcomes

ON 6 Apply technologies and methods of growing various types of planting material in nurseries; to grow forest-cultural planting material; determine the harmfulness of pests of agricultural crops; analyze information about the forest pathological state of forests, and the operational impact on the causal factor; to determine the species of forest pests; apply biological, chemical, physical, forestry methods of protection against pests and diseases; to conduct phytopathological examinations; to diagnose and spread diseases of migrating animals and birds and their significance in forestry and medicine.

Learning outcomes by discipline

- 1) to form an assortment of tree and shrub species;
- 2) to calculate the need for planting material when developing a work plan for the phased cultivation of forest crops;
- 3) design forest nurseries.

Prerequisites

Seed business

Postrequisites

Forest crops

Biotechnological and breeding of game birds

Discipline cycle	Profiling discipline
Course	3
Credits count	5
Knowledge control form	Examination

Short description of discipline

The discipline studies the use of methods and tools for extracting prey; the use of modern methods of wild breeding; breeding work in wild breeding; methods of breeding, crossing animals and game; zootechnical accounting, tagging used in animal husbandry and wild breeding; improvement of habitat conditions for game, and methods of keeping animals; organization of wintering places.

Purpose of studying of the discipline

The purpose of the discipline is to provide knowledge about the basics of biotechnics, the essence of biotechnical measures in hunting farms and wild breeding technologies

Learning Outcomes

ON 3 To be guided in the systematics, anatomy, morphology, physiology, laws of the ontogenesis of animals and birds; rational use of hunting and commercial birds, based on modern methods; to regulate the number of forest animals, to carry out biotechnical measures; to organize and carry out accounting works of predatory animals, rodents, waterfowl, records of hog and field game; to carry out accounting of feeds of plant and animal origin, mushroom, twig; to carry out bonitization and assessment of hunting assigned, forest, steppe, swamp, mountain lands, to make a report on the accounting of hunting grounds.

Learning outcomes by discipline

- 1) use professional knowledge to increase efficiency and improve work in hunting, animal husbandry, biotech and wild breeding.
- 2) plan and conduct biotechnical activities;

3) apply modern methods of wild breeding

Prerequisites

Ornithology

Postrequisites

Hunting and commercial bioresources

Production practice 2

Discipline cycle	Basic disciplines
Course	3
Credits count	5
Knowledge control form	Total mark on practice

Short description of discipline

Technology of cultivation of various types of planting material of tree, shrub species, land reclamation. Methods of forest protection from pests and diseases. Taxational measurements of the tree. Logging. Nature reserves, national nature parks. The role of green spaces is the cultivation of forest crops. Changes in the structure of land resources under the influence of anthropogenic activity.

Purpose of studying of the discipline

Technology of cultivation of various types of planting material of tree and shrub species, soil preparation, land reclamation. Methods of forest protection from pests and diseases. Taxational measurements of the tree. Logging. Nature reserves, national nature parks. The role of green spaces is the cultivation of forest crops. Assessment of forest suitability of soils. Changes in the structure of land resources under the influence of anthropogenic activity. Design of the territory for landscaping of populated places.

Learning Outcomes

ON 8 To determine the level of soil fertility, their compliance with the requirements of forest crops; to use methods, technologies for monitoring land and soil bonity; to possess methods of protection, management of land resources; to determine the types of soil erosion and deflation; to control and improve the land reclamation condition; to combat soil salinization during the operation of irrigation systems; to assess the radioecological state of forests; to apply background monitoring of the content of pollutants in natural environments; to measure wind speeds and directions, soil, air and plant temperature.

Learning outcomes by discipline

- 1) know the nature of the forest for the purpose of planning and carrying out forest management activities aimed at rational, permanent, non-exhaustive use of forests, increasing forest productivity;
- 2) use technological systems, means and methods of forest care, protection, protection, reforestation;
- 3) has basic knowledge of conservation, protection and reproduction of forests.

Prerequisites

Production practice 1

Postrequisites

Production practice 3

Forest crops

Discipline cycle	Profiling discipline
Course	3
Credits count	5
Knowledge control form	Examination

Short description of discipline

Theory, practice of forestry, mastering the skills to creatively apply this knowledge in the specific conditions of forestry in the design, creation and cultivation of forest crops and all types of protective plantations. Cultivation of forest planting material, creation and cultivation of highly productive and sustainable forest plantations for various purposes.

Purpose of studying of the discipline

The purpose of studying the discipline is the professional training of bachelors of agriculture in the specialty 6B08303 - Forest resources and hunting in the field of reforestation and afforestation.

Learning Outcomes

ON 6 Apply technologies and methods of growing various types of planting material in nurseries; to grow forest-cultural planting material; determine the harmfulness of pests of agricultural crops; analyze information about the forest pathological state of forests, and the operational impact on the causal factor; to determine the species of forest pests; apply biological, chemical, physical, forestry methods of protection against pests and diseases; to conduct phytopathological examinations; to diagnose and spread diseases of migrating animals and birds and their significance in forestry and medicine.

Learning outcomes by discipline

To use the theoretical foundations and agricultural practices silvicultural works; to assess the specific forest conditions, reasonable selection of agricultural equipment and technology of creation of forest cultures; to develop new agricultural practices of growing artificial forests to improve the sustainability and productivity of forest crops.

Prerequisites

Sylvulas

Postrequisites

Forest management

Forest Management

Discipline cycle	Profiling discipline
Course	3
Credits count	5
Knowledge control form	Examination

Short description of discipline

Forest management is the science of forestry, which studies the features of the structure of forests in statics and dynamics, methods of accounting and economic evaluation of forest resources, their spatial distribution, determination of stocks and commodity structure of stands. Planning and reporting.

Purpose of studying of the discipline

The purpose of studying the discipline is - professional training and obtaining knowledge in the field of forestry, studying the organization and management of forestry to ensure the preservation of forests, reforestation, rational and integrated use of forest resources to meet the needs of the state and society in wood, by-products and social functions of the forest

Learning Outcomes

ON 11 To evaluate the worlds forest resources to evaluate balneological and mud- healing recreational resources own forest management documentation to manage the main production funds, and the economic efficiency of their use own the structure of the industry, evaluate competition in the commodity markets, antimonopoly legislation and concentration in the industry understand the role of the forest complex in the countrys economy, be guided by forest legislation.

Learning outcomes by discipline

Assign forestry functions events for reforestation, care, and maintenance protection of forests from fires, pests and diseases; perform specific work on the care and cultivation of planting material from seeds; design innovative reforestation projects.

Prerequisites

Forest taxation

Postrequisites

Forest management

Methodology of scientific research in forestry

Discipline cycle	Basic disciplines
Course	4
Credits count	4
Knowledge control form	Examination

Short description of discipline

The discipline studies the role of science in forestry, scientific research, its essence, stages of implementation, methods of scientific cognition, their use at the empirical, theoretical level of research, methods of field experiments, planning, forecasting, research, topic selection, study of scientific literature, keeping work records, statistical indicators of aggregates, scientific style of speech, processing of experimental data.

Purpose of studying of the discipline

The purpose of studying the discipline is to acquire skills in the effective use of scientific research methods, conducting scientific research in forestry.

Learning Outcomes

ON 4 To use the process of forest formation and design various types of logging and reforestation; to predict the yield and determine the sowing qualities of forest seeds; to conduct a morphological analysis of the structure of plants as a whole and their individual organs; to determine the biometric characteristics of forest stands and individual trees.

Learning outcomes by discipline

- possess the methodology of theoretical and experimental research in the field of forestry, forestry, forestry, taxation, forest management, forest reclamation, plant protection;
- possess a culture of scientific research in the field of forestry, forestry, forestry, taxation, forest management, forest reclamation, plant protection, including using the latest information and communication technologies;
- possess the ability to develop new research methods and their application in the field of forestry, forestry, forestry, taxation, forest management, forest reclamation, plant protection;
- possess the willingness to organize the work of a research team on the problems of forestry, forestry, forestry, taxation, forest management, forest reclamation, plant protection.

Prerequisites

Bases of economics, law and ecological knowledge

Postrequisites

Final examination