



**CATALOG OF ELECTIVE DISCIPLINES**  
For students in the direction of preparation 7M083 Forestry

Brief description of the elective disciplines of the educational program

| EPG               | EP                      | Form of education                | The name of discipline                                | Code of subject | Discipline cycle | Component         | Number of credits | Level of training   | Cafedra                       | Course | Academic period | Pre-requisites  | Post-requisites                            | Brief content of the discipline   | Key learning outcomes  | Name of the alternative discipline                    |
|-------------------|-------------------------|----------------------------------|---|-----------------|------------------|-------------------|-------------------|---|-------------------------------|--------|-----------------|---|--|---|--|---|
| M133 - «Forestry» | 7M08301 - «Forest park» | Full-time (MS 2 years) trimester | Ecological tourism                                    | ET 5300         | AS               | Elective subjects | 5.0               | Master's program by specialization (Scientific & pedagogical direction) | Forest resources and forestry | 1      | 1               | Ecology and sustainable development, Forest science and forest resource studies | Sustainable management of forest resources | The discipline studies the history and current state of ecotourism. Types and development of ecological tourism in Kazakhstan. National parks and other protected areas of the Republic of Kazakhstan. The hospitality industry in the Republic of Kazakhstan. Ecotourism management: its features and formation. Tourist product of the national parks of the Republic of Kazakhstan. World trends and prospects for the development of eco-tourism. Problems of development of ecological tourism in Kazakhstan.  | The history of and the current state of eco-tourism. Types of ecological tourism. World regions and ecotourism centers. World regions and ecotourism centers. Central and South America. World regions and ecotourism centers. Africa. World regions and ecotourism centers. Australia and Oceania. Development of ecotourism in Kazakhstan, as the most promising type of tourism in Kazakhstan.  | Agrocotourism   |
| M133 - «Forestry» | 7M08301 - «Forest park» | Full-time (MS 2 years) trimester | The history and development of forestry in Kazakhstan | IRLHK 5300      | AS               | Elective subjects | 5.0               | Master's program by specialization (Scientific & pedagogical direction) | Forest resources and forestry | 1      | 2               | Forest economy  | Private forestry                           | Historical review of congress forums, international forest policy. The development of forestry history of the pre-revolutionary Soviet period and after sovereignty. Historical chronology of the forest management system. Analysis of dendrochronological work in forestry around the world. Forecasting factors affecting forests (with historical data) Historical overview of forest management and maintenance. Historical development of forest use  | Be able to reveal the process of formation and development of forestry and the current state of forestry in the Republic of Kazakhstan. To assess the results of long-term forestry activities over the past period and the effectiveness of certain forms of forest management organization used at different stages of the development of the forest sector. Be able to identify rational ways and guidelines that contribute to a significant improvement in the management of forest resources in conditions of sovereign development and transition to a green economy. | The history of developing for garden and parks sector |
| M133 - «Forestry» | 7M08301 - «Forest park» | Full-time (MS 2 years) trimester | Forest biogeocenology and multifunctional forest use  | LBML 5303       | AS               | Elective subjects | 5.0               | Master's program by specialization (Scientific & pedagogical direction) | Forest resources and forestry | 1      | 3               | Forest science and forest resource studies                                      | Modern Problems of Forest sciences         | Interrelations of abiotic and biotic components of forest ecosystems. Functional organization of forest biocenosis, its floristic, population, ecological composition, structural organization of forest biocenosis, vertical and horizontal structure of forest biocenosis, classification and characterization of forest phytocenoses by age and origin. Multifunctional forest management studies the accounting of all functions performed by forests in the organization and management of forestry (environmental functions, water regulation, climate regulation function, soil protection function, economic functions, secondary use, rest and recreation) | Be able to predict the course of biogeocenotic processes under the influence of abiotic, biotic and anthropogenic factors, select the most effective measures to prevent them. Be able to work with scientific literature, be able to introduce modern technologies of rational exploitation of forest resources, increase productivity.   | Forest biogeocenology                                 |
| M133 - «Forestry» | 7M08301 - «Forest park» | Full-time (MS 2 years) trimester | Biotechnology in Forestry                             | BLH 5304        | AS               | Elective subjects | 5.0               | Master's program by specialization (Scientific & pedagogical direction) | Forest resources and forestry | 1      | 3               | Selection of forest tree species  | Modern Problems of Forest sciences         | Introduction, the main directions of biotechnology, Historical development of biotechnology. Scope of biotechnology in forestry; various methods of biotechnology related to forestry; In vitro plant tissue culture, gene regulation, methods of genetic engineering, Biotechnology in molecular biology, Plant Biotechnology in Kazakhstan  | Know the stages of clonal micro-propagation of plants; know modern approaches and research methods; Methodology of modern genetics, molecular genetics, molecular biology, etc. relevant research; understand the scientific topics of the relevant institutions on the basis of which the research practice is organized; observe the Rules of working with special laboratory and scientific and technical equipment; know and follow the rules of occupational health and safety;   | Biotechnological methods in plant protection          |



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|-------------------|-------------------------|----------------------------------|---|-------------|----|-------------------|-----|---|---|---|---|--|--|--|--|---|
| M133 - «Forestry» | 7M08301 - «Forest park» | Full-time (MS 2 years) trimester | Theory and practice of forest growing or for various purposes | TPVLRN 6300 | AS | Elective subjects | 5.0 | Master's program by specialization (Scientific & pedagogical direction) | Forest resources and forestry           | 2 | 1 | dendrology, forest sivil culture   | Private forestry   | Discipline studies a scientifically based system of measures aimed at developing various systems for growing various types of planting material with a closed and open root system; substantiation of the regimes of multi-rotational cultivation of seedlings; adaptation features of planting material with closed and open roots in forest crops.   | Knowledge of modern industrial technologies for growing forests for various purposes, methods of creation and maintenance. Acquisition of practical skills in drawing up projects of plantation crops, planning and drawing up settlement and technological maps, organization of economic activity of a forest enterprise in a market economy. The ability to choose the most economical way of growing forests for various purposes, to make calculations and analyze them. The ability to convey your point of view, to prove the correctness of the decision | The forest cultivation practice                         |
| M133 - «Forestry» | 7M08301 - «Forest park» | Full-time (MS 2 years) trimester | Soil formation of forest ecosystems                           | PLE 6300    | AS | Elective subjects | 4.0 | Master's program by specialization (Scientific & pedagogical direction) | Soil science and agricultural chemistry | 2 | 1 | Soil science, Forest sivil culture, The Forest Soil Science                                      | landscape specific agriculture, Problems of rational use of forest resources | The general scheme of the soil-forming process. Stages of energy, soil formation and evolution, morphological features of the soils of various ecosystems. Weathering of the main soil-forming rocks of various zones, factors of soil formation and their interrelation. Mineral and mechanical composition of soils and POP of various ecosystems. Organic matter of different ecosystems. Soil colloids. Physical property of the soil.   | Know the conduct of scientific studies of the genesis, especially the forest vegetation properties of the soils of Kazakhstan and their diagnostics; The soil-forming process promotes the division of the soil profile into genetic horizons, which are distinguished by morphological features. The structure of the soil profile is a combination of genetically related horizons   | Soil and vegetable diagnostics                          |
| M133 - «Forestry» | 7M08301 - «Forest park» | Full-time (MS 2 years) trimester | Problems of rational use of forest resources                  | PRILR 6300  | AS | Elective subjects | 5.0 | Master's program by specialization (Scientific & pedagogical direction) | Forest resources and forestry           | 2 | 1 | Forest biogeocenology and multifunctional forest use, Forest science and forest resource studies | Modern Problems of Forest sciences   | The discipline studies methods and techniques for maintaining the integrity of forest resources, their structure, composition, environmental characteristics, taking into account their characteristics, relative inaccessibility, fragility, focus of biodiversity and solving problems of rational use of forest resources.  | obtain theoretical and practical skills in determining the types and volumes of forest resources, estimating the cost of forestry work and forest products. To put into practice theoretical knowledge to identify the links between forest resources and the conditions of their formation  | Rational use of natural resources                       |
| M133 - «Forestry» | 7M08301 - «Forest park» | Full-time (MS 2 years) trimester | Basics of marketing   | OM 6300     | AS | Elective subjects | 4.0 | Master's program by specialization (Scientific & pedagogical direction) | Management and marketing                | 2 | 1 | Basics of economy  | Private forestry   | Basic definitions of marketing as an economic category. Principles of marketing. Qualitative and quantitative goals. The main objectives of marketing. The main functions of marketing. Implementation of marketing functions. Marketing concepts. Basic marketing concepts and their content. The main factors of the microenvironment of the company.  | Know the basic concepts in marketing: demand, supply, market, types of demand; the use of advertising as a means of product promotion; the role of marketing in a market economy; theoretical and practical aspects of organization management; management in a market economy; ways of motivation in increasing productivity; management structure at forestry enterprises. To be able to use various methods of motivation in increasing productivity  | Interactive marketing                                   |
| M133 - «Forestry» | 7M08301 - «Forest park» | Full-time (MS 2 years) trimester | landscape specific agriculture                                | LZ 6300     | AS | Elective subjects | 4.0 | Master's program by specialization (Scientific & pedagogical direction) | Forest resources and forestry           | 2 | 2 | Soil science, Forest sivil culture, The Forest Soil Science                                      | Completion of a master's thesis  | Features of landscape farming. Fundamentals of scientific farming, tillage, crop rotations, farming systems. Protection of soil from wind and water erosion. Methods that ensure the preservation and improvement of soil fertility in various types of landscapes and environmental conditions; principles of minimizing tillage, soil conservation from erosion and the creation of favorable conditions for the growth and development of forest crops  | The study of the general foundations of the theoretical part of landscape farming. State and the formation of landscapes in Kazakhstan. Scientific basis for the cultivation of soil. Erosion, its types and measures to combat it. Types of weeds and measures to combat them. The scientific basis of crops, the rules of agroecological landscape formation   | Theoretical bases of adaptive and landscape agriculture |
| M133 - «Forestry» | 7M08301 - «Forest park» | Full-time (MS 2 years) trimester | Exotic species for forest growing in Kazakhstan               | IDLK 6300   | AS | Elective subjects | 4.0 | Master's program by specialization (Scientific & pedagogical direction) | Forest resources and forestry           | 2 | 2 | Decorative dendrology, Dendrology, Biotechnology in Forestry                                     | Completion of a master's thesis  | Types of ornamental woody plants, their main forms and varieties. Introducued used in landscaping. Principles of zoning of introduced tree species. Natural decorative properties. To select an introduced assortment of trees and shrubs for various conditions and forest park facilities and landscaping. Use of materials of introduced breeds by acclimatization and naturalization methods   | Types of ornamental woody plants, their main forms and varieties. Introducued used in landscaping. Principles of zoning of introduced tree species. Natural decorative properties. To select an introduced assortment of trees and shrubs for various conditions and forest park facilities and landscaping. Use of materials of introduced breeds by acclimatization and naturalization methods   | Trees and shrubs to forest growing in Kazakhstan        |
| M133 - «Forestry» | 7M08301 - «Forest park» | Full-time (MS 2 years) trimester | Academic writing.   | AP 6302     | AS | Elective subjects | 4.0 | Master's program by specialization (Scientific & pedagogical direction) | Иностранны х языков                     | 2 | 2 | Professionally-oriented Foreign Language   | Completion of a master's thesis  | Course is designed to develop and sharpen students' academic and professional writing skills and strategies in English necessary for successful written communication in academic, professional, and workplace settings. During the course, students study the features of academic writing, using library catalogues and websites. Practice discursive essay writing: outline, thesis statement, body paragraphs and conclusion. Methods of paraphrasing. APA style: references, citation. Students learn the types of abbreviations, academic vocabulary, the use of articles. | Know a foreign language at a professional level, allowing you to conduct scientific research and be able to show your leadership qualities for the development of industry enterprises. Know the functional and stylistic characteristics of the scientific presentation of the material in the studied foreign language, general scientific terminology and the terminological sublanguage of the relevant specialty in a foreign language  | English for Academic Purposes                           |

The catalog of elective disciplines was approved by the Council protocol of the Faculty of Forestry, Wildlife and Environment *20.04.2022*

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