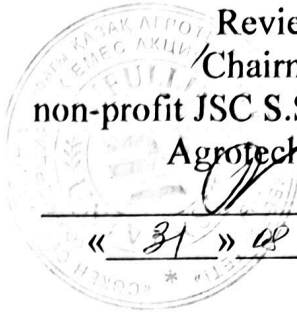


Ministry of Agriculture of the Republic of Kazakhstan
S.Seifullin Kazakh Agrotechnical University.

at the meeting
of the Academic Council
Protocol № 19 «31» 08 2022.

Reviewed CONFIRM
Chairman of the Board
non-profit JSC S.Seifullin Kazakh
Agrotechnical University
«31» 08 2022.



Educational program
«Forest and park farm»

Code and classification of the field of education:

7M08 Agriculture and bioresources

Code and classification of areas of study: 7M083 Forestry

Code in the International Standard Classification of Education: 7M083

Degree: Master of Agricultural Sciences in the educational program 7M08301 Forestry

Training period: 2 years

Mode of study: Full-time

Astana 2022

Team of authors:

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Boranbay Zh.T., Sc., Senior Lecturer
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The team of authors was approved by order for JSC "KATU named after S. Seifullin" No. 932-N dated 12/12/2018

The educational program "Forestry and Park Management" was considered at a meeting of the Department "Forest Resources and Forestry" Protocol No. 1 dated August 2, 2022, approved by the Council of the Faculty "Forestry, Wildlife and the Environment" Protocol No. 1 dated August 27, 2022

Dean of the Faculty



Sarsekova D.N.

Department head "Forest resources and forestry"



Boranbai Zh.T.

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1.Passport of the educational program

1.1Purpose of the educational program

The educational program was created based on the request of employers and due to the increased need for specialists, which able to develop and implement forest reclamation projects, control forest management works and forestry work in forest care, reforestation and protective afforestation.

The main objectives of the program are as follows.:

- Formation of professional skills and competencies of future specialists in the field of forestry, to acquaint with the main scientific and technical problems, with the prospects for the development of forest-park economy and ways to improve forest production.

- Have an idea of the main aspects of the development of forestry, be able to work with scientific and technical information, use domestic and foreign experience in professional activities.

- Preparing for the research activities of future forestry specialists.

1.2. General characteristics of the educational program

The forest complex plays an important role in the socio-economic development of the country, providing basic conditions for the life of society and significantly affects the economic growth of states, and also foreign trade of countries of the world, first of all construction and needs of the population in a wide range of goods. In this connection, there is a need for training on forest resources.

The special feature of EP is to train future specialists in the implementation of the conservation, restoration, improvement of sustainability and productivity of forest ecosystems, including specially protected areas; creating a healthy, aesthetically expressive environment in urbanized areas.

The EP will be implemented by highly qualified specialists with practical experience in the industry using computer programs and modern equipments in their own unique complexes of natural landfills, as an educational, research and production complex "Saryarka" and a forest nursery on the campus of the university within the framework of foreign and domestic research grants. Students have the opportunity to study in universities and abroad under the program of academic mobility.

Stakeholders of the EP are higher and secondary educational institutions, State Enterprise "Zhasyl Aimak", JSC "Astana Ormany", State Enterprise "Kokshetau Selection Center", LLP "KazNIILH", SNPP "Burabay", SNNP "Kokshetau", SNNP "Bayan-Auliq" other state forestry institutions of Kazakhstan.

The total number of credits for this educational program is 120 credits, which is given in the Working curriculum.

2. Competency model (portrait) of graduates

2.1 Sphere of professional activities

The sphere of professional activity of graduates of EP is forestry and park economy for the preservation, care and reproduction of forest and park massifs of the Republic of Kazakhstan.

The objects of professional activity of graduates are: state forestry institutions, national and natural parks, reserves, natural reserves and reserves, greening organizations, forest management and design enterprises, forest nurseries.

The subjects of professional activity are the organization of work on the accounting of forest resources and the protection of forests, forest management, the creation of forest crops and the cultivation of planting material, utilities and companies engaged in landscape design, gardening and landscaping of populated areas, etc.

2.2 Types of professional activities

Master in 7M083 Forestry, preparing for organizational and educational (pedagogical, educational), production and management, organizational and technological, research, design activities.

Functions of professional activity:

- Organize own activities, choose standard methods and ways of performing professional tasks, evaluate their effectiveness and quality.
- Make decisions in standard and non-standard situations and be responsible for them.
- To carry out the search and use of information necessary for the effective performance of professional tasks, professional and personal development.
- Use information and communication technologies in their professional activities.
- Work in a group and in a team, communicate effectively with colleagues, management, consumers..
- Take responsibility for the work of team members (subordinates), the result of assignments.
- Independently determine the tasks of professional and personal development, engage in self-education, consciously plan advanced training.
- To be guided in the conditions of frequent change of technologies in professional activity.

Typical tasks of professional activity

- participation in the management of recreational forest management facilities (in the field of their creation, functional use, reconstruction, improvement of sanitary and hygienic and aesthetic qualities of plantations);
- Participation in the implementation of state forest control and supervision of compliance by all forest users with the rules for harvesting wood and other forest resources, fire safety rules in forests, rules of sanitary safety in forests, reforestation rules and forest care rules, calculation of the amount of damage caused to forests due to violations of forest legislation;
organizing the work of the team of performers, making management decisions in the context of different opinions;

- finding a compromise between different requirements (cost, quality, safety and deadlines) for both long-term and short-term planning and determining the optimal solution;

- оценка производственных и непроизводственных затрат при проведении работ на объектах лесного и лесопаркового хозяйства;

- participation in the analysis of the state and dynamics of quality indicators of activity objects (forest plots, forest and ornamental nurseries, forest plantations, artificial forest and forest park plantings, forest irrigation and drainage systems and facilities at forest complex facilities) of individual authorized organizations and institutions using the necessary methods and means of research

- study of scientific and technical information, domestic and foreign experience on the subject of research;

- participation in the creation of theoretical models to predict the processes and phenomena in the forest and forest park;

- participation in the development of plans, programs and research methodologies; project activity;

- participation in the development of forest development projects, in the drafting of forestry regulations, taking into account environmental, economic and other parameters;

- Participation in the design of individual forest and forest park facilities (forest and ornamental nurseries, forest plantations, artificial forest plantations, forest irrigation and drainage systems, forest parks, specially protected natural areas);

- participation in the formation of the goals and objectives of the project (program), in justifying the criteria and indicators of achieving the goals, in building the structure of their interrelations, in identifying the priorities of the design tasks taking into account the moral aspects of the activity and optimizing the state of the natural and urbanized environment;

- carrying out technical calculations for projects, feasibility and functional cost analysis of the effectiveness of the designed measures, development of generalized solutions to the problem, analysis of these options, prediction of consequences, finding compromise solutions in a multi-criteria, uncertainty, planning project implementation;

- participation in the development (based on current standards) of methodological and regulatory documents, technical documentation, as well as proposals and measures for the implementation of developed projects for forestry and forest park facilities using information technologies.

2.3 General educational competencie

- using the basic laws of natural sciences in professional activities, apply methods of mathematical analysis and modeling, experimental research;

- possession of the main methods, methods and means of obtaining, storing, processing information, computer skills as a means of managing information;

- knowledge of the characteristics of taxonomy, anatomy, morphology, physiology and reproduction, geographic distribution, patterns of ontogenesis and ecology of representatives of the main taxa of forest and ornamental plants;

- the concept of the nature of the main physiological processes of a green plant, the mechanisms of regulation and the basic laws of the relationship of plants with the environment;

—The ability in field conditions to take measurements of trees and shrubs using forest tapping devices, to determine and evaluate the quantitative and qualitative characteristics of forests;

- the ability to determine in a field the systematic identity, the names of the main types of forest and ornamental plants, harmful and beneficial forest insects

2.4 Basic competencies

To be able to use effectively in different situations:

- the ability to participate in the design and survey activities in connection with the development of systems of continuous, non-destructive use of forests, forest care, protection, reproduction of forests, afforestation, ensuring the achievement of economically viable silvicultural and economic results;

– readiness to participate in the development of projects of forestry and forest park facilities taking into account the specified technological and economic parameters using new information technologies;

- the ability to justify the adoption of specific technical decisions in the development of a forest development project;

- the ability to participate in the substantiation of a specific technical solution in the development of technological processes of rational, continuous, non-destructive use, protection, protection and reproduction of forests aimed at increasing their productivity, preserving the environment-forming, water protection, protective, sanitary and hygienic, recreational and other useful functions;

- the ability to participate in the substantiation of a specific technical solution in the design, development of technological processes of creation, operation and reconstruction of forest-park plantings, which increase their resistance to the effects of adverse factors, aesthetic expressiveness, the level of human comfort in the forest environment, its overall aesthetic enrichment;

- readiness to use regulatory documents defining requirements in the design of forestry and forest park facilities.

2.5 Professional competencies

- To plan, implement and monitor the work of forest seed.

- To plan, implement and monitor the work of growing planting material.

- Participate in the design and control of reforestation, afforestation and management of them.

- Participate in designing and supervising and managing forest care work.

- Carry out measures to protect seeds and planting materials from pests and diseases.

- Organization and carrying out activities for the conservation and protection of forests.

- Carry out preventive measures to protect forests from fires, pollution and other negative impacts.

- To extinguish forest fires.
- Conduct forest pathology survey and forest pathology monitoring.
- To carry out work on the localization and elimination of foci of pests, sanitary and recreational activities in forest plantations and to manage them.

3 Base professional practice

Pedagogical and research practices are an obligatory section of the EP. They are a type of training that is directly oriented towards the professional and practical training of students. Practitioners reinforce the knowledge and skills acquired by master students as a result of mastering theoretical courses, develop practical skills and contribute to the integrated formation of general and professional competencies of master students.

Pedagogical practice takes place on the basis of the Department of Forest Resources and Forestry of JSC "KATU named after S.Seifullin" and in institutions of secondary specialized education. Pedagogical practice includes a general familiarity with the educational institution, the continent of students in the specialty; logistical support; familiarity with educational work; preparation and conduct of practical training sessions.

Research practice is conducted on the basis of forestry institutions and enterprises of protected areas in accordance with the theme of the master's thesis: State Enterprise "Zhasyl Aymak", JSC "Astana Orman", State Enterprise "Kokshetau Selection Center", LLP "KazNIILH", SNNP "Burabai", SNNP "Kokshetau", SNNP "Bayan-Auyl", state nature reserves "Semey Orman" and "Yertis Orman" and other state institutions and the protected areas of Kazakhstan within the framework of foreign and domestic scientific grants.

4 The structure of the educational program of the magistracy in the scientific and pedagogical direction

Item number	The name of the cycles of disciplines and activities	Total complexity	
		in academic hours	in academic credits
1	2	3	4
1.	Theoretical training	1920	64
1.1	Cycle of basic disciplines (BD)	1050	35
1)	University component (UC):	600	20
	including:		
	History and philosophy of science	150	5
	Foreign language (professional)	150	5
	Higher School Pedagogy	90	3
	Psychology of management	150	5
	Teaching practice	60	2
2)	Component of choice (CCh)	450	15
1.2	Cycle of majors (CM)	1470	49
1)	University component (BK)	510	17
2)	Component of choice (CCh)	570	19
3)	Research practice	270	9
2	Research work	720	24
1)	Undergraduate research work, including internship and master thesis (URWM)	720	24
3	Additional types of training (ATT)		
4	Final examination (FE)	360	12
1)	Registration and defense of a master's thesis (RDMT)	360	12
	Total	3600	120

Appendix 1. Academic calendar

Қазақстанның агротехникалық университетінің атымен С. Сейфуллинға

УТВЕРЖАЮ:

Директор Департамента по академическим вопросам

АО «КАТУ» и.м. С. Сейфуллинға

Н.А. Серикбаев

Протокол № _____ от "_____" 2019 г.

2019 г.

Академический календарь на 2019-2021 учебный год для образовательной программы «Техпарковое хозяйство» по направлению «Подготовка ТМ83 - Лесное хозяйство»

Сентябрь	Октябрь	Ноябрь	Декабрь	Январь	Февраль	Март	Апрель	Май	Июнь	Июль	Август
1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	1	2	3	4	5
6	7	8	9	10	11	12	13	14	15	16	17
18	19	20	21	22	23	24	25	26	27	28	29
30	31	1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20	21	22
23	24	25	26	27	28	29	30	31	1	2	3
4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27
28	29	30	31	1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	1
2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25
26	27	28	29	30	31	1	2	3	4	5	6
7	8	9	10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27	28	29	30
31	1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22	23
24	25	26	27	28	29	30	31	1	2	3	4
5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28
29	30	31	1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18	19	20	21
22	23	24	25	26	27	28	29	30	31	1	2
3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26
27	28	29	30	31	1	2	3	4	5	6	7
8	9	10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29	30	31
1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	1	2	3	4	5
6	7	8	9	10	11	12	13	14	15	16	17
18	19	20	21	22	23	24	25	26	27	28	29
30	31	1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20	21	22
23	24	25	26	27	28	29	30	31	1	2	3
4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27
28	29	30	31	1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	1
2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25
26	27	28	29	30	31	1	2	3	4	5	6
7	8	9	10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27	28	29	30
31	1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22	23
24	25	26	27	28	29	30	31	1	2	3	4
5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28
29	30	31	1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18	19	20	21
22	23	24	25	26	27	28	29	30	31	1	2
3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26
27	28	29	30	31	1	2	3	4	5	6	7
8	9	10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29	30	31

III - презентационная неделя
 • - теоретическое обучение
 ПК - рубежный контроль
 С - сессия экзаменационная
 Л - летний семестр

III - педагогическая практика
 III - исследовательская практика
 НИР - научно-исследовательская работа магистранта

К - каникулы
 / - коллоквиумный экзамен
 X - оформление магистерской диссертации
 // - защита диссертации

Предупреждающие дни:
 30 августа - День Конституции
 21 августа - Курбан Айт
 1 декабря - День Героев Отечества
 16, 17 декабря - День Независимости
 1, 2 января - Новый год
 7 января - Рождество Христово

8 марта - Международный женский день
 21, 22, 23 марта - Наурыз мейрамы
 1 мая - Праздник единства народа Казахстана
 7 мая - День защиты Отечества
 9 мая - День Победы
 6 июля - День солидности

Ветеринарные:
 теоретическое обучение - 30 недель
 экзаменационная сессия - 4 недели
 магистральное обучение - 34 недели
 кандидатская сессия - 6-9 недель
 летний семестр - 6 недель

Директор агрономического факультета _____
 Г. Ж. Стыбаев
 2019 г.

Заместитель директора ДАВ - руководитель ОР _____
 Г. Ж. Солтан
 2019 г.

Appendix 3 Description of the disciplines of compulsory and university components

1. Basic information about the discipline:	
Name of the discipline	History and philosophy of science
2. Amount of credits	5 (scientific and pedagogical)
3. Prerequisites:	Philosophy, religion, sociology, political science.
4. Post requisites:	Knowledge of the history and philosophy of science will contribute to the formation of undergraduates knowledge of the disciplines of specialization and methodology of scientific knowledge, skills and abilities of research activities.
5. Competences:	Know and understand: the main epistemological models, the nature of the transformation of the concept of rationality; forms and methods of pre-scientific, scientific and extra-scientific knowledge, modern methods of knowledge. To be able to: formulate and solve problems arising in the course of research work and requiring in-depth professional knowledge; choose the necessary research methods, modify existing and develop new methods, based on the objectives of a specific study. To have the skills to apply methodological and methodical knowledge in conducting scientific research and pedagogical work. Have the skills to conduct independent research and scientific-pedagogical activities that require extensive education in the relevant direction; writing scientific theses, articles; performances in scientific forums. To be able to analyze and comprehend the realities of modern theory and practice based on the methodology of socio-humanitarian and natural science knowledge.
6. Course author	Department of Philosophy
7. Main literature	<ol style="list-style-type: none"> 1. History and philosophy of science. Under. ed. Kryaneva Yu.V., Motorinsky L.E., - M; INFA-M, 2011. - 416 p. 2. Myrzaly S.K. Fylymnykariy men philosophies. - Almaty: Bastau, 2014. 3. Stepin V.S. History and philosophy of science. –M: Academic Project, 2011. - 423 p. 4. Khasanov M. Sh., Petorova V.F. History and philosophy of science. –Almaty: University, 2013, –150 p. 5. Modern philosophical problems of natural, technical and social sciences and humanities / ed. V.V. Mironova M., 2006.
8. Content of the discipline	Studying the discipline "History and Philosophy of Science" is to familiarize undergraduates with the structure of scientific knowledge, with the methods of scientific research, with the functions of scientific theories and laws; expansion of their worldview; developing ideas about the criteria of scientific nature and the requirements that scientific research must meet

and its results, as well as developing a style of scientific thinking based on the study of the history and philosophy of science.

1. Basic information about the discipline:	
Name of the discipline	Foreign language (professional)
2. Amount of credits	5
3. Prerequisites:	Ecology, Geography, Geology, Nature Using, Sustainable Development.
4. Post requisites:	Scientific Research Methodology
5. Competences:	-Ability for abstract thinking, analysis, synthesis. - Readiness for self-development, self-realization, the use of creative potential. - Readiness for communication in oral and written forms in English for solving problems in the field of forestry. - Possession of the ability to analyze and plan in the field of forestry
6. Course author	Kitaybekova S.O.
7. Main literature	1. Wood Industry and Forestry / Comp. I.V. Oganesyants - Leningrad, 1971. - 16s. 2. Tokareva T.V. English for Foresters. English for forestry professionals: a training manual. - 2nd ed., Corr. 3. Yoshkar-Ola: Mari State Technical University, 2009 - 220 p. 4. Large English-Russian dictionary in 2t. / Ed. I.R. Halperin. - M., 1979. 5. Cambridge English Grammar e-Manual URL: http://www.gerasoft.com/english.html
8. Content of the discipline	1. Forest science 2. Botanical classification of wood 3. What a forest is? 4. Types of forests 5. How a tree grows 6. Root structure and function 7. Stem structure and function 8. Leaf structure 9. Forest health 10. Forests in Kazakhstan 11. Forestry advances 12. Tree planting for environment restoration 13. Forest protection 14. Sustainable forest management

1. Basic information about the discipline:	
Name of the discipline	Higher School Pedagogy
2. Amount of credits	3 (scientific and pedagogical)
3. Prerequisites:	Philosophy, Sociology, General Pedagogy, General Psychology
4. Post requisites:	<p>Teaching practice. The activity of a teacher of higher professional education and management of the pedagogical process.</p> <p>As a result of studying the discipline "Pedagogy of Higher Education" undergraduate</p> <ul style="list-style-type: none"> - learn: actual problems of pedagogical science; the essence of the educational activities of the university teacher; - owns the abilities: the selection from the surrounding reality of pedagogical facts, phenomena, events and descriptions of them in the language of pedagogical science, based on the laws of pedagogical theories, explanations, forecasting and development; the design of the educational process, based on new concepts of training and education. <p>Will be competent: in teaching and in solving problems of higher pedagogical education and the prospects for its further development; in the application of effective in high school learning technologies; solutions of current psychological and pedagogical problems, evaluation of achieved results;</p>
5. Competences:	As a result of studying the discipline "Pedagogy of Higher Education" undergraduate
6. Course author	Department of Vocational Training (Sagaliyeva Zh.K., Zhusupova A.A., Shakhmetova DS, Seylkhan G.I.)
7. Main literature	<ol style="list-style-type: none"> 1. Zavada G. V., Bushmin O. V. Higher School Pedagogy: Textbook. allowance. - Kazan: KSEU, 2008. 2. Kuznetsov, I. N. Practical teacher's reference book: Proc. allowance. - M.: Gross Media: ROSBUKH, 2008. 3. Esekeshova M.D., Sagaliyeva ZH.K. Higher School Pedagogy: Textbook. allowance. - Astana: Foliant Publishing, 2018. 4. Gromkova, M.T. Higher School Pedagogy: Study Guide / M.T. Gromkova. - M.: UNITI, 2013. - 447 c 5. Kravchenko, A.I. Psychology and Pedagogy: textbook / A.I. Kravchenko. - M.: Prospect, 2015. - 400 c
8. Content of the discipline	Basics of higher education pedagogy. The subject and tasks of higher education pedagogy. Methodology and methods of pedagogical research in higher education. Didactic higher education. The pedagogical process in higher education. Laws, patterns and principles of learning. Methods, forms and means

	of teaching in higher education. The current state of higher education in the Republic of Kazakhstan. Professional development of a higher education teacher. The process of education in high school. The purpose of education as a pedagogical problem. The educational team as a form of functioning of the holistic pedagogical process. Management of the pedagogical process.
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1. Basic information about the discipline:	
Name of the discipline	Psychology of management
2. Amount of credits	5 (scientific and pedagogical)
3. Prerequisites:	Philosophy, Sociology, General Psychology, Higher School Psychology
4. Post requisites:	Pedagogical practice, research practice. Psychological support of management activities; methods of working with functional states in activities manager;
5. Competences:	<p>As a result of mastering the discipline, the undergraduate must:</p> <p>Know:</p> <ol style="list-style-type: none"> 1. socio-psychological content and structure of management; and management functions; psychological personality characteristics of the leader; psychological patterns of joint activities to achieve organizational goals; 2. basic approaches to solving managerial tasks and the rules for their solution under the conditions of actually operating production structures, methods of working with functional states in the activities of the manager, optimization of management processes; <p>Be able to:</p> <ol style="list-style-type: none"> 1. apply knowledge gained during the course; free to operate with psychological concepts; use psychological knowledge in explaining phenomena in the field of management psychology and group psychology processes. 2. to analyze the professional activity of a manager in terms of ensuring his psychological effectiveness; apply methods, techniques aimed at the development of managerial professionalism personnel, manager's personality and increase of management system efficiency; <p>Own:</p> <ol style="list-style-type: none"> 1. professional skills of psychological analysis of professional activities of a manager, phenomena in the field of labor and joint activities to achieve organizational goals;

	<p>2. practical skills of psychological support of management activities; methods of working with functional states in activities</p> <p>manager; skills in the use of developmental technologies aimed at improving the professionalism of management personnel and team management;</p> <p>To be competent in the willingness to lead a team in their professional activities, tolerant of social, ethical, confessional and cultural differences.</p>
6. Course author	Zhusupova A.A., Sagaliyeva ZH.K., Shakhmetova DS, Seylkhan G.I.
7. Main literature	<p>1.1. Stolyarenko A.D. Management Psychology Rostov-on-Don Phoenix 2007.</p> <p>2.2. Stolyarenko A.D. "Psychology of business communication and management" Rostov-on-Don Phoenix 2008.</p> <p>3.3. Volkogonova, OD, Zub, A.T. "Management Psychology" Moscow "Forum" Publishing House - Infra-M 2007.</p> <p>4.4. Nemov R.S. "Psychology" Moscow ed. Center "Vlados" 2010.</p> <p>5.5. Bakirova, G.Kh. Psychology of effective strategic personnel management: Textbook / G.Kh. Bakirov. - M.: UNITI, 2012. - 591 c.</p>
8. Content of the discipline	<p>Basics of psychology.</p> <p>Psychological aspects of small groups and groups. "Socio-psychological basis of the head".</p>

1. Basic information about the discipline:	
Name of the discipline	History and development of forestry in Kazakhstan
2. Amount of credits	5
3. Prerequisites:	Forest management, forest economy
4. Post requisites:	Modern problems of forestry
5. Competences:	Acquisition of knowledge and skills of the following sections of this course: Expand the process of formation and development of forestry and the current state of forestry in the Republic of Kazakhstan. Examine a brief history of development and the most important problems of forestry.
6. Course author	Mazarzhanova K.M.
7. Main literature	<p>1. Baizakov S.B. The history of the development of forestry in Kazakhstan -Almaty, 2014</p> <p>2. Report of the Committee of Forestry and Hunting of the Ministry of Agriculture of the Republic of Kazakhstan for 2015 - Astana, 2015</p>

	<p>3. Report of the Committee of Forestry and Hunting of the Ministry of Agriculture of the Republic of Kazakhstan for 2016, Astana, 2016</p> <p>4. Bayzakov S.B. and etc. Азақстан орманшысының анықтамалығы. - Astana. 2012. -348 б.</p> <p>5. Bayzakov S.B. and etc. Innovative technology of forest growing in the pine forests of the Irtysh., 2014</p> <p>6. Bayzakov S.B. and others. Scientific and innovative priorities of forestry in Kazakhstan. Almaty, 2010.</p> <p>7. Mazarzhanova K.M. Türkiy zhane Kazakstan memlekterinin Ormanshılıry. Abstract –Almaty. 2010. 26</p> <p>8. Ü. Akkemik. Dendrokronoloji İlkeleri, Biyolojik Temelleri.- İ.Ü. Orman Fakültesi. - İstanbul, 2004.</p> <p>9. Shiyatov S.G. et al. Methods of dendrochronology: teaching method. allowance. - Krasnoyarsk: KrasSU, 2000. - Part 1. - 80 p.</p>
<p>8. Content of the discipline Historical review of congress forums, international forest policy. Development of the history of forestry before the revolution. Soviet period and after sovereignty. Historical chronology of the forest management system. Research institutes and forestry specialists training. Forest Fund and their accounting. Analysis of dendrochronological work in forestry around the world. Analysis of historical conditions in the forest of Kazakhstan by dendrochronology methods. Forecasting factors affecting forests (with historical data)</p> <p>Historical overview of forest management and maintenance. Historical development of forest management History of forest renewal and development of land reclamation works. Profit from the forest. Material and technical base. The state of development and the history of protected areas and development in a market economy. Analysis of projects, research of forestry. World forestry development, stability, trends (trends)</p>	

1. Basic information about the discipline:	
Name of the discipline	Marketing basics
2. Amount of credits	5
3. Prerequisites:	Theory of Economics
4. Post requisites:	Private forestry
5. Competences:	<p>Know</p> <ul style="list-style-type: none"> - bases of the organization of marketing activity -the specifics of research methods in business, to understand the diversity of economic processes; patterns of market relations, economic, financial forecasting and planning in the organization -the main theories and concepts of interaction of people in organizations, including questions of motivation, group

	<p>dynamics of communications, leadership and conflict management</p> <ul style="list-style-type: none"> - development trends of the world economy, national economy <p>be able to</p> <ul style="list-style-type: none"> -analyze the direction of the state economic policy -apply model models for calculations of macro-, media- and micro-indicators, using information technologies -analyze the external and internal environment of the organization, identify its key elements and assess their impact on the organization; -set goals and formulate tasks related to the implementation of professional functions; <p>own</p> <p>marketing tools</p> <ul style="list-style-type: none"> - skills in program development and implementation; - skills of using information technology -the skills of developing audit reports and monitoring the organization of labor, awarding workers and employees, the conditions of material incentives, the combination of professions and positions - skills of building economic models based on calculations of indicators characterizing economic processes in the global economy, national and regional level
6. Course author	Nurtaeva Z.Sh., master natural science.
7. Main literature	<p>1. Victoria K. Wells, Shing Wan Chang, Jorge Oliveira-Castro & John Pallister (2010), "Market Segmentation from a Behavioral Perspective", Journal of Organizational Behavior Management.</p> <p>2. Market Segmentation from a Behavioral Perspective", Journal of Organizational Behavior Management. On Competition. Harvard Business Press, 2008 - 544</p>
8. Content of the discipline	<p>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. Suppliers, intermediaries, customers, competition / 0.5 / 0.5 lecture, visualization of rent, contact audiences. The definition, nature and structure of marketing research.</p>

1. Basic information about the discipline:	
Name of the discipline	Soil formation of forest ecosystems
2. Amount of credits	4
3. Prerequisites:	Forestry, soil science, forest cultures

4. Post requisites:	Ornamental forest nurseries
5. Competences:	<p>As a result of studying the discipline, undergraduates should be aware of conducting scientific studies of the genesis, especially the forest vegetation properties of the soils of Kazakhstan and their diagnostics;</p> <ul style="list-style-type: none"> - The educational process contributes to 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. Each soil type has a certain vertical sequence of genetic horizons associated with the impact of soil-forming processes on the parent rock. - be able to analyze the state of the soil educational forest crops. -state tasks for field research; -work with forestry industry specialists
6. Course author	Mukhametkarimov K.M.
7. Main literature	<ol style="list-style-type: none"> 1. Agrochemical characteristics of the soil of the USSR. Middle Siberia / Ed. A.V. Sokolova, N.V. Orlovsky. M.: Nauka, 1971.-271c. 2. Vedrova, EF The carbon cycle in the pine forests of the taiga zone of the Krasnoyarsk Territory / E.F. Vedrova // Forest Science, 1998.- №6.- p. 3-10. 3. Firsova V.P., Dergacheva M.I. Composition of the organic matter of the soils of the southern taiga forests of the Urals and Trans-Urals // Forest soils of the southern taiga of the Urals and Trans-Urals. Sverdlovsk, 1972. Vol. 85
8. Content of the discipline	<p>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. The peculiarities of the water-air thermal properties and soil regimes of various ecosystems and their effect on forest productivity. The composition and properties of soil solution in various ecosystems. Reclamation of saline soils, forest reclamation in different soil and climatic zones</p>

1. Basic information about the discipline:	
Name of the discipline	Landscape Farming
2. Amount of credits	4
3. Prerequisites:	Soil science, ecology,
4. Post requisites:	Ornamental forest nurseries
5. Competences:	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.
6. Course author	Esmurzaeva A.K.
7. Main literature	<p>1 Chupakhin V.M. "Basics of Landscape Science" Moscow Agropromizdat 1987</p> <p>2 Moldaulov N. "Landscape landscapes of negrodes of Kazakhstan landscape of geography" Almaty "Rauan" 1994</p> <p>3 .Isachenko A.G. "Landscape Science and Physical - Geographical Zoning" Moscow "Higher School" 1991</p> <p>4 . Мұқашева Zh. N, Kushimova Ә. F. Antropogendik landscape. A. 2004.</p> <p>5 .Ivannikov A.V., Shramko N.V., Mukazhanov K.M. Soltystik Kazakstannуң еginshiligi - Astana, 2011- 295 b.</p> <p>6 .Ivannikov A.V. Turarbekov A.T., Soltystik азақстанның егіншілігі. - Alma-Ata: Kaynar, 1990 - 212 b.</p> <p>7 Zhaabaev K. Auysharuashylyn өnimderin өndiru technologies. A-Ata. Kainar, 1979- 124 p.</p> <p>8 Karipov R.Kh., Zhұmarұlov I.I. Amralin A.U. Eginshilik workshops – Astana, 2004 –290 b.</p> <p>9 Baidyusen Ұ. J. Аймақтық еginshilik zhayesi. Astana, 2003-98 b.</p>
<p>8. Content of the discipline Особенности ландшафтного земледелия, севообороты в различных условиях рельефа, обработка почвы и, севообороты в различных условиях рельефа, обработка почвы и особенности борьбы с сорными растениями при различных элементах рельефа. Основы научного земледелия, обработка почвы, севообороты, системы земледелия. Защита почв от ветровой и водной эрозии. Методы, обеспечивающие сохранение и повышение плодородия почвы в различных типах ландшафтов и экологических условиях; принципы минимализации обработки почвы, увеличения эффективности применения удобрений, сохранения почв от эрозии и создания благоприятных условий для роста и развития лесных культур</p>	

Appendix 4 Description of elective disciplines

1. Basic information about the discipline:	
Name of the discipline	Organization of scientific research
2. Amount of credits	5
3. Prerequisites:	Forest nurseries, Forestry, Forest conservation, forest crops
4. Post requisites:	Scientific Research Methodology
5. Competences:	As a result of studying the discipline the undergraduate should know: methods of organizing, planning and carrying out experiment and observation in forestry and forestry production; be able to: use the simplest methods of biometrics, the principles of the variation series; - apply statistical methods to solve specific applied problems of special disciplines; - make observations, make variational series, calculate statistical indicators and analyze research results; - carry out correlation, regression and analysis of variance
6. Course author	Kazangapova N.B., Ph.D.
7. Main literature	<ol style="list-style-type: none"> 1. Алимжанова Б.Е., Forestry, 2011 2. Forest Code. Almaty, Publishing House of the Lawyer, 2003 3. В.А. Армор. Methods of field experience. М., Kolos, 1979. 4. А.В. Иваников. Biometrics. Astana, 2006. 5. G.F. Lakin. Biometry. М., Academy of Higher School, 1990. 6. V.A. Tomilov. Methods of experimental work in plant breeding. Akmola, 1978. 7. Methods of modern biometrics. Academy of Moscow University, 1978.
8. The content of the discipline The purpose of teaching the discipline "Organization of Scientific Research" teaches graduate students how to organize and conduct scientific and experimental research, the definition of basic statistics and analysis	

1. Basic information about the discipline:	
Name of the discipline	Problems of rational use of forest resources
2. Amount of credits	5
3. Prerequisites:	Forestry, Forest taxation
4. Post requisites:	Modern problems of forestry
5. Competences:	Undergraduates should acquire 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. Be able to justify their position in identifying new types of forest resources. Have a sense of tolerance, respect the opinion of other professionals. To pay great attention to key problems of rational use of forest resources, widespread use of forests for recreational and tourist purposes.
6. Course author	Esmurzaeva A.K., Ph.D.
7. Main literature	<ol style="list-style-type: none"> 1. Normative-technical documentation on the subject of the discipline / standards, rules, instructions, recommendations. 2005 2. Korostelev, AS, Zalesov, SV, Godovalov, GA. Non-timber forest products .-M., UGLTU, 2010 - 480s. 3. Baizakov S.B. Economic valuation of forest resources. Kaynar, Almaty -151 p. 4. Baizakov S.B., Gursky A.A., Amanbaev A.K., Toktasynov Zh.N. Forests and forestry of Kazakhstan. Ed. Scarce, Almaty, 1996 5. Baizakov S. B., Mukanov B.M. Problems of sustainable forest management and forestry in Kazakhstan. Ed. Classic. Almaty, 2007 - 96 pages
8. Content of the discipline Organization of logging for thinning, transportation, storage and processing of raw wood and waste, collection of non-wood and food products and secondary use. Organization of production at the institutions of the forest park. The organization of growing decorative planting material and obtaining seeds in nurseries, flower and other farms. The organization of work on the maintenance of green spaces and care for them. Classification of forest plant resources. Protective forests, their purpose. The PA system, the procedure of their organization and legal regimes of protection. Forests located in water protection zones. Classification of forest products. Waste logging and woodworking. Ways of collecting and processing logging residues. Food resources of the forest. Measures for the rational exploitation of mushroom and berry fields and increase their productivity. Organization of preparation of medicinal raw materials.	

1. Basic information about the discipline:	
Name of the discipline	Theory and practice of growing forests for various purposes
2. Amount of credits	5
3. Prerequisites:	Dendrology, forestry, forest cultures, soil science
4. Post requisites:	Private forestry
5. Competences:	Knowledge of modern industrial technologies for growing forests for various purposes, methods of creation and maintenance. Acquisition of practical skills in designing

	projects of plantation crops, planning and compiling cash-flow charts, organization of economic activities of a forest enterprise in a market economy. The ability to choose the most economical way to grow forests for various purposes, to carry out calculations and analyze them. The ability to convey their point of view, to prove the correctness of the decision. Work with the scientific literature and its analysis, the study of innovative methods and their implementation in practice
6. Course author	Abzhanov T.S., PhD
7. Main literature	<p>1. Baizakov S. B., Mukanov B. M., Medvedev A. N., Iskakov S. I. "Forest cultures in Kazakhstan" Almaty, 2007, 1 kit.</p> <p>2. Baizakov S. B., Mukanov B. M., Medvedev A. N., Iskakov S. I. "Forest cultures in Kazakhstan" Almaty, 2007, 2 kit.</p> <p>3. Toktasynov Zh.N., Baizakov S.B., Iskakov S.I. Recommendations for the development and expansion of forest management in Kazakhstan. MONRK, Kazakh National Agrarian University, Forest Research and Innovation Institute, Almaty, 2011.</p> <p>4. Zhumagulov I.I., Maisupova I.K. " Әртүрлі мақсатқа байланысты орманды өсірудің теориясы мен тәжірибесі". Astana: 2011</p> <p>5. Mukanov B.M. Scientific support for the creation of a green zone around Astana, 2012</p> <p>6. Kentbaev E.Zh., Kentbaeva B.A, "Trees and shrubs of Kazakhstan for forest growing". Almaty, 2008</p>
8. Content of the discipline A scientifically based system of measures aimed at reducing the period of reproduction of forest resources as a result of the use of varietal seeds, large-scale planting material. Optimization of forest cultivation technology. The use of mechanization, automation and chemicalization of silvicultural production. Modern industrial technologies of growing forests for various purposes. Types of logging. Activities promoting natural forest regeneration. Organization of multi-purpose plantation farms for growing tree and shrub species	

1. Basic information about the discipline:	
Name of the discipline	Forest Biogeocenology and Multifunctional Forest Use
2. Amount of credits	5
3. Prerequisites:	Forest botany, Dendrology, Ecology, Forest science, Forestry, Forest resource studies, Forest zoology and game studies
4. Post requisites:	Modern problems of forest science

5. Competences:	<p>Knowledge and understanding of all components of animate and inanimate nature that make up a single whole - the forest, know the structural and functional organization of the forest biogeocenosis. To 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 analyze and draw conclusions. Respect the opinion of other experts, to prove the correctness of their point of view. To be able to work with the scientific literature, to be able to introduce modern technologies for the rational exploitation of forest resources, increase productivity.</p> <p>The acquisition of knowledge and skills of the following sections of this course:</p> <ul style="list-style-type: none"> - landscape elements, forest protection functions, environment-forming functions; - The influence of climatic factors (global warming, precipitation and desertification); - modern achievements in forest science; - methods of preventing erosion, preserving the fertile layer, increasing the productive function of woody and non-woody forest products, improving tourism, recreation and recreation. <p>The ability of undergraduates to manage the resource potential of the forest, to substantiate the main agrotechnical methods of forest growth in forestry, the action of plant protection products and other technologies</p>
6. Course author	Sarsekova D.N.
7. Main literature	<ol style="list-style-type: none"> 1. Netesova M.A. Forest biogeocenology. Astana, 2010, 201p. 2. A.S. Tikhonov. Forest Studies: a textbook - Moscow: INFRA-M, 2017. - 348 with 3. Kentbaev E.ZH., Kentbaeva B.A. Trees and shrubs of Kazakhstan for forest growing. –Almaty, 2008. - 343 p. 4. S.B. Baizakov., A.N. Medvedev., S.I. Iskakov., B.M.Mukanov. Forest cultures in Kazakhstan. Almaty, 2007. Book 1 5. S.B. Baizakov., A.N. Medvedev., S.I. Iskakov., B.M.Mukanov. Forest cultures in Kazakhstan. Almaty, 2008. Kn.2 6. A. V. Mikheyev. Structure of the <i>Talpa europaea</i> in steppe forests // Biosystems Diversity Vol 15 No 1 (2007) 7. European Russian forest [Text]: their current state / Olga V. Smirnova [et al.], Editors. - Dordrecht: Springer,

	cop. 2017. - XIV, 564 S .: ill., Col. Il., maps; 24 centimeters - (Plant and vegetation, ISSN 1875-1318; vol. 15) .; ISBN 978-94-024-1171-3 // 2018 // Dordrecht: Springer, cop. 2017
8. Content of the discipline	The 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. Dynamics of forest biogeocenoses. The biospheric role and economic importance of forest biogeocenoses, the main measures for their protection and protection, increase productivity and strengthen protective functions. Prediction of biogeocenotic processes under the influence of abiotic, biotic and anthropogenic factors. 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)

1. Basic information about the discipline:	
Name of the discipline	Biotechnology in forestry
2. Amount of credits	5
3. Prerequisites:	Forest botany, biotechnology, general forestry
4. Post requisites:	Modern problems of forest science
5. Competences:	The purpose of the discipline is to develop genetic and molecular genetic methods, consolidate and deepen theoretical knowledge, gain experience and independent work skills, obtain the necessary knowledge to plan and conduct an experiment, develop classical and study modern biotechnological methods. The goal is achieved by solving the following tasks: Abstraction of scientific literature; Development of the use of the necessary equipment, development of technology. Work on modern special equipment; Development of the necessary experimental methods and techniques, familiarization with the requirements for the results of genetic and molecular genetic experiments (reliability, repeatability, documentation).
6. Course author	Kazangapova N.B.
7. Main literature	1. Purohit S.S. Agricultural biotechnology. Agrobios. 2010-P.1014 2. Kirillov V.Y, Chebotko NK Clonal micropropagation Thuja occidentalis L. Scientific handbook, Schuchinsk, 2011, 44c. 3. Kirillov V.Y Linden (Tilia spp.) Breeding in vitro.

	Scientific handbook, Schuchinsk, 2012, 75c. 4.Kirillov V.Y Teaching practice in plant biotechnology. Studyposobie.- Kokshetau, 2011.- 106c
8. The content of the discipline 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, genetic engineering methods, Biotechnology in molecular biology, Plant Biotechnology in Kazakhstan, Transgenic plants; molecular markers and its application in forestry, Modification of plant species of practically desirable products, Biodegradation of forest waste by genetic engineering, tissue culture: principles and methodology, Cell totipotency concept, Cell culture technology	

1. Basic information about the discipline:	
Name of the discipline	Ecological tourism
2. Amount of credits	5
3. Prerequisites:	Ecology of sustainable development, forest management, specially protected natural territories
4. Post requisites:	Sustainable forest management
5. Competences:	Knowledge of the essence of eco-tourism, understanding of modern ideas about eco-tourism as a process, including the formation of ideas, its rationale and design in the form of an ecological project; acquisition of practical skills in the organization of ecological tourism in education and business activities. To be able to analyze key issues in modern eco-tourism
6. Course author	Maisupova I.K.
7. Main literature	1. Kulmanov G., Berkinbay O., Baitursinov K. Ecological tourism. Textbook Turkestan: 2011.-246c. 2. Sergeeva TM Ecological tourism. Textbook, M.-2004g., 320s. 3. Netesova M.A. etc. Specially protected natural territories of the Republic of Kazakhstan. Astana, 2012, 201s 4. S.R.Erdavletov. Tourism of Kazakhstan. -Almaty, Bastau, 2015. - 520s ISBN 978-601-81-142-1 5. Khrabovchenko V.V. Ecological tourism. Teaching manual. - M.: Finance and Statistics, 2003. - 208 p.
8. The content of the discipline The history and current state of eco-tourism. Types of ecological tourism. World regions and ecotourism centers. Europe. World regions and ecotourism centers. North America. World regions and ecotourism centers. Central and South America. World regions and ecotourism centers. Africa. World regions and ecotourism centers. Asia. World regions and ecotourism centers. Australia and Oceania. Development of ecotourism in Kazakhstan, as the most promising type of tourism in Kazakhstan. National parks and other protected areas of the Republic of Kazakhstan. Hospitality industry in	

Kazakhstan. Management of ecological tourism: its features and formation. Advertising and marketing of the tourist product. Tourist product of national parks of RK. Global trends and prospects for the development of ecological tourism. Problems of development of ecological tourism in Kazakhstan. State regulation of tourist activities: the concept and principles

1. Basic information about the discipline:	
Name of the discipline	Introducers for forest growing in Kazakhstan
2. Amount of credits	4
3. Prerequisites:	Landscape Design, Decorative Dendrology
4. Post requisites:	Ornamental forest nurseries
5. Competences:	Knowledge of the initial testing of new breeds, identifying the most promising, resistant to adverse environmental conditions, with the aim of introducing them into the culture. Know the experiments on the selection from the local flora of plants of wild endangered useful species with architectural and decorative properties that can grow in these conditions. To be able to assess the prospects of cultivation and sustainability of primary introducents in specific soil and climatic conditions.
6. Course author	Esmurzaeva A.K.
7. Main literature	<ol style="list-style-type: none"> 1. Kentbaev E.ZH., Kentbaeva B.A., Kaspakbaev E.M. Kazakhstan ккпе Ormandaryn isiru arashtary men bytalary Almaty, 2015. - 364 b. 2. Baizakov S.B. Forest cultures in Kazakhstan (in 2 volumes) Almaty, 2007 3. Makarenko A.A., Mukanov B.M. Thinning in the pine forests of Kazakhstan. - Almaty, Bastau, 2002 4. Kazakhstan Republican Orman Codex. - Astana, 2003 5. Korostelev A.S., S.V. Godovalov, Zalesov, G.A. Production technology of non-wood forest products. - Ekaterinburg, UGLTA, 1999 6. Melekhov I.S. Forestry. - Moscow, MGUL, 2003– 288 p. 7. Zhiganov Yu. I. Agronomic efficiency of protective afforestation
8. Content of the discipline	Types of ornamental woody plants, their main forms and varieties. Introducers used in forestry, forestry and gardening. Principles of zoning of introduced tree species. Natural decorative properties of trees and shrubs. To select an introduced assortment of trees and shrubs for various conditions and forest park facilities and landscaping. Use materials on the zoning of introduced tree-sided species using the methods of acclimatization and naturalization. Acclimatization cuttings, layering, acclimatization of plants on the stock and sowing seeds. Positive and negative anthropogenic effects on woody plants. Types and types of introduced ornamental woody plants. Introduced forms and varieties. The use of decorative forms in the forest park and landscaping. Natural decorative

properties of woody-custard plants: the quality of their crowns, leaves, flowers, fruits and stem. In the introduction work it is necessary to take into account the soil and climatic conditions of the area, the frost resistance of the introduced plant introductions in forestry, forest park and planting. An assortment of woody plants for various conditions and objects. Principles of zoning trees.

Dean of the Faculty



Sarsekova D.N.

Department head "Forest resources and forestry"

Boranbai Zh.T.