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

Reviewed
at the meeting of the
Academic Council
Minute №_
«___»_____2019

CONFIRM
Chairman of the Board
JSC S.Seifullin Kazakh University
A. Kurishbayev
«___»_____2019 .

EDUCATIONAL PROGRAM
«Landscape design»

Code and classification of eduction field:
6B08 Agriculture and bioresources
Code and classification of training direction:
6B083 Forestry
Code in the International standard classification of education:
0821

Degree: bachelor of agriculture in the educational program
«Landscape design»

Duration of study: 4 years

Nur-Sultan, 2019

Team of authors:

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Ebel A - candidate of agricultural Sciences of the Russian Federation, senior lecturer of "Forest resources and forestry", Deputy Dean of "Sary-arka" Agronomic faculty, KATU S. Seifullina;
Dudina N -senior lecturer of "Forest resources and forestry, S. Seifullina KATU;
Mazarzhanova K – candidate of agricultural Sciences senior lecturer of "Forest resources and forestry, S. Seifullina KATU;
Kopabayeva A – master of agricultural Sciences, senior lecturer of "Forest resources and forestry, S. Seifullina KATU .

The team of authors approved by the order of JSC "S.Seifullin Kazakh Agrotechnical University" № 932-N of 12.12.2018.

Educational program "Landscape design" reviewed at the meeting of "Forest resources and forestry" Minute №6 from 04. 02 2019, approved by the Faculty Council Minute № 9 28. 05 2019

Dean of Agronomy Faculty G. Stybaev

The Head of "Forest resources and forestry" D. Sarsekova

Content

1 Passport of the educational program

1.1 Purpose of the educational programme:

Modular educational program "Landscape design and landscaping" was created on the basis of employers' request in connection with the increased need for specialists-greeners capable of organizing and carrying out the work on the design of landscape architecture, reconstruction of green spaces and parks.

The modular educational program will allow to receive profound theoretical knowledge and practical skills on development of projects of landscape gardening, performance of gardening of city territories, selection of base assortment of plants, planting and care of them.

The aim of the program is to prepare a competitive specialist, ready for production activity in the system of landscape design, operation and reconstruction of landscape gardens, capable of practical implementation of knowledge and further professional self-improvement and creative development.

2 General description of the educational programme:

To implement the state strategy "Kazakhstan-2050", as well as to solve environmental problems, which is given special attention in the framework of special programs "Zhasyl Damu", "Zhasyl Spruce", etc. it is necessary to train highly qualified specialists, ready to carry out a set of measures on landscaping and improvement of populated areas, landscape design, cultivation of decorative planting material, which is conditioned by the strengthening of urbanization, anthropogenic impact on the environment and forest-park ecosystem.

To solve the problems of landscaping and landscape design of cities and settlements it is necessary to give students knowledge on landscape design as the basis of organization, preservation and restoration of modern and historical landscapes, at the same time providing rehabilitation and improvement of human society environment.

Competitive advantages of this EP are the highly qualified teaching staff with practical skills in the field of landscape architecture and landscaping, as well as teaching in a foreign language and combining the methods of domestic and foreign practice, training in computer classes, laboratories with the latest equipment and forest nursery on the campus of the university.

The students will have an opportunity to get practical skills and implement the project of landscaping in the green areas of Astana-Zelenstroy JSC, Zhasyl zher LLP and others.

Stakeholders of the EP are enterprises in the field of forestry and landscaping: the Council of Legal Entities "Association of Forestry and Wood Processing Organizations of the Republic of Kazakhstan "Zhasyl Orman", JSC "Astana-Zelenstroy", private gardening enterprises.

3 Competence model (portrait) of the graduate

3.1 Professional fields of activity:

The sphere of professional activity of graduates of the educational program "Landscape design and gardening" is landscaping and improvement of populated areas, landscape design, cultivation of ornamental plants, commercial forestry. Objects of professional activity of graduates are: the gardening organisations, the wood inventory and the design enterprises, wood and decorative nurseries.

The subjects of professional activity are landscaping and beautification of populated areas, landscaping of urban areas, areas of cottage buildings, recreational forest use.

3.2 Types of professional activity:

Graduates in the 6B083-"Forestry" direction under the educational program "Landscape design and gardening" can perform the following types of professional activities:

- Industrial and technological (landscaping);
- Organizational and administrative (reconstruction of parks and squares);
- design (creation of landscape architecture projects);

3.3 General educational competencies:

- argue his own assessment of everything happening in the social and industrial spheres and use methods and techniques of historical description to analyze the causes and consequences of the events of modern history of Kazakhstan;
- evaluate situations in various spheres of interpersonal, social and professional communication taking into account the basic knowledge of sociology, culturology and psychology;
-demonstrate personal and professional competitiveness;
- to apply in practice the knowledge in the field of social and humanitarian sciences, which is recognized worldwide, and to generalize the results of the study;
- enter into communication in oral and written forms in Kazakh, Russian and foreign languages to solve the problems of interpersonal, intercultural and industrial (professional) communication;
- use various types of information and communication technologies in personal activities.

3.4 Core competencies:

- Apply their knowledge, understanding and problem-solving skills to the new environment, in a broader interdisciplinary context, at the professional level;
- work with other specialists in joint projects and activities;
- Demonstrate teamwork, negotiation and organizational skills;
- to positively perceive innovation and change;

-To have an understanding of the nature of the main physiological processes of green plant, the mechanisms of regulation and the basic regularities of the relationship between plants and the environment;

- Possess methods of taxation, monitoring of the condition and inventory of green spaces;

- Ability to carry out measurements in the field using geodetic instruments, description of borders and binding of forest facilities in the field;

- Knowledge of forest forming species of woody plants introduced in Kazakhstan;

- Possess methods of monitoring and assessment of the technical condition of landscaping facilities

- to use in practice methods and means of protection of green spaces from pests and diseases, taking into account environmental protection, pest and disease diagnostics skills;

3.5 Professional competencies:

- know the morphology and biology of ornamental woody shrubs and flower plants;

- knowledge of methods and technology of planting material cultivation, methods of creating forest crops, greenery plantations;

- to know varieties of modern styles and laws of plant compositions;

- organize, carry out and monitor landscaping and landscaping;

- organize and carry out works to control pests and diseases of nurseries, forest crops and green spaces;

- work in basic and special computer programs;

- to perform works on designing, construction and operation of landscape architecture objects, reconstruction of green spaces and parks;

- to be able to make selection of wood-shrubby and flower plants taking into account natural zonality, growth conditions, decorative properties;

-to know the compositional regularities of formation of the subject spatial environment;

-to know the concepts and technologies of practical work, understanding the specifics of the designer of this profile;

-to be able to correctly convey the volumetric form of all objects of real reality from life;

-to be able to apply different types of stylization in different ways by memory, by performance.

4 Base passage of professional practices:

Professional practice - 21 credits, including: educational practice 1 (botany and dendrology) - 4 credits; educational practice 2 (forestry and nurseries) - 4 credits; production practice - 10 credits, undergraduate practice - 3 credits.

Students will be trained in the disciplines of "Botany" and "Dendrology" on the basis of JSC "Astana-Zelenstroy", RSE "Zhasyl Aimak" and in the urban parks

and squares. Training practice in the disciplines of "Forestry" and "Forest nurseries" will be held on the basis of Sandyktau training and production forestry and SA forestry "Akkol" Akmola region. Production and undergraduate practice will be held at the following enterprises: State institutions for the protection of forests and wildlife, regional territorial inspections, enterprises: Astana-Zelenstroy JSC, State Enterprise Zhasyl Aimak, JSC Astana-Ormany, State Enterprise Republican Forest Breeding Center, LLP "KazRIFA", State National Natural Parks, nature reserves, reserves and other protected areas of the Republic of Kazakhstan, natural resources management and regulation of natural resources, public utilities responsible for landscaping and landscaping of settlements and other state institutions, as well as private companies engaged in activities in the field of forestry and landscaping.

5 Structure of the educational program

№	Name of cycles and disciplines	Total labor intensity	
		in academic hours	in academic credits
1	2	3	4
1	**The cycle of General disciplines (GED)**	**1680**	**56**
1)	Required component	1530	51
	Modern history of Kazakhstan	150	5
	Philosophy	150	5
	Foreign language	300	10
	Kazakh (Russian) language	300	10
	Information and communication technology (English)	150	5
	Module of socio-political knowledge (sociology, political science, cultural studies, psychology)	240	8
	Physical culture	240	8
2)	High school component	150	5
	Ecology and basics of life safety	150	5
2	**Cycle of basic disciplines (BD)**	**3360**	**112**
1)	High school component	1530	51
	Professionally-oriented foreign language	120	4
	Professional Kazakh (Russian) language	90	3
	Forest botany and physiology of woody plants	120	4
	Educational practice in forest botany	60	2
	Dendrology	150	5
	Forestry with the basics of recreational use	180	6
	Educational practice in dendrology	60	2
	Educational practice in forestry and forest nurseries	120	4
	Forest nursery business	180	6
	Forest cultures	150	5
	Biometrics in forestry	150	5
	Forest management with the basics of forest inventory	150	5
2)	Optional component	1830	61
	Forest soil science	120	4
	Meteorology	120	4
	Engineering landscaping	120	4

	Mechanization of landscaping	150	5
	Architectural graphics and basics of composition	120	4
	Forest science and forest resource studies	180	6
	Forest management and protection	120	4
	Occupational health and safety in forestry	120	4
	Selection of woody and flower plants	150	5
	Protection of wood and flower plants	150	5
	Geographic information systems and remote sensing forest	150	5
	Fundamentals of entrepreneurial activities in forestry	150	5
	Forest economics	150	5
3	**The cycle of majors (MD)**	**1800**	**60**
1)	High school component	1800	60
	Decorotive dendrology	150	5
	Landscaping of populated areas and site improvement	180	6
	Technology and organization of green Constructions	150	5
	Landscape design	150	5
	Floriculture and decorative gardening	180	6
	Plant compositions and floristry	150	5
	Botanical gardens and greenhouse business	180	6
	Lawn cultivation	120	4
	Basics of garden art	150	5
	Production practice	300	10
	Undergraduate practice	90	3
4	Additional types of training (Feb)		
5	Final attestation	360	12
1)	Writing and defending a thesis (project) or preparing and passing a comprehensive exam	360	12
	Subtotal	7200	240

Annex 1. Academic calendar

Казахский агротехнический университет имени С.Сейфуллина

Рассмотрено на заседании
Ученого совета университета

Протокол №___ от "___" _____ 2019 г.

УТВЕРЖДАЮ:
Директор Департамента по академическим вопросам
АО «КАТУ им. С.Сейфуллина»
_____ Н.А. Сереклаев
"____" _____ 2019 г.

Академический календарь на 2019-2023 учебный год для образовательной программы «Ландшафтный дизайн и озеленение» по направлению подготовки 6В083 Лесное хозяйство

	Сентябрь				Октябрь				Ноябрь					Декабрь				Январь					Февраль				Март				Апрель				Май					Июнь				Июль					Август			
неделя	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	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Курс	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	2	9	16	23	30	6	13	20	27	4	11	18	25	1	8	15	22	29	6	13	20	27	3	10	17	24
	6	13	20	27	4	11	18	25	1	8	15	22	29	6	13	20	27	3	10	17	24	31	7	14	21	28	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10	17	24	31	7	14	21	28
I	ПН	.	.	.	.	./РК	.	.	.	.	./РК	С	С	ЗД	ЗД ЭС	К	К	К	.	.	.	.	./РК	.	.	.	.	./РК	С	С	К	.	.	.	.	./РК	.	Уп	./Уп	./Уп	./РК/Уп	С	С	КЛ	КЛ	КЛ	КЛ	КЛ	КЛ	К	К	К
II	К	.	.	.	.	./РК	.	.	.	.	./РК	С	С	ЗД	ЗД ЭС	К	К	К	.	.	.	.	./РК	.	.	.	.	./РК	С	С	К	.	.	.	.	./РК	С	Тп	Тп	Тп	Тп	КЛ	КЛ	КЛ	КЛ	КЛ	КЛ	КЛ	К	К	К
III	К	.	.	.	.	./РК	.	.	.	.	./РК	С	С	ЗД	ЗД ЭС	К	К	К	.	.	.	.	./РК	.	.	.	.	./РК	С	С	К	.	.	.	.	./РК	С	Пр	Пр	Пр/ВС	Пр/ВС	Пр/ВС	Пр/ВС	Пр/ВС	Пр/ВС	Пр/ВС	Л/ВС	Л/К	Л/К	Л/К	К	К	К
IV	Пр	Пр	.	.	.	.	./РК	.	.	.	.	./РК	С	С	К	К	.	.	.	.	./РК	.	.	.	.	./РК	С	С	К	./Д	./Д	РК/Д	С/Д	Пд	Пд	Пз	О	ГЭК	ГЭК	Д	Д	Д	ГАК	ГАК								

ПН - [illegible]
• - [illegible]
РК - рубежный контроль
С - сессия экзаменационная
Л - летний семестр

Уп - [illegible]
Пп - [illegible]
Пр - [illegible]
Тп - [illegible]
Пд - [illegible]

К - каникулы
ВС - военные сборы
Д - выполнение проектов работ
О - [illegible]
ГЭК - [illegible]
ГАК - [illegible]

ЗД - [illegible]
ЭС - [illegible]

Праздничные дни:

30 августа - [illegible]
31 августа - [illegible]
1 декабря - [illegible]
16, 17 декабря - [illegible]
1, 2 января - [illegible]
7 января - [illegible]

8 марта - [illegible]
21, 22, 23 марта - [illegible]
1 мая - [illegible]
7 мая - [illegible]
9 мая - [illegible]
6 июля - [illegible]

Всего недель:

[illegible]

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

Annex 2. Working curriculum

The Ministry of Agriculture of the Republic of Kazakhstan
S.Seifullin Kazakh Agro Technical University

Considered at the meeting
of Academic Council
of the University
Protocol № ___
"__"_____ 20__ г.

APPROVED
by First Vice Chairman
of the Board
"KATU"
_____ Abdyrov A.M.
"__"_____ 20__ г.

WORKING CURRICULUM

For the modular education program "Landscape design and gardening"

In specialty B079 – Forestry
Course years 2019-2023
Academic degree : Bachelor
Form of education: Full-time (bachelor 4 years) trimester
Entry year : 15-08-2019

Module name	Discipline cycle	Discipline component	Code of subject	Subject name	Academic credits	Study semesters	Control by semesters: Exams(semester)	Control by semesters: Term paper / Course project (term)	Number of hours: Total	Classroom work: Lectures	Classroom work: Laboratory trainings	Classroom work: Practice	Classroom work: Studio lessons	Independent: Independent work of	Independent: Independent work of	Distribution of credits on courses and semesters: 1 course 1 sem	1 course 2 sem	1 course 3 sem	2 course 4 sem	2 course 5 sem	2 course 6 sem	3 course 7 sem	3 course 8 sem	3 course 9 sem	4 course 10 sem	4 course 11 sem	4 course 12 sem
																Weeks of term											
																10	10	10	10	10	10	10	10	10	10	10	10
General modules																											
	GER	CS	IYa 1100	Foreign language	4	1	1		4/120			2,7/40		16	64	4.0											
	GER	CS	KRYa 1100	Kazakh (russian) language	3	1	1		3/90			2/30		12	48	3.0											
	GER	CS	KRYa 1100	Kazakh (russian) language	3	2	2		3/90			2/30		12	48		3.0										
	GER	CS	IYa 1100	Foreign language	3	2	2		3/90			2/30		12	48		3.0										
	GER	CS	IYa 1101	Foreign language	3	3	3		3/90			2/30		12	48			3.0									
	GER	CS	KRYa 1102	Kazakh (russian) language	4	3	3		4/120			2,7/40		16	64			4.0									
	BS	UC	PKRYa 2201	Professional Kazakh (Russian) language	3	4	4		3/90			2/30		12	48				3.0								
Language module	BS	UC	POIYa 2201	Professionally-oriented foreign language	4	6	6		4/120			2,7/40		16	64						4.0						
	GER	CS	PS 1109	Political science and sociology	4	1	1		4/120	1,3/20		1,3/20		16	64	4.0											
	GER	CS	SIKG 1100	The modern history of Kazakhstan (SE)	5	1	1		5/150	1,3/20		2/30		20	80	5.0											
	GER	CS	KP 1110	Cultural studies and psychology	4	2	2		4/120	1,3/20		1,3/20		16	64		4.0										
Socio-political knowledge	GER	CS	Fil 2100	Philosophy	5	4	4		5/150	1,3/20		2/30		20	80				5.0								
	GER	CS	FK 1103	Physical education.	2	1			2/60			4/60		0	0	2.0											
	GER	UC	EOBZh 1111	The ecology and bases of the life activity	5	2	2		5/150	1,3/20		2/30		20	80		5.0										
	GER	CS	FK 1104	Physical education.	1	2			1/30			2/30		0	0		1.0										
	GER	CS	IKT 1100	Information and communication technologies	5	3	3		5/150	1,3/20	2/30.0			20	80			5.0									
	GER	CS	FK 1105	Physical education.	1	3			1/30			2/30		0	0			1.0									
	GER	CS	FK 2106	Physical education.	2	4			2/60			4/60		0	0				2.0								
	GER	CS	FK 2107	Physical education.	1	5			1/30			2/30		0	0					1.0							
General Education module	GER	CS	FK 2108	Physical education.	1	6			1/30			2/30		0	0						1.0						
	BS	UC	LBFDR 1202	Forest botany and physiology of woody plants	4	2	2		4/120	1,3/20	0			16	64		4.0										
	BS	UC	Den 1202	Dendrology	5	3	3		5/150	1,3/20	2/30.0			20	80			5.0									
	BS	UC	UPPDB 1231	Teaching practice on discipline "Botany"	2	3			2/0					0	0			2.0									

Biological sciences	BS	UC	UPPDD 1228	Educational practice on "Dendrology"	2	3			2/0					0	0			2.0												
	BS	ES	IBT 2215	Engineering improvement of territories	4	5	5		4/120	1,3/20		1,3/20		16	64					4.0										
	BS	ES	AGOK 2217	Architectural graphics and composition basics	5	6	6		5/150	1,3/20		2/30		20	80						5.0									
Engineering sciences	BS	ES	MOR 3216	Mechanization of greening works	4	9	9		4/120	1,3/20	0			16	64									4.0						
Modules of specialty/education programm																														
	BS	ES	Met 2229	Meteorology	4	4	4		4/120	1,3/20		1,3/20		16	64				4.0											
Natural Science Module	BS	ES	LP 2220	The Forest Soil Science	4	5	5		4/120	1,3/20	0			16	64					4.0										
	BS	ES	LLR 2223	Forest science and forest resource studies	6	4	4		6/180	2/30		2/30		24	96				6.0											
	BS	UC	LORF 2204	Forestry with the basics of recreational use	6	5	5	5	6/180	2/30	2/30.0			24	96					6.0										
	BS	UC	UPPL 2204	Educational practice on Forestry	2	6			2/0					0	0						2.0									
	BS	UC	UPPLP 2204	Educational practice on Forest nurseries	2	6			2/0					0	0						2.0									
	BS	ES	OTLH 3225	Labor protection in forestry	4	9	9		4/120	1,3/20		1,3/20		16	64									4.0						
General Forestry	BS	ES	LOL 3226	Forest use and forest protection	4	9	9		4/120	1,3/20		1,3/20		16	64									4.0						
	BS	UC	BLH 2233	Biometrics in Forestry	5	5	5		5/150	1,3/20		2/30		20	80					5.0										
Methods of forest resources	BS	UC	LOLT 3204	Forest valuation with the basics of forest inventory	5	8	8		5/150	1,3/20		2/30		20	80								5.0							
accounting	BS	ES	GSDZL 4200	Geoinformation systems and forest remote sensing	5	11	11		5/150	1,3/20		2/30		20	80													5.0		
	BS	UC	LPD 2208	Forest nursery business	6	6	6	6	6/180	2/30	2/30.0			24	96						6.0									
	BS	UC	LK 3232	Silviculture	6	7	7		6/180	2/30	2/30.0			24	96							6.0								
Forest plantations and selection	BS	ES	SDCK 3208	Selection of wood and flower plants	5	8	8		5/150	1,3/20		2/30		20	80								5.0							
of forest plantations	BS	ES	ZDCR 3210	Protection of woody and flower plants	5	8	8		5/150	1,3/20	2/30.0			20	80								5.0							
Economics of green construction	BS	ES	OPDLH 4212	Fundamentals of entrepreneurial activities in forestry	5	10	10		5/150	1,3/20		2/30		20	80											5.0				
and entrepreneurial activities	BS	ES	EZS 4213	Economics of green construction	5	12	12		5/150	1,3/20		2/30		20	80															5.0
	AS	UC	OSPI 3301	Basics of garden and park art	5	7	7		5/150	1,3/20		2/30		20	80							5.0								
	AS	UC	DD 3301	Decorative dendrology	5	7	7		5/150	1,3/20	2/30.0			20	80							5.0								
	AS	UC	ONMBT 4301	of territories	6	10	10	10	6/180	2/30		2/30		24	96											6.0				
Landscape construction	AS	UC	TOZS 4301	Technology and organization of green building	5	11	11		5/150	1,3/20		2/30		20	80												5.0			
	AS	UC	VG 3301	Growing lawns	4	7	7		4/120	1,3/20		1,3/20		16	64							4.0								
	AS	UC	LDP 3301	Landscaping and Design	5	8	8		5/150	1,3/20	2/30.0			20	80								5.0							
	AS	UC	PP 3302	Production practice	8	9			8/0					0	0									8.0						
	AS	UC	CDS 4301	Floriculture and gardening	6	10	10		6/180	2/30	2/30.0			24	96										6.0					
	AS	UC	PP 4305	Production practice	2	10			2/0					0	0										2.0					
	AS	UC	BSOD 4301	Botanical gardens and greenhouse business	6	11	11		6/180	2/30		2/30		24	96												6.0			
	AS	UC	RKF 4303	Plant compositions and floristry	5	11	11		5/150	1,3/20		2/30		20	80												5.0			
Landscaping and floriculture	AS	UC	PP 4302	Pregraduation practice	3	12			3/0					0	0													3.0		
Additional modules beyond qualification																														
Modules of choice																														
	Weekly average workload at hours													54	60	60	60	60	60	60	60	60	57	53	24					
1	General education subjects(GER)	56		12	0	1680	120	30	570	0	192	788	18	16	13	7	1	1	0	0	0	0	0	0					
	Core subjects(GER/CS)	51		11	0	1530	100	30	540	0	172	688	18	11	13	7	1	1	0	0	0	0	0	0					
	University component(GER/UC)	5		1	0	150	20	0	30	0	20	80	0	5	0	0	0	0	0	0	0	0	0	0					
	Electives(GER/ES)	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2	Base requirements(BS)	112		22	2	3120	440	210	390	0	416	1664	0	4	9	13	19	19	6	15	12	5	5	5					
	Core subjects(BS/CS)	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
	University component(BS/UC)	52		9	2	1320	170	140	130	0	176	704	0	4	9	3	11	14	6	5	0	0	0	0					
	Electives(BS/ES)	60		13	0	1800	270	70	260	0	240	960	0	0	0	10	8	5	0	10	12	5	5	5					

Annex 3. Description of disciplines of compulsory and High school components

1. Basic information about the discipline:	
Name of the discipline	Modern history of Kazakhstan
2. Amount of credits	5
3. Prerequisites:	School basic knowledge
4. Post-requisites:	cultural studies, political science, philosophy, sociology
5. Competences:	Demonstrate knowledge of the main periods of formation of independent Kazakhstan's statehood; to relate phenomena and events of the historical past with the General paradigm of world-historical development of human society through critical analysis; to master the methods of historical description and analysis of the causes and consequences of events of contemporary history of Kazakhstan; to offer a possible solution to current problems based on the analysis of the historical past and evidence-based information; to analyze the security and value of modern Kazakhstan development model; to determine the practical potential of intercultural dialogue and respect for the spiritual heritage; to justify the fundamental role of historical knowledge in the formation of Kazakhstan's identity and patriotism; to form their own civil position on the priorities of mutual understanding, tolerance and democratic values of modern society.
6. The author of the course	Department of history of Kazakhstan
7. Basic literature	1.Modern history of Kazakhstan . A textbook for students nevernyh special. (baccalaureate) higher. studies'. institutions / B. Ayagan [et al.]. ;red. B. Ayagan; In-t history of the state of education and science of Kazakhstan. - Almaty: Rarity, 2010, 2.Aminov T. Modern history of Kazakhstan. Textbook. Astana., 2017. 3. Nazarbayev N. Era of independence.- Almaty: KAZ. Yaz. 4.Nurtazina R. national security of the Republic of Kazakhstan: studies.benefit.- Almaty: Bastau, 2014 5. Ertlesova G. Reforms of the 90s: interviews with key participants of the events. - Almaty: Publishing House Of KazGU.Al-Farabi, 2012. - 2016.
8. The content of the discipline. Introduction to the discipline; Kazakhstan on the way to Independence stages of formation of the national state; Civil and political confrontation; Implementation of the Soviet model of state building; Contradictions and consequences of Soviet reforms in Kazakhstan in the second half of the XX century; the Policy of "perestroika" in Kazakhstan; Kazakhstan model of economic development; Social modernization-the basis of well-being of society; ethnodemographic processes and strengthening of interethnic harmony; Socio-political prospects of development and spiritual modernization; Policy of formation of new historical consciousness of the people of the great steppe; Kazakhstan-the state recognized by the modern world; N. Nazarbayev-the personality in history; Formation of the nation of the uniform future.	

1. Basic information about the discipline:	
Name of the discipline	Philosophy
2. Amount of credits	5
3. Prerequisites:	Sociology, political science, cultural studies, psychology, Modern history of Kazakhstan.
4. Post-requisites:	History and philosophy of science, philosophy of modern society.
5. Competences:	Formation of openness of consciousness, understanding of own national code and national consciousness, spiritual

	modernization, competitiveness, realism and pragmatism, independent critical thinking, cult of knowledge and education.
6. The author of the course	Department of philosophy
7. Basic literature	1. Petrova V. F., Khasanov M. Sh. "Philosophy". - Almaty: Evero, 2014. 2. Bertrand R. "History of Western philosophy" - M.: Publisher Litres, 2018. - 1195 p. 3. Kenny A."New History of Western Philosophy". Volume 1-4. – Oxford University Press, 2006 - 2010. ((Kenny Hey. New history of Western philosophy. Volum 1-4-Oxford University press, 2006-2010)
8. The content of the discipline. The emergence and development of philosophy. Fundamentals of philosophical understanding of the world. Consciousness, soul and language. Being. Ontology and metaphysics. Human philosophy and the world of values. "Mangilik El" and "Ruhani Jangyru" - the philosophy of the new Kazakhstan.	

1. Basic information about the discipline:	
Name of the discipline	Sociology and political science
2. Amount of credits	4
3. Prerequisites:	Basic school knowledge
4. Post-requisites:	Philosophy, history and philosophy of science
5. Competences:	Formation of the ability to critically understand the system of interpersonal relations in society, awareness of the nature of society, its system of groups and institutions. Formation of social and humanitarian worldview as a basis for the modernization of public consciousness through knowledge of the laws and laws of world politics and modern political processes, as well as the formation of national and civil identity.
6. The author of the course	Department of philosophy
7. Basic literature	1. Nazarbayev N. A. "a Look into the future: modernization of public consciousness".- Astana, 2017 2. Biekenov K. U., Biekenova S. K., Kenzhakimova G. A. "Sociology: Textbook". - Almaty: Evero, 2016. - 584c. 3. «Sociology. Fundamentals of General theory: textbook " / ed. GV Osipov. Ln Moskvichev. 2nd ed., ISPR. and DOP. - M.: Norma, 2015. - 912 p. 4. J. Macionis Society: The Basics. Pearson, 2016. (Masionis Jay. Society: See Basics. Parson, 2016.) 5. Heywood A. Politics. - N.-Y.: Palgrave Macmillan, 2013. ((Heywood Hey. Politics. – En. – Wye.: Palgrave Macmillan, 2013)
8. The content of the discipline. Sociology in the understanding of the social world. Introduction to the theory of sociology. Sociological research. Social structure and stratification of society. Socialization and identity. Social change: the latest sociological discussions. Political science as a science and academic discipline. The main stages of formation and development of political science. Politics in the system of public life. Political power: the essence and mechanism of implementation. World politics and modern international relations.	

1. Basic information about the discipline:	
Name of the discipline	Cultural studies and psychology
2. Amount of credits	4
3. Prerequisites:	Basic school knowledge
4. Post-requisites:	Philosophy, history and philosophy of science
5. Competences:	The development of social and humanitarian worldview as the

	basis for the modernization of public consciousness through the formation of cultural identity, the ability to analyze and assess cultural situations on the basis of understanding the nature of cultural processes, the specifics of cultural objects, the role of cultural values in intercultural communication.
6. The author of the course	Department of philosophy
7. Basic literature	1. Dzhakupov S. M. "Introduction to General psychology". - A.: Kazakh University, 2014 2. Rudenko A. M. "Psychology in diagrams and tables": a tutorial. - Moscow: Phoenix, 2016. -379 p. 3.Nurzhanov B. G., Erzhanova A. M. "Cultural Studies".- Almaty, 2011. 4. Department of philosophy, A. K., "Cultural studies:a workshop".- Almaty: KazNU. al-Farabi, 2014.
8. The content of the discipline. The morphology of the culture. Language of culture. Culture of nomads of Kazakhstan. Cultural heritage of the Turks. Formation of the Kazakh culture. Personality in the context of the formation of national consciousness in psychology. Interpersonal communication as a factor in the development of a harmonious personality of Kazakhstan. Technologies of effective interpersonal communication as a basis of modernization of public consciousness.	

1. Basic information about the discipline:	
Name of the discipline	Ecology and basics of life safety
2. Amount of credits	4
3. Prerequisites:	Basic school knowledge
4. Post-requisites:	Forestry and forest resources, Forestry with the basics of recreational use, Landscaping settlements
5. Competences:	To study the laws of existence, formation and functioning of biological systems at all levels – from the organism to the biosphere and their interaction with the environment. Be able to analyze the impact of environmental factors on the life of living organisms and habitat; Know the methods of analysis of environmental processes, setting specific tasks and priorities for the environment and society Correctly formulate and justify their point of view on topical issues of life safety To master the rules and methods of protection against environmental emergencies; Possess the basic methods of individual and collective protection of life and health in emergency situations of peace and war. Identify the causes and signs of possible consequences of environmental emergencies To use the acquired knowledge about the laws of interaction between living organisms and the environment in practice for environmental protection and life safety.
6. The author of the course	Ecology and basics of life safety
7. Basic literature	1.Perzadaeva A.A. Ecology: course of lectures - Astana: KATU them. S. Seifullina, 2009. 74 p. 2. Askarova U.B., Askarov N. B. Ecology and sustainable development: textbook for universities. - Almaty: Print-Service, 2011. - 190 p. 3.Korobkin V.I., Near L.V. Ecology: textbook for students of bachelor stage of engineering. prof. education /18th ed., DOP.

	and pererab. - Rostov n/A: "Phoenix", 2012. - 601 p. 4. Alisheva K.A. Ecology: textbook-Almaty: NURPRESS, 2012. - 342 p. 5. Nurmukhambetova R.T. Ecology and sustainable development: studies. benefit-Astana: KazATU.S. Seifullina, 2013. - 206 p. 6. Satova K.M. Abseitov E.T. Ecology and sustainable development: educational and methodical complex.- Astana: KazATU.S. Seifullina, 2013. - 159 p. 7. Gordienko V.A. et al. Ecology and sustainable development: studies. benefit. Part I / Federal state budget. educated. institution of the highest. professional education Moscow state University. M. V. Lomonosov. - KazATU them. S. Seifullina. - Astana, 2014. - 267 p. 8. Abdimuratov Zh.S., Khakimzhanov T.E., Dyusebaev M.K. occupational Safety and fundamentals of life safety: lecture notes for students of all forms of education spec. 050717-heat power Engineering. - Almaty: AIEs, 2007. - 41 p.
8. The content of the discipline. The General concept of ecology and the basics of life safety, as a theoretical basis for the protection of society and nature. The relationship of organisms with the environment and living conditions. V. I. Vernadsky's biosphere concept. Definition of the modern noosphere. Environmental problems of our time. Fundamentals of life safety. The concept of technosphere. Principles of safety of human interaction with the environment. Potential, real and realized hazards of natural and man-made origin.	

1. Основная информация о дисциплине:	
Name of the discipline	Kazakh (Russian) language
2. Amount of credits	10
3. Prerequisites:	School course of Kazakh (Russian) language and literature
4. Post-requisites:	Professional Russian language
5. Competences:	To have basic communication skills in Kazakh / Russian languages: to understand, Express, interpret concepts, thoughts, feelings, facts and opinions both orally and in writing (listening, speaking, reading, writing) in the appropriate range of social and cultural contexts. Competently execute business documentation and conduct business correspondence. Have an idea of working with scientific text. The study of the language system of the Kazakh language and its ways through cultural and intercultural activities, improving speech skills of language learners on the basis of texts on everyday, social topics, the formation of lexical and grammatical skills
6. The author of the course	Department of Kazakh and Russian languages
7. Main literature	1. Russian language: textbook for students of Kazakh departments of universities (bachelor's degree) / ed. Akhmedyarov K.K., Zharkynbekova K.K. - Almaty: Kazakh University, 2008. 2. Mukhamadiev H. S. Handbook of scientific style of speech. Russian. - Almaty: Kazan University, 2009. 3. Fedosyuk M.Yu., Ladyzhenskaya R.A., Mikhailovskaya O.A., Nikolina N. A. Russian language for non-Philology students: textbook. - M., 2000. - 256 p. 4.Aitbayeva B. M. textbook of the Kazakh language (level B1). - Karaganda, 2014. 205c. 5. Bozbayev-Hungaski S.T., Balabekov S.K., Kosmambetova

	G.K., Salihov S.O., Gasimova V.R. Kazakh language textbook for intermediate level. National testing center. - Astana: 2017.
8. The content of the discipline. Language and its main functions. Speech: types and forms of speech. Functional and semantic types of speech. Functional styles of speech. General characteristics of functional speech styles. The General concept of the scientific style of speech. Features of scientific style at the lexical, morphological, syntactic level. Structure and meaning of the text. Communicative tasks of the text.The role of the sentence in the text. Text-forming functions of the sentence. The topics of the text. Thesis of the scientific text. Compositional and semantic structure of the scientific text. Synopsis of the scientific text. Annotation of scientific texts. Types of annotations. Abstracting of scientific texts. Types of abstracts. Reviewing the scientific text. The structure of the scientific review. Review of scientific work. Summary-conclusions. Culture of oral speech (General concept). Cultural norms of speech (lexical, morphological, syntactic rules). Culture of speech behavior in the professional sphere. Qualities of a good (model) of speech. Improving the ethics of speech behavior (speech etiquette, business etiquette). Types of business communication (business conversation, telephone conversations). Sports complex. National sport. National holidays Freedom of conscience Religious and religious knowledge. Religious holiday. National tradition. Fashion world. Design. National costume. National ornament. Language. Culture. Art. Masters of the art. Education. Vocational guidance.	

1. Основная информация о дисциплине:	
Name of the discipline	Foreign language
2. Amount of credits	10
3. Prerequisites:	School course of Foreign language
4. Post-requisites:	Professional oriented foreign language
5. Competences:	As a result of the development of the program the student has the following competencies: - systematizes the conceptual basis for understanding the communicative intentions of the partner, the authors of texts at this level; - compares and selects the appropriate communicative intention forms and types of speech / communication with adequate type of speech logical construction; - adequately expresses its own communicative intentions with the correct selection and appropriate use of appropriate language tools, taking into account their compliance with the socio-cultural norms of the language being studied; - classifies the levels of use of real facts, references to authoritative opinion; speech behavior is communicative and cognitively justified; - identifies patterns of development of a foreign language, paying attention to the study of stylistic originality; - master the techniques of linguistic description and analysis of the causes and consequences of events in the texts of scientific and social nature; - expresses in a foreign language possible solutions to modern problems based on the use of reasoned information; - owns the strategy and tactics of building a communicative act, correctly intonation prepares speech, based on lexical sufficiency within the speech subjects and grammatical correctness.
6. The author of the course	Foreign languages department
7. Main literature	1 McMillan Dictionary of Contemporary English. - McMillan, 2010. 2 R. Harrison, S. Philpot, L. Curnick. New Headway Academic

	Skills. Reading, Writing, and Study Skills. Oxford University Press. - 2009. 3. ArlineBurgmeier, Lawrence J. Zwier, Bruce Rubin, Kent Richmond. Inside Reading. The Academic Word List in Context. Pre-Intermediate to Advanced. Oxford. - 2009. 4. Murphy Raymond. Essential Grammar in Use. Intermediate. Cambridge University Press. – 2010. 5. British National Corpus: http://www.natcorp.ox.ac.uk 6. The Corpus of Contemporary American English (COCA): http://www.americancorpus.

8. The content of the discipline. Level A1-B1 (1 semester).

1 Greeting.
2. My family.
3. My house.
4. Food.
5. Purchase.
6. Man and his health.
7. Sport in human life.
8. Leisure.
9. Native country and THIS.
10. Daily routine
11. World map.
12 Protection of the environment.
13. My education.
14. Famous universities of the world.
15. Modern study and modern gadgets.

Level A1-B1(2lb)

1. Family in modern society.
2. Family budget.
3. Type of housing.
4. Modern design.
5. Organization of rest
6. Travel, travel Agency
7. Spiritual revival.
8. The state and the political system.
9. The state and the political system.
10. Holidays.
11. Education system in Kazakhstan.
12. The education system in SIYA.
13. Future profession.
14. Advantages and disadvantages of different professions.
15. Demand for the chosen profession.

Level A2-B1(1 semester)

1. Me and my family.
2. Modern young family.
3. Relations between representatives of different generations.
4. My home is my fortress
5. Man and his health
6. Sport in human life.
7. Leisure and Hobbies
8. Native country and THIS
9. Native country and country / countries of the studied language, geographical location, climate, weather, capital
10. Sights of the cities of Kazakhstan and the country of the studied language.

11. Customs and Traditions.
12 Traditions and customs of the country of the studied language
13 Cultural and national holidays
14. My education. Education.
15. Future profession.

Level A2-B1(1 semester)

1. Family in modern society
2. The budget of a young family and the main items of expenditure
3. Housing construction; types of housing
4. Modern design; architecture; home improvement; interior decoration;
5. Active, passive recreation; tourism
6. Recreation and recreation
7. Cultural and historical background of national symbols of the countries
8. Political structure, economic sectors
9. National, state, professional and other holidays
10. Historical significance of these holidays
11. The education system in the Republic of Kazakhstan and THIS
12. The choice of University, field of study, standards of admission, trajectory of education, individual educational program
13. Future profession, professional competence
14. Advantages and disadvantages of different professions
15. The demand for selected professions in the labor market

Level B1-B2 (1 Semester)

1. Family in modern society.
2. Budget of a young family.
3. Types of housing (urban, rural house, apartment).
4. Modern design.
5. Planning holidays.
6. Tourism; recreation and recreation; entertainment.
7. Spiritual revival (Ruhengeri)
8. Cultural and historical background of national symbols of Kazakhstan and SIYA.
9. State structure, legal institutions of the Republic of Kazakhstan and SIYA.
10. Branches of economy of RK and SIYA.
11. Holidays Of The Republic Of Kazakhstan.
12. Holidays of the country of the studied language.
13. Nauryz is a holiday of spring birth!
14. Kazakhstan: Festive rituals, cultural projects. Traditions and customs.
15. SIA: Holiday rituals, cultural projects. Traditions and customs.

Level B1B2 (2 Semester)

1. Man and nature.
2. Environmental problem.
3. Scientific and technical progress.
4. Scientific and technical progress.
5. The world's media.
6. Advertising.
7. Art, music, literature of Kazakhstan and the country of the studied language.
8. Outstanding cultural figures of the country of the studied language.
9. Education system in Kazakhstan.
10. The education system in the country of the studied language.
11. choice of University.
12. Professional competence.
13. Advantages and disadvantages of the chosen profession.
14. The demand for the chosen profession in the labor market.
15. Wages.

1. Basic information about the discipline:	
Name of the discipline	Information and communication technology
2. Amount of credits	5
3. Prerequisites:	Mathematics, physics
4. Post-requisites:	Geoinformation systems and remote sensing of forests, forest Management, Biometrics in forestry
5. Competences:	As a result of studying this discipline, students will be able to: - design and build simple websites; - to process vector and raster images; - create multimedia presentations; - use different social platforms to communicate; - use various forms of e-learning to enhance professional knowledge; - use a variety of cloud services.
6. The author of the course	Department of information and communication technologies
7. Main literature	1. Shynybekov D.A., Uskenbayeva R.K., Serbin V.V., Duzbayev N.T., Moldagulova A.N., Duisebekova K.S., Satybaldiyeva R.Z., Hasanova G.I., Urmashev B.A. Information and communication technologies. Textbook: in 2 parts. Part 1, 1st ed. - Almaty: IITU, 2017. - 588 p., ISBN 978-601-7911-03-4 (A textbook in English with the stamp of the Ministry of Education and Science of the Republic of Kazakhstan) 2. Shynybekov D.A., Uskenbayeva R.K., Serbin V.V., Duzbayev N.T., Moldagulova A.N., Duisebekova K.S., Satybaldiyeva R.Z., Hasanova G.I., Urmashev B.A. Information and communication technologies. Textbook: in 2 parts. Part 1, 1st ed. - Almaty: IITU, 2017. - 588 p., ISBN 978-601-7911-04-1 (A textbook in English with the stamp of the Ministry of Education and Science of the Republic of Kazakhstan) 3. Urmashev B.A. Information and communication technology: Textbook / B.A. Urmashev. – Almaty, 2016. - 410 p., ISBN 978-601-7940-02-7 (A textbook in English with the stamp of the Ministry of Education and Science of the Republic of Kazakhstan) 4. Nurpeisova T. B., Kaidash I. N. ICT. Textbook / Almaty, publishing house Bastau, 2017, 183 p. 5. Nurpeisova T.B., Kaidash I.N. ICT, Almaty, Bastau, 2017. 241 p.
8. The content of the discipline. The role of ICT in key sectors of society. Standards in ICT. Introduction to computer systems. Architecture of computer systems. Software. Operating system. Human-computer interaction. Database system. Data analysis. Data management. Networks and telecommunications. Cybersecurity. Internet technology. Cloud and mobile technologies. Multimedia technology. Smart technology. E-technology. E-business. E-learning. E-government. Information technologies in the professional sphere. Industrial ICT. Prospects for ICT development.	

1. Основная информация о дисциплине:	
Name Disciplines	«Physical culture»
Amount of credits	8
Prerequisites	biology, anatomy, human physiology, hygiene, medical control, valeology, pedagogy, psychology

Post-requisites	The program of the course" Physical culture " develops skills and abilities in the field of physical culture of students, forms the needs for maintaining a healthy lifestyle, maintaining and strengthening health, improves the level of physical fitness for the realization of their abilities in the process of daily activities
Competences	Ensuring a sufficient level of physical readiness of future specialists, a high level of performance; the development of professionally significant physical and psychomotor abilities; own methods and means of physical culture to increase the adaptive reserves of the body and promote health; possess knowledge and skills of a healthy lifestyle, methods of preservation and promotion of health and their application to preserve health.
The author of the course	Kurkov A., Satbayev E.
Main literature	1. V. Ilyinich. Physical culture of the student. Moscow, 2001. 2.G. Ivanov, A. K. Kulnazarov. Physical education of students. Almaty, 2002 3. Theory and methods of physical education. Under the General editorship of Matveyev O.P. and Novikov D. M., 2005.
8. The content of the discipline. Formation of positive attitude, interest and need in physical culture and sports. Increase of physical health of students on the basis of increase of Arsenal of motor abilities, professionally-applied and methodical readiness. Preparation and participation in mass sports and recreational activities and competitions in sports, providing for the broad involvement of students in active physical education. Complex use of means of physical culture and sports by type of General physical preparation. Increasing the level of physical and functional condition. Preventive use of means of physical culture for the improving purposes. Acquisition by students of additional, necessary knowledge on bases of psychological, pedagogical, medical and biological control on a technique and the organization of independent occupations by physical exercises and "lifelong" sports.	

1. Основная информация о дисциплине:	
Name of the discipline	Professionally-oriented foreign language
2. Amount of credits	4
3. Prerequisites:	Basic school knowledge, Dendrology, Professional Kazakh (Russian) language, Biometrics in forestry, Ecology and basics of life safety
4. Post-requisites:	Forest nursery business, Forest crops, Forest inventory, forest Management
5. Competences:	Ability to abstract thinking, analysis, synthesis. Readiness for self-development, self-realization, use of creative potential. Readiness to communicate orally and in writing in English to solve problems in the field of forestry. Possession of ability to analyze and planning in the field of forestry Know: - read educational and other literature in a foreign language on forestry for receiving and transmitting information; - give abstracts and reviews of scientific theses and articles in a foreign language; - conduct a conversation, make reports and reports on forestry in a foreign language; Have the skills: -monologue speech on the topic of specialty;

	- dialogical speech, allowing to participate in the discussion of issues related to his specialty; - conduct conversations on social and socio-political topics; - rate of reading special texts depending on the purpose.
6. The author of the course	Kitaybekova Sara
7. Main literature	1.Wood Industry and Forestry / Comp. I. V. Oganesyants. - Leningrad, 1971. – 16s. 2.Tokareva T.V. English for Foresters. English for professionals in forestry: a training manual. 2nd ed., the Rev., 3. Yoshkar-Ola: Mari state technical University, 2009, 220 p. 4.Large English-Russian dictionary in 2 vols. / ed. I. R. Galperin. - M., 1979. 5.Electronic manual "Cambridge English Grammar» URL:http://www.gerasoft.com/english.html
8. The content of the discipline: Forest science; Botanical classification of wood; Basic terms and terminology in dendrology in a foreign language; Terms used in the training of foresters and landscapers. Types of forests-Types of forests; how the tree grows-How a tree grows; Horse system and function-Root structure and function; trunk Structure and function-Stem structure and function; leaf Structure-Leaf structure; forest Health-Forest health; Forests in Kazakhstan-Forests in Kazakhstan; advantages of forests-Forestry advances; Planting a tree to restore the environment - Tree planting for environment restoration;	

1. Basic information about the discipline:	
Name of the discipline	Professional Kazakh (Russian) language
2. Amount of credits	3
3. Prerequisites:	Russian language, Kazakh (Russian) language, dendrology, Forest botany and physiology of woody plants
4. Post-requisites:	Forest culturess, Forestry with bases of recreational use, forest nursery business, Biometrics in forestry, forest taxation, forest management.
5. Competences:	To understand, analyze, summarize and reproduce the information contained in scientific texts on the specialty in Russian in a given volume: to argue their point of view. Names, concepts and content of terms used in forestry and landscaping; To be able to work in a team and independently, to perceive diversity and intercultural differences. To read and write correctly the language units and names in professional Russian (Kazakh) language; to determine the components and meaning of forestry terms, concepts and terms about the elements. Use the Russian language in educational and professional activities. To improve skills in all types of speech activity (writing, speaking, listening, reading) in Russian to solve problems of professional communication. To study and put into practice new methods of research and processing in the field of forest resources
6. The author of the course	Tumenbaeva Assel

7. Main literature	1 Vvedenskaya L.A. Culture and art of speech / Vvedenskaya L.A. - Rostov on D., 2006. - 165 p. 2 Golub I.B. Russian language and culture of speech / Golub I.B. - Moscow: Logos, 2005. - 183 p. 3 Ganapolskaya E.V. Russian language and culture of speech. Seventeen practical training/ Host E.V. M.: Logos, 2005. - 136 p. 4 Ganapolskaya E.V. Russian language and culture of speech. Seventeen practical training/ E.V. Host. M.: Logos, 2005. - 136 p. 5 Solganik G.Ya. Culture of oral and written speech of a business person: Handbook-workshop / Solganik G.Ya.. - Moscow: Logos, 2015. - 186 p. 6 Burtseva V.V. Dictionary of foreign words/Burtseva V.V.- M.:, 2004. - 206 p. 7 Antonova E.S. Russian language and culture of speech/ Antonova E.S., Voiteleva T.M. - M.: Academy, 2012 -105 p. 8 Muravyeva N.V. University information resources and communicative culture of young specialists/Muravyeva N.V., Strunina V.V. // Social and humanitarian knowledge.- 2007.- No. 5. - Pp. 23-25.
8 The content of the discipline. Language as a system. Stylistics. Development of skills of formulation of the theme of scientific research. Basic terms and stable phrases in professional Russian. Selection of material on the topic and problem of scientific research. The rules of the bibliography. Culture of professional speech. Style-forming features of scientific style. Forms of existence of scientific speech. Lexical features of scientific style of speech. Text: structural and semantic features. Annotation. Editing of scientific texts. Text: structural and semantic features. Features of business style. Personal documentation. Administrative and clerical litter. Requirements for registration of details of documents. Terms used in forest pyrology, forest crops, forest nurseries, commodity science, forestry, forestry, dendrology and forest biometrics.	

1. Basic information about the discipline:	
Name of the discipline	Forest botany and physiology of woody plants
2. Amount of credits	4
3. Prerequisites:	Basic school knowledge
4. Post-requisites:	Dendrology, Forest crops, Selection of forest tree species, Protective afforestation and forest reclamation, wood processing Technology
5. Competences:	Anatomical and morphological structure of tissues, organs of tree and shrub species of plants, their functions and formation in the process of ontogenesis and phylogenesis; the relationship of plant organisms and the environment; knowledge and understanding of the essence of the processes of plant life, metabolism in the process of ontogenesis, patterns of water metabolism, photosynthesis, mineral nutrition, respiration, growth, development, especially the formation of productive organs of woody plants, fruit crops and shrubs, adaptation and resistance of plants to adverse factors. Know: - work with a microscope and prepare anatomical preparations; - to carry out morphological analysis of plants as a whole

	and individual organs, to recognize the metamorphosis of plants; - to recognize signs of the main families and representatives of the vegetation cover of different types of biocenoses; - acquisition of practical skills to determine the productivity of tree shrub crops; -the study of the theoretical foundations for production of maximum yields of woody plants and fruit crops. - study the influence of mineral nutrition and growth regulators on the growth and development of plants; - conduct biochemical analysis of different cultures. Own: - Demonstrate basic understanding of the diversity of biological objects - to apply modern experimental methods of work with biological objects in field and laboratory conditions, skills of work with a microscope; - to justify the importance of physiological and biochemical phenomena as a theoretical basis for a system of techniques aimed at increasing plant productivity, improving the quality of wood products; - independent search, analysis and evaluation of the research, the ability to be creative in professional activities, the ability to continue training in the field of physiology of woody plants in the educational programs of the magistracy.
6. The author of the course	Muranetz A., Zhaksylykova A.
7. Main literature	1. Andreev N. G., Andreev L. N. Basics of agronomy and botany: Basics of agronomy and botany: studies. - help. for S. H. universities. - Moscow: Kolos, 2004.- 487c. 2. Andreeva I. I., Rodman L. S. Botany.- Kolos, 2005.- 528c. 3. Hrzhanovsky V. G. Course of General botany M: Higher.school, 1982, vol. 1-2 4. Tutak V. H.. Anatomy and morphology of plants.M.: High school, 1980 5. Zhukovsky P. M. Botany.M.: Higher. School, 1982, vol. 1-2 6. Khrzhanovsky V. G., Ponomarenko S. V. Workshop on the course of General botany.M.: High school, 1979 7. Khrzhanovsky V. G., Viktorov V. S. et al. Botanical geography with the basics of botany.L.: Kolos, 1979 8. Muranets A. P., Netesova M. A. Workshop on botany Astana, 2006 9. Lotova L. I. Morphology and anatomy of higher plants. M.: Komkniga, 2007. 510c.
8 The content of the discipline: Forest botany as a component of biological diversity Sciences in higher classical education is a basic biological discipline among General professional disciplines of all biological specialties in the system of training of forestry specialists. This discipline allows us to fully consider the external and internal structure of the lower and higher plant organisms, their development. The study of this discipline will give students not only theoretical basic understanding of the structure of cells, tissues, morphology and anatomy of vegetative and generative organs of plants, plant taxonomy, but they will also receive practical	

skills necessary for the development of compulsory disciplines.

The physiology of woody plants studies the processes of vital activity, functions of the plant organism, chemical composition, transformation of substances and energy in plants throughout their ontogenesis under all possible environmental conditions. Intensive use of mineral fertilizers, physiologically active substances, requires a deep and comprehensive study of their impact on the growth and metabolism of plant organisms in order to significantly increase the productivity of tree and shrub crops.

1. Basic information about the discipline:	
Name of the discipline	Dendrology
2. Amount of credits	5
3. Prerequisites:	Forest botany and physiology of woody plants, Ecology and basics of life safety
4. Post-requisites:	Forestry and forest resources, Forestry with the basics of recreational use, Forest crops, forest nursery business, Forest inventory, Landscaping settlements
5. Competences:	To know botany, the study of woody plants: trees and shrubs; species and their distribution areas; morphology of plants; The ability to select an assortment of wood species for different forms of their use in accordance with their environmental characteristics. Be able to select new tree and shrub species for landscaping, introduction, to justify their position; be able to scientifically approach the placement of forest plantations, creating parks, landscaping streets; - have a sense of tolerance, respect the opinion of other experts. - practical skills in the introduction of trees and shrubs used in landscaping
6. The author of the course	Maisupova I., Kopbayeva A.
7. Main literature	1. Mukanov B.M., Baisupova B.D., Shabalina M.V.. Dendrology. Almaty, Nuray Print service, 2011. 2. Abaimov V.F. Dendrology, 3rd edition. "Academy", M., 2009. 3. Bogdanov P. L. Dendrology-Moscow: Forest industry, 1974-p. 240
8. The content of the discipline. The concept of environmental factors and ecological properties of plants: climatic, soil, biotic, anthropogenic factors, their impact on woody plants. Fundamentals of the doctrine of vegetation. Botanical species, its range. Introduction of woody plants and its significance. General characteristics of the Department of gymnosperms and angiosperms. Features of species zoning of Kazakhstan. Decorative properties of the crown, trunks, flowers, leaves. Development and duration of woody plants. The main phases of development of woody plants	

Name of the discipline	Forestry with the basics of recreational use
2. Amount of credits	6
3. Prerequisites:	Forest botany and physiology of woody plants, Dendrology, Ecology and environment, Biometrics in forestry, forestry

	and forest resources
4. Post-requisites:	Forest nursery business, Forest crops, Forest inventory, geographic Information systems and remote sensing of forests, Forest protection, Forest management
5. Competences:	Know and understand: the Morphological structure of the forest. Theoretical foundations of forest biology and ecology, forest types. Features of seed and vegetative renewal of the wood, change of breeds. Ways of the main cabins and cabins of intermediate polzotion. Methods to promote the natural regeneration of forests. Knowledge of the main recreational resources, recreational zoning, basic principles of optimization of recreational forest management. To be able: to Organize and carry out cutting works on cabins of leaving and cabins of the main use. Competently to organize economic activity of the forest enterprise in the conditions of market economy by the principle of continuity and a post of use of forest resources. Provide protection of the woods from fires and in case of their emergence correctly to organize their suppression. Acquisition of practical skills to identify and describe recreational potential, development of a system of measures to improve the sustainability and productivity of recreational forests. Possess: Be able to use in practice the knowledge gained in the discipline "Forestry". To make plans for the organization of recreational areas. To choose the most appropriate method of forest improvement, to assess the need for economic activities. In the field of training-to apply modern experimental methods of work in the use of forests and recreational use of forests Skill with scientific literature and its analysis, the study of innovative methods and their implementation in practice
6. The author of the course	Kurmangaliyev Z. S., Mazarzhanova K.M.
7. Main literature	1.Melekhov I. S. Forestry. - Moscow: MGUL, 2003. 2.Belov S. V. Forestry. M., 1983. 3.Lugansky N. A., Zalesov S. V. et al. Forestry, Ekaterinburg, 2001. 4. Rules of logging in the forests of Kazakhstan. Shuchinsk. 2005. 5.Utrobin V. G.,I. K. Ieven thinning and intermediate use. M., 1985. 6.Baizakov S. B., Gursky A. A., Amanbaev A. K., Toktasynov Zh. n. Forests and forestry of Kazakhstan, Almaty, 1996. 7.Gudochkin M. V., Shepherd P. S. Forests of Kazakhstan, Alma-ATA, 1958. 8.Morozov G. F. the Doctrine of the forest. Ed.5. M. L. 1949 9.Kuramshin V. Y. Management in recreational forests. M., "Agropromizdat", 1988. 10. Moiseev V. S., Yankovsky L. N. et al. Construction and reconstruction of forested areas. L., 1990. 11.Zhuravkov A. F. Fundamentals of farming in the forests of green zones. V., 1973g.

	12. Tulipov N. M. Forestry. L., 1975
8. Content of discipline: the Concept of the forest. The main elements of the forest. The thinning of the forest. Technique of felling care. Organization of work on the cabins care. Special types of logging forest care. Cabins of the main use. Selective cutting. Continuous logging. Concentrated cabins. Conditionally-continuous cabins. Gradual felling. Dependence of the choice of the method of felling on the silvicultural properties of the breed. Clearing of places of cabins.Methods to promote the natural regeneration of forests.. Forest protection. Forest fire. Methods of extinguishing forest fires. Forest and forest Park management in suburban recreational forests, in terms of their mass visits by tourists and vacationers.	

1. Basic information about the discipline:	
Name of the discipline	Forest nursery business
2. Amount of credits	6
3. Prerequisites:	Dendrology, Forest botany and physiology of woody plants, forestry and forest resources
4. Post-requisites:	Forest crops, Plantation forest cultivation, Selection of forest tree species, Protective afforestation and forest reclamation
5. Competences:	As a result of the study the student should know: - theoretical bases of forest seed business and biological features of the main tree and shrub species, bases of design of forest nurseries; principles of seed zoning and agro-technical care, growing pastoznyh materials; Be able to: predict the yield of tree and shrub species; - create a forest nursery project; - to determine the sowing qualities of forest seeds (moisture, purity, germination, viability, goodness, germination energy, weight of 1000 seeds); - draw up documentation on the quality of forest seeds (passport, act of selection of the average sample, certificate of seed conditioning), use GOST. - agrotechnics of cultivation of forest planting material Own: - ability to make projects of forest nursery and to distinguish and recognize memyan; to make settlement and technological cards on cultivation of landing material and to use standard reference material. Acquire practical skills to use the normative reference material. draw up documentation on the quality of forest seeds, use GOST
6. The author of the course	Mazarzhanova K.M., Maisupova I.
7. Main literature	1. Redko G. I. Forest culturess B2H. Part 2-nd ed.6 ISPR. And additional Textbook for academic undergraduate. Arkhangelsk, 2018 2. Kentbaeva B. A. Seed business. - Almaty, 2015zh. 3. Malakhovets P. M.. Forest cultures.Textbook.The CPI Arkhangelsk NARFU, 2012 4. Kruk N. K., Gvozdev N. K. course of lectures on discipline "Forest culturess and protective afforestation". Minsk 2012

	5. Kentbaev E. J. Kentbaeva B. A. Trees and shrubs of Kazakhstan for forest cultivation. - Almaty, 2011zh. 6. Baizakov S. B., et al. Forest culturess of Kazakhstan. - - Almaty, N. 1, 2007j. 6. Baisupova I. K..Orman Tim s PN boiynsha 5B080700-resurslari Orman and Orman sarasalai mamangun sertanly-tarryall glycinin aralen Demek nseula. Astana 2014 7. Ushakov M. I.., A. V. Kapralov, V. N. Deyneko, A. V. Grigorieva, V. V. Fomin, A. S. Popov. Seed business. Training manual for laboratory work. Part 1. Ural state forestry engineering University. Yekaterinburg., 2018
8.The Content of the discipline. Seeds as the main source material, the needs for forest seeds and the volumes of harvesting in Kazakhstan. Structure of fruit and seed. Fruiting of trees and shrubs. Accounting and forecast of forest seed yields. Yields of seeds in plantations. The organization of forest seed base. Selection and genetic prerequisites of forest seed production. Selection of a category of seeds. Selection evaluation of trees and plantings. Seed plots (permanent and temporary), seed plantations, methods of laying, cultivation and operation. A survey of the plantations prior to mass harvesting of seeds and evaluation of their quality. General information about tree nurseries. Development of forest nursery economy in Kazakhstan. Types of planting material and their intended use; types of nurseries: forest, decorative, fruit and berry. The organization of the nursery. Organizational and economic plan of the nursery: project assignment, planning and cartographic material, explanatory note, technical calculations of the cost of grown products. General, useful, producing and auxiliary areas; calculation of the area of sowing, school Department of rooting cuttings, utero-cuttings plantation, auxiliary and total nursery area by conventional methods and using a computer. Crop rotations in forest nurseries. Treatment of soil in forest nurseries of the Primary development site for the nursery. Application of fertilizers and herbicides in forest nurseries. The seed Department. Care of crops and seedlings. The school office. Types of wood schools and their purpose, school decorative species. Crop rotations in schools. Tillage.	

1. Basic information about the discipline:	
Name of the discipline	Forest cultures
2. Amount of credits	5
3. Prerequisites:	Forest nursery business, dendrology, forest soil science, Forestry with the basics of recreational use
4. Post-requisites:	Selection of forest tree species, Mechanization of forestry operations, Forest inventory, Geographic information systems and remote sensing of forests, Protective afforestation and forest reclamation
5. Competences:	Know: - history of forestry in the Republic of Kazakhstan; - the state of silvicultural Affairs in the Republic of Kazakhstan and the role of the studied subject in the decision of production works on reforestation; -- the main normative documents on reforestation and afforestation in the Republic. - to use in practice the methods of selection of the main fertilizers used in the cultivation of forest crops; - ability to compare the main categories of silvicultural areas and silvicultural zoning; - categories of areas for forest crops and types of forest crops.

	Know: - to select and use normative and technical literature in professional activity;
6. The author of the course	Kabanova S. A., Ospangaliev A.S.
7. Main literature	1. Baizakov S.B., Medvedev A.N., Iskakov S.I., Mukanov B.M. Forest cultures in Kazakhstan: - Studies.for Universities-Almaty: KazNAU, 2007. -288 pp. 2. Rodin A.R., Kalashnikov E.A., Rodin S.A., Silaev G.V., Rysin S.L., Vildanov M.F. Forest cultures. Textbook. Moscow: VNIILM, 2002. - 440 p. 3. Protasov A.N. Types of forest crops of Kazakhstan. - Alma-Ata, Kaynar, 1965. 4. Red'ko, G.I., Rodin A.R., Trushevskiy I.V. Forest culture. - M., 1985. 5. Novoseltseva A.I., Rodin A.R. Handbook of forest cultures. - Moscow: Lesnaya prom-St, 1984. - 312 p. 6. The employee Handbook of forestry. Edited by A. I. Prokhorov. - Alma-Ata: Kainar, 1989. – 271 sec. 7. Standard norms of production, norms of time for silvicultural, forest protection and fire-prevention works performed in flat conditions. Astana, 2004
8. The content of the discipline of Forest culture – exploring the plantation established by sowing or planting of tree and shrub species. Growing forest crops is one of the main tasks of forestry. When reforestation forest plantations lay on the silvicultural plots of the Fund at the forest reception. and uncomfortable on non-forest lands. Technical acceptance and inventory, quality assessment of forest crops.	

1. Basic information about the discipline:	
Name of the discipline	Biometrics in forestry
2. Amount of credits	5
3. Prerequisites:	Dendrology, Forest botany and physiology of woody plants, Forestry and forest resources
4. Post-requisites:	Forest nursery business, Forest taxation, Forest management, Forest economy
5. Competences:	Know: -based on the class of biometric analyses of forest objects, familiarization with the main directions of random velechin research; - supervision of forest practices and forestry, planning and conducting experiments, mastering the basic approaches of the organization; - the main methodological directions of the study of random variables; - learn to conduct experiments, receive and process digital information. Know: - application of statistical approaches to solving specific problems of special disciplines; - perform analysis of simple statistical models accurately and accurately; - use the results in production and research; The current curriculum includes statistical analysis of digital data on a computer

	Own: - Analysis of the collected statistical data - full self-realization and decision-making; - development of methods and creation of variations using statistical data; - acquire practical skills to use the normative reference material. draw up documentation on the quality of forest seeds, use GOST
6. The author of the course	Mazarzhanova K.M., Kurmangaliev J. S.
7. Main literature	1. Yakovlev V. B., Yakovleva O., A. "Biometric processing of experimental data" tutorial., M., 2014 2. BEML B. K. Biometrics in forestry ouly. "Nur Print" baspasy. Almaty-2014 3. Kentbayev E. Zh., Kentbayeva B. A. Computer programs "Biometrics in forestry", "Correlation", "Dispersion", on magnetic media.- Almaty, 2007 4. Shilina M. V., Musatova O. V., Biometrics in forestry Educational and methodical complex. UO " VSU them. Masherova " 2011 5. Aubakirov H. A.. Biometrics in forestry "Dauir baspasy" Almaty. Two thousand eleven 6. Lakin G. F. Biometrics in forestry.- M., "High school", 1990
8. The content of the discipline: Biometrics in forestry-studies the planning of quantities, experiments in forestry and forestry and processing of their results by methods of mathematical statistics., also includes the study of the spatial structure of stands, the analysis of the so-called functions of growth of trees and stands, as well as the use of mathematical modeling methods in forestry and computer-based forestry.	

1. Basic information about the discipline:	
Name of the discipline	Forest management with the basics of forest inventory
2. Amount of credits	5
3. Prerequisites:	Biometrics in forestry, Forestry with the basics of recreational use, Forest cultures
4. Post-requisites:	Geographic information systems and remote sensing forest, Landscaping of populated areas and site improvement
5. Competences:	Know: - the technique of accounting and measurement of forest products obtained directly in the forest and processed in forest warehouses, technologies of forest inventory; - about the maintenance of forest management works. Use the knowledge on the use of forest mensuration tools and instruments, to know their device and storage. Ability to develop planning and cartographic materials of forests, lay forest management trial area. Know: - to own methods of sorting of the growing wood differentiating wood stocks on the main types of forest production: - to apply forest management estimates in the process of appointment of forestry works; - possess the technique of forest inventory, accounting of wood growth and establishment of the dynamics of plantings growth.

	To acquire practical skills: to use forest management materials.
6. The author of the course	Dudina N.N., Ospangaliev A.S.
7. Main literature	1. Forest taxation and forest management. Zagreev V.V.. M. "Ecology". 1991 2. Forest inventory. N. P. Anuchin. M., "Forest industry". 1982 3. Forest inventory and forest management. Vagi A.V. et al. M. "Forest industry". 1978 4. Forest inventory. Nagimov Z. et al. Ekaterinburg. 2006 5. Basics of forest inventory. Zagreev V.V., Vagin A.V. M. "Higher school". 1975 6. Forest taxation and forest management. Zakharov V.K.. Yekaterinburg. 2000 7. Workshop on forest inventory and forest management. Polyakov A.N.. M. "Agropromizdat" 1987 8. A manual of forest inventory. A. 1985 9. Anuchin N. P. Forest Management. Moscow, 1992. 10. Forests of Kazakhstan. State and prospects of development. Kokshetau. 2003
8. The content of the discipline: General information about forest taxation. Taxation of individual trees. Methods for determining the volume of trunks. Taxation of growing trees. Taxation of growth of tree trunks. Taxation of plantings. Taxation indicators and their definitions. Determination of the stock of stands of forest elements and their aggregates. Features of taxation of desert forests. Determination of yield of assortments in forest stands. Taxation of the current increase in the stock of stands. Tables of the course of growth of stands. Taxation of the logging Fund. Inventory of the forest Fund. Taxation of harvested timber. Legislative acts and resolutions of the government of the Republic of Kazakhstan in the field of forestry and environmental protection are studied. The forms of forestry are studied by origin, marketability, method of felling; allocation of economic parts; establishment of methods of felling and reforestation.	

1. Basic information about the discipline:	
Name of the discipline	Basics of landscape art
2. Amount of credits	5
3. Prerequisites:	Biology and geography (within the school curriculum), Dendrology, Forest botany and woody plant physiology
4. Post-requisites:	The greening of human settlements
5. Competences:	Know: - the main objects of cultural and historical heritage of the national landscape architecture, the history of their creation and the current state; - the main styles used in the arrangement of gardens and parks, estates and Palace residences; Know: - to understand the features of landscape objects of different historical epochs, the typology of landscape design objects, the principles of selection of wood species in this zone; - to understand the problems of the environment and modern urban ecology, especially the formation of landscape objects in Kazakhstan;

	Own: - methods of improving the microclimate of arid zone cities; - comparative analysis of cultural and historical monuments of landscape architecture.
6. The author of the course	Dudina N. N., Ospangaliev A.S.
7. Main literature	1. Dormidontova V.V. History of landscape styles. M. Architecture, 2003, - 321s. 2. Haritonenko T.S. Handbook of modern landscape designer. Rostov n/D.: Phoenix, 2005.204C. Kryzanowska N.I. Basics of landscape design. Rostov n / A: Phoenix, 2005.-204 PP. 3. Sokolskaya O.B. History of landscape art. M. INFRA-M. 2004, - 372s. 4. Teodorowski C.B., Stepanov B. V. landscape architecture and landscape construction. Moscow state University, 2004. 269c. 5. Lezhneva T.N. Bases of decorative gardening. M., Academy, 2011.-258 p. 6. John. Brooks. Garden design. M. 2003. 105c. 7. Negrienko N. The basics of landscape design and landscape architecture, P. C. b, Neva. 2004. 351c.
8. The content of the discipline. Subject, objectives and the emergence of the history of landscape art. Egyptian gardens. The Gardens Of Mesopotamia. Formation of objects of landscape design in regular style. Landscape art of Persia and India. Landscape art of Ancient Greece and Rome. Formation of objects of landscape design in landscape style. Parks Of Ancient China. Japanese parks. Elements of the Park composition. The main compositional groups of trees and shrubs. Water devices. MAF and visual communication. French landscape art of the 17th century. Baroque style. Landscape art of England 2nd half of the 18th century. Landscape romantic parks. Modern garden and Park construction and its development trends.	

1. Basic information about the discipline:	
Name of the discipline	Decorotive dendrology
2. Amount of credits	5
3. Prerequisites:	Dendrology, Forest botany and physiology of woody plants, Ecology and basics of life safety
4. Post-requisites:	Selection of woody and floral plants, Landscaping of populated areas and site improvement, Landscape design, Floriculture and decorative gardening.
5. Competences:	As a result of mastering the discipline the student must: Know: - historical background of the development of decorative dendrology, morpho-biological and ecological features of the studied species of dendroflora and their specific diversity, features of natural and introduced tree and shrub flora of Kazakhstan, geographical distribution and economic use of species, methods and techniques of protection and monitoring of natural and introduced tree and shrub flora of Kazakhstan. Be able to: select and evaluate the plant material of tree and shrub flora for landscaping of various architectural and landscape objects, make compositions of trees and shrubs, taking into account their decorative properties and biological. Own: methods of selection and evaluation, as well as the use

	of plant material of natural and introduced tree and shrub flora in the landscaping of various architectural and landscape objects, reproduction, agriculture and planting of woody plants, statistical processing of experimental data.
6. The author of the course	Dudina N. N.
7. Main literature	1. "Decorative dendrology", Kolesnikov A.I., 1974. 2. "Decorative dendrology", Galaktionov I.I., Osin V.A., M. "Higher school", 1967 3. "Decorative gardening", Agafonova M.G., 2003 4. "Trees and shrubs of Kazakhstan", Mushegyan A.M.. 5. "Dendrology and fundamentals of green building", Kholyavko V.S., Globa-Mikhailenko D.A., Higher school, 1980 6. "Decorative plant growing", Sokolova T.A., 2004
8. The content of the discipline. Decorative dendrology is one of the disciplines that a forestry specialist needs to know. Study of tree and shrub flora, identification of its species diversity, morpho-biological features, ecology, geographical distribution and economic use.	

1. Basic information about the discipline:	
Name of the discipline	Landscaping of populated areas and site improvement
2. Amount of credits	5
3. Prerequisites:	Disciplines necessary for the development of this discipline – Forest soil science, Forest botany and physiology of woody plants, Dendrology.
4. Post-requisites:	The study of greening populated areas allows You to study other special disciplines
5. Competences:	Know: - it is rational to include components of the natural landscape (relief, water bodies, vegetation, as well as elements of Ethnography, national creativity, engineering structures, architecture of small forms) in the objects of gardening); - competently develop and execute projects of objects of gardening, including gardening of territories of industrial sites and sanitary protection zones; - to select the range of trees, shrubs, vines and herbaceous plants based on the specifics of landscaping and natural conditions of Kazakhstan; Know: - design, implement, timely and efficiently carry out a range of works on the care and maintenance of green spaces at the landscaping facility; - apply the rules and regulations for the design of objects, the composition of plantings; technology of growing planting material; Own: - skills for reproduction and care of floral and ornamental plants in open and protected ground; the techniques of floral crops in the landscaping of open spaces. To acquire practical skills: on design, construction and

	operation of objects of gardening of inhabited places.
6. The author of the course	Olesinskaya E.V.,Ospangaliev A.S.
7. Main literature	1. Teodoronsky, V.S. Park and Garden construction and management. Textbook / V. S. Teodoronsky-Publishing House: Academy, 2012. - 288 p. 2. Kalmykova, A.L. Garden and Park construction and economy: textbook / Kalmykova A.L., Tereshkin A.V. - M: (Profile), Alpha-M, Infra-M, 2012. – 240 p. 3 Teodoronsky V.S., Gorbatova V.I. Greening of settlements with the basics of urban planning. Textbook for universities. M., Academa, 2011. 4 Bagova I.O., Teodoronski V.S. Planting of settlements. Textbook for universities. M., Agropromizdat, 1990. 5 Teodoronsky V.S Garden and Park construction. Textbook for universities, Moscow: MSU Forests, 2009. 6 Gostev V.F., Yuskevich N.N. Designing gardens and parks: Textbook, M: Stroyizdat, 1991. 7 Handbook of green construction worker. A. A. Laptev et al. - Kiev, Budivelnik, 1984.
8. The content of the discipline. The course is devoted to the study of landscape planning organization of settlements and landscaping objects. Rules of design, principles of structure and spatial organization of objects, composition of plantings, phytocenotic and esthetic aspects of gardening are stated. Issues of garden and Park construction and management in the creation of modern landscaping and recreation facilities in cities and towns. Attention is paid to agrotechnics of creation of green plantings, the device of lawns and flower beds, care of them, protection and protection of green plantings. History of landscape art and modern Park construction.	

1. Basic information about the discipline:	
Name of the discipline	Technology and organization of green building
2. Amount of credits	5
3. Prerequisites:	Forestry science, dendrology, Landscaping of populated areas and site improvement
4. Post-requisites:	Economics of green building
5. Competences:	Know the technology and agricultural machinery of planting works, the timing of their implementation, the features of planting at different times of the season. To be able to determine the technology of landscaping in different soil conditions on the basis of modern agricultural machinery and mechanization, to use inventory materials on the objects of landscape architecture, to solve practical problems of maintenance of objects. Draw up a project for the organization of work for landscaping facilities (schedule of work; schedule of import of construction materials; schedule of mechanization of work; list of tools and devices for work; plan of organization of the construction site; master's plan-leaflet; explanatory note)
6. The author of the course	Obezinskaya E.V., Ospangaliyev A.S.

7. Main literature	1. Teodoronsky, V.S. Garden-park construction and economy. Textbook / Theodoronsky V.S.- Publishing House: Academy, 2012. - – 288 c. 2. Kalmykova A.L. Garden-park construction and economy: Manual / Kalmykova A.L., Tereshkin A.V.. - M: (PROFIL), Alpha-M, Infra-M, 2012. - – 240 c. 3 Teodoronsky V.S., Gorbatova V.I., Gorbatov V.I. Textbook for universities. MOSCOW, Academa, 2011. 4 Bogovaya I.O., Teodoronsky V.S. Landscaping of populated areas. Teaching aid for higher education institutions. M., Agropromizdat, 1990. 5 Teodoronsky V.S. Garden and park construction. Textbook for higher education institutions, Moscow: Moscow State University of Forestry, 2009. 6 Guest V.F., Yuskevich N.N. Design of gardens and parks: Textbook, Moscow: Stroyizdat, 1991. 7 Reference book of the green construction worker. Laptev A.A. et al. - Kiev, Budivelnik, 1984. 8. Brief reference book of the architect: Landscape architecture. Rodichkina I.D.-K.: Budivelnik, 1990-336p. 9. Luntz L.B. Urban green building - Moscow: Stroyizdat, 1974. 10. Maykov G.P. Improvement and landscaping of villages. - L., Stroyizdat, 1983-183p.
8. Content of the discipline Organization of greenery construction. Organization of commissioning and acceptance of greenery facilities in operation. Main types of breaking up works, ways of transferring the project to nature. Landing technology. Maintenance of alleys, paths in gardens and parks. Composition of the plan for the organization of work for landscaping facilities.	

1. basic information about the discipline:	
Name of the discipline	Landscape design
2. Amount of credits	5
3. Prerequisites:	Decorative dendrology, Engineering graphics and landscaping, Architectural graphics and basic composition
4. Post-requisites:	Floriculture and decorative gardening, plant compositions and floristics, planting of populated areas and landscaping
5. Competences:	Knowledge of theoretical foundations on landscape design, history and main directions of landscape art. Ability to organize the spatial environment with the predominant use of "natural" components: relief, water and vegetation. Skill in organizing landscaping compositions competently solve functional-planning, sanitary-hygienic and aesthetic problems.
6. The author of the course	Department of Forestry and Forestry
7. Main literature	1. Zalesskaya L.S. "Landscape Architecture", 1979. 2. Rubtsov L.I. "Trees and shrubs in landscape design", 1977 Extra: 3. Luben Stoychev "Park and Landscape Art", 1962.
8. Content of the discipline. Natural and socio-ecological factors as the basis of landscape composition. The concept of landscape design. Aesthetic factors in landscape design. Natural components of landscape composition. Artificial components of landscape composition. Goals,	

objectives, design stages. Design of public plantations. Landscape design of the environment in areas with adverse conditions. Landscape design of industrial areas. Landscape design of recreational areas.

1. basic information about the discipline:	
Name of the discipline	Floriculture and decorative gardening
2. Number of loans	6
3. Pre-requisites:	Forest Botany and Physiology of Tree Plants, Forest Soil Science Lawn Growing
4. Postrequisites:	Vegetable compositions and floristics, Botanical gardens and greenhouse business, Technology and organization of green building
5. Competence:	To know assortment and classification of flower-decorative plants of open (annuals, biennials and perennials) and closed ground (used for cutting, distillation, decorative registration of interiors); To be able to carry out pilot-technological works at mastering new technologies of flower crops growing, testing of new species and varieties of plants To master the skills of reproduction and care of flower ornamental plants in open and protected soil
6. Course author	Department of Forestry and Forestry
7. Basic literature	1. Sokolova T.A. Botchkova I.Yu. "Decorative plant growing and floriculture", M., ed. "Academy 2011. - – 429 c 2. Kiselev G.E. "Floriculture", publishing house "Kolos", M., 1964. 3. Tulintsev V.G. "Floriculture with the basics of breeding and seed production." Stroyizdat, L., 1977. 4. Tavlinova G.K. "Floriculture", Lenizdat, 1970. 5. Goloschapov G.V., Shabalin M.V., Alibekov K.K.. "Floriculture", methodological guidelines for laboratory training. Almaty. 2004.
8. Content of the discipline Biological basis of floriculture. Classification and origin of flowering plants. Ornamental plants of the open ground. Reproduction of ornamental plants. Use of ornamental plants in green building. Ornamental plants of protected soil. Decorative evergreen plants of protected soil.	

1. basic information about the discipline:	
Name of the discipline	Plant compositions and floristics
2. Number of loans	5
3. Pre-requisites:	Landscape design, Floriculture and decorative gardening
4. Postrequisites:	Technology and organization of green building, writing a thesis (projects)
5. Competence:	Knowledge and understanding of the biological and ornamental properties of flowering plants. Choose the right assortment of flower plants and accessories depending on the style, theme of the flower composition. Ability to use the basic laws of natural sciences in professional activities, modeling and experimental research. To have information about innovative materials and tools in flower arrangement and basic rules of etiquette to give flowers. Ability to make flower compositions using various natural materials

6. Course author	Department of Forestry and Forestry
7. Basic literature	Sokolova T.A. Botchkova I.Yu. "Decorative Plant Industry and Floriculture, Moscow, ed. "Academy 2011. - – 427 c. Kiselev G.E. "Floriculture", Kolos Publishing House, Moscow, 1964. Tulintsev V.G. "Floriculture with the basics of breeding and seed production". Stroyizdat, L., 1977. Tavlinova G.K. "Floriculture", Lenizdat, 1970. Goloschapov G.V., Shabalin M.V., Alibekov K.K.. "Floriculture", methodological guidelines for laboratory training. Almaty. 2004.
8. The content of the discipline. History of the formation of the arrangement of colors. Style directions of floristics and phytodesign. The art of flower arrangement. Basics of flower arrangements. Basics of working with fresh flowers and dried flowers. Compositions in the European style. "Forms" in the flower arrangement. Construction of flat and volumetric composition for offices and residential interiors. Types of floristics.	

1. basic information about the discipline:	
Name of the discipline	Botanical gardens and greenhouse business
2. Number of loans	6
3. Pre-requisites:	Forest Botany and Physiology of Woody Plants, Dendrology, Mechanization of Planting, Protection of Woody and Flower Plants
4. Postrequisites:	Plant compositions and floristics, floriculture and decorative gardening
5. Competence:	To know about botanical gardens, functional zoning and architectural and planning structure of the botanical garden: exposition area, protected area, recreation area. Ability to do botanical and winter gardens care. Know about greenhouses, types of greenhouses: divorce, cultivation. Be able to do maintenance work on greenhouses and greenhouses.
6. Course author	Department of Forestry and Forestry
7. Basic literature	1. Sokolova T.A., Bochkova I.Yu. Ornamental plant growing and floriculture (5th edition). M. Ezd. Academia Center, 2011 429 p. 2. Sokolskaya O.B., Teodoronsky V.S., Vergunov A.P. Landscape architecture specialized objects (2nd edition) M. Izd. Center "Academy", 2008 223 p. 3.Kiselev G.E. "Tsvetovodstvo" (Floriculture), Kolos Publishing House, Moscow, 1964. 4.Tulintsev V.G. "Floriculture with the basics of breeding and seed production". Stroyizdat, L., 1977. 5.Tavlinova G.K. "Floriculture", Lenizdat, 1970. 6.G.V. Goloschapov, M.V. Shabalin, K.K. Alibekov. "Floriculture", methodological guidelines for laboratory training. Almaty. 2004.
8. The content of the discipline. The notion of botanical gardens. Functional zoning and architectural-planning structure of the botanical garden: exposition zone, protected zone, recreation zone. Balance of the territory of the botanical garden. Botanical gardens care activities. Winter gardens. The idea of greenhouses. Greenhouses: divorce, cultivation. Greenhouses, vaults and utility rooms. Caring for greenhouses and greenhouses.	

1. basic information about the discipline:	
Name of the discipline	Lawn cultivation
2. Number of loans	4
3. Pre-requisites:	Forest Botany and Physiology of Tree Plants, Forest Soil Science, Mechanization of Landscaping
4. Postrequisites:	Protection of woody and flower plants, landscaping of populated areas and landscaping
5. Competence:	Know the meaning of lawns and their classification, the main species of herbaceous plants used for lawns. Be able to make grass mixtures depending on climatic, microclimatic and ecological conditions of the lawn sowing area. To have the skills to create and maintain different types of lawns.
6. Course author	Department of Forestry and Forestry
7. Basic literature	1. Sokolova T.A., Bochkova I.Yu. Ornamental plant growing and floriculture (5th edition). M. Ezd. Academia Center, 2011 429 pp. 2. Sokolskaya O.B., Teodoronsky V.S., Vergunov A.P. Landscape architecture specialized objects (2nd edition) M. Izd. Center "Academy", 2008. 223 p. 3. Kiselev G.E. "Tsvetovodstvo" (Floriculture). Kolos Publishing House, Moscow, 1964. 4.Tulintsev V.G. "Floriculture with the basics of breeding and seed production". Stroyizdat, L., 1977. 5.Tavlinova G.K. "Floriculture", Lenizdat, 1970. 6. Goloschapov G.V., Shabalin M.V., Alibekov K.K.. "Floriculture", methodological guidelines for laboratory training. Almaty. 2004.
8. The content of the discipline. Lawn classification. Lawn sowing in the seed drill. Features of turfing lawns. Lawns are built in a vegetative way. Creation of lawns by hydroseeding. Features of sports lawns. Main lawn care activities (watering, mowing, turf machining, fertilizer application, weed control, maintenance and overhaul, pest and disease protection)	

Annex 4: Description of elective component disciplines

1. basic information about the discipline:	
Name of the discipline	Forestry Soil Science
2. Number of loans	4
3. Pre-requisites:	Physics, chemistry, biology in secondary school, Forest Botany and Wood Plant Physiology, Dendrology
4. Postrequisites:	Forest nursery business, Forestry with the basics of recreational use, Forestry crops, Forest inventory pine forest management, Planting of populated areas and landscaping
5. Competence:	- To know and understand: peculiarities of forest soil as a natural formation and forestation object, factors of soil formation and understanding of soil formation process, connection of soil science with forestry, agriculture, crop production, geology, ecology and other sciences; - Be aware of: correctly assess and determine soil composition, properties and regimes, their change in relation to soil-forming factors and anthropogenic activities;

	- Possess: ability to analyze, formulate conclusions, competently express and argumentatively substantiate his position on the scientific use of forest soils, the basic methods of soil protection from harmful effects, to assess the impact of soil formation factors on the formation and development of soil and its properties; - Acquire practical skills to analyze and evaluate scientific data, special literature that contributes to the growth of professional activity.
6. Course author	Nazarova A.J., Jumabek B.
7. Basic literature	1. Kaurichev I.S. et al. Soil science. - M.: Agropromizdat, 1989. 2. Kovrigo V.P. et al. Soil science with the basics of geology. - M., Kolos, 2000. 3. Durasov A.M., Tazabekov G.G. Soils of Kazakhstan. - A-Ata: Kainar, 1981. 4. Kovda V.A. Fundamentals of Soil Science. - Moscow: Science, 1973. 5. Redkov V.V. Soils of the Tselinograd region. - A-Ata, 1964. 6. Kachinsky N.A. Soil physics. - High school, 1970. 7. Soil science workshop. - M.: Kolos, 1983. 8. Dobrovolsky G.V. Soil geography: Textbook for higher education institutions / G.V. Dobrovolsky, I.S. Urusevskaya - 2nd ed., additional - Moscow: Kolos, 2004.
8. The content of the discipline. History of the study of forests and forest soils. Subject, objectives and methods of soil science. Soil is the basis of forest biogeocenosis. Ecological functions of soils. Composition and properties of soils. Main processes of soil-forming rocks formation. Soil structure as a natural body. Physical properties of soils. Soil organic matter. Forest flooring. Classification of litter and organogenic horizons. Types of soils and their forest features. Soil cover structure and soil fertility. Genesis and classification of soils. Soil geography. Geography, soil cover structure and forestation properties of the forest zone soils. Forestry assessment of soils.	

1. basic information about the discipline:	
Name of the discipline	Meteorology
2. Number of loans	4
3. Pre-requisites:	Physics, geography in secondary school volume
4. Postrequisites:	Forest cultures, Forest inventory with the basics of forest inventory, forest nursery, writing a thesis.
5. Competence:	To have an understanding, knowledge and professional skills of meteorological factors and physical processes in the atmosphere affecting forest crops. Knowledge of types of meteorological observations, meteorological instruments. Be able to conduct meteorological observations with the help of meteorological instruments. To master methods of climatic and meteorological characteristics and assessment of growing season conditions of woody and bushy plants. Be able to take into account weather conditions and weather forecasts to adjust the elements of agricultural machinery as a forestry specialist. Possess the methods of forecasting adverse weather events. To know the methods of effective use of climate and microclimate resources in the performance of mechanized

	works in forestry. Have the skills to organize and conduct fieldwork and management decisions in different weather conditions.
6. Course author	Zhumagulov I.I.
7. Basic literature	1. Kosarev V. P. Forest Meteorology with Basics of Climatology. Textbook. LTTA, SPB, 2002. - — 263 c. Two. Chromov S. P., Petrosyants M. A. Meteorology and Climatology Textbook for Universities. M., Moscow State University, 2001. - — 528 c. 3. Losev A. P., Jurina L. L. L. Agrometeorology. A textbook. M., "Kolos", 2001. - — 301 c. 4. Kosarev V. P., Tarankov V. I. Forest Meteorology. A textbook. M., "Ecology", 1991. - — 176 c. 5. Chirkov Y.I. Agrometeorology. 2nd edition - L.: Hydrometeoizdat, 1986. –296 c. 6. Pavlova M.D. Workshop on Agrometeorology. - L.: Hydrometeoizdat, 1984. - – 184 c. 7. Ivannikov A.V. Brief Terminological Dictionary on Agrometeorology. -Astana, 2001.-31 pp.
8. The content of the discipline. Subject and methods of research in meteorology. Atmospheric pressure. The composition and structure of the atmosphere. Instruments for measuring atmospheric pressure. Solar radiation. Soil and air temperature conditions. Air humidity. Atmospheric precipitation, types and types of precipitation. Soil moisture and its importance for plants. Techniques of soil water regime regulation in the Northern Kazakhstan zone. The wind, its causes and characteristics. Adverse weather events and their importance for agriculture. Air masses. Types of air circulation. Weather forecast. Synoptic map. Local signs of weather. Meteorological observations. Types of meteorological observations and their methods. Meteorological forecasts. Modern methods of meteorological forecasting.	

1. basic information about the discipline:	
Name of the discipline	Engineering landscaping
2. Number of loans	4
3. Pre-requisites:	Plotting, mathematics in secondary school
4. Postrequisites:	Architectural graphics and composition basics, design, plant compositions and floristics
5. Competence:	To know about the engineering preparation of the territory, types and performance of preliminary works on landscaping, classification of objects of improvement, the area of their use, features of their designs. To know about specifics of work and ability to apply information about engineering systems of buildings and constructions in projects. To be able to organize and plan landscaping in order to ensure reliability, safety and efficiency of landscaping facilities. Possessing the skills of territory improvement to create the most comfortable living environment.
6. Course author	Department of Architecture and Design
7. Basic literature	1. Construction of civilian buildings. Giyasov A.M.: Publishing house ASV, 2004. Architectural design of residential buildings (in Russian) / Lisitsian M.V., et al. - M: Architecture-C, 2006 - 488 p. Nikolaev V.A. . Landscape science. Aesthetics and Design.-M.: Aspect Press, 2005.-176c. 3.Tkachev V.N. Architectural design: Training. Manual - M.:

	Architecture-S, 2006.-352p.: mud. 4.Mikhailov S.M., Kuleeva L.M. Basics of design. -Kazan, New Knowledge, 1999. 5.Beschetnov P.P., Goloschapov G.V. Garden and park construction in Kazakhstan. Almaty, Kynar, 1988. - 221 p.
8. The content of the discipline. The concept of engineering preparation of the territory. Initial planning of the territory. Drainage system design. A storm sewerage and water supply system. Methods and techniques of fortification of slopes, ravines, banks of reservoirs. Technology of construction of paths and platforms. Park facilities and equipment for utilitarian purposes. Park constructions of engineering character. Lighting systems. Water reservoirs and waterworks. Rules for maintenance of structures and equipment.	

1. basic information about the discipline:	
Name of the discipline	Architectural Graphics and Composition Basics
2. Number of loans	5
3. Pre-requisites:	Engineering landscaping
4. Postrequisites:	Landscape design, plant compositions and floristry
5. Competence:	To know technical methods applied in landscape design practice, means of expression of artistic images, ways of construction of forms on a plane; typology of specialized gardens and parks. To be able to build a perspective image (landscape, architectural structure), to build an axonometric image of an object (tree, structure). To master methods of spatial design of forms on a plane, technique of construction of both volumetric and spatial forms and objects of landscape architecture, methods of linear and tonal graphics, frontal, volumetric, deep spatial composition
6. Course author	Department of Architecture and Design
7. Basic literature	1. Kudryashov K.V. Architectural Graphics, Moscow: Architecture -S, 2004. 2. Antoncheva L.A. Architectural graphics and modeling. Astana Kazatsu, 2011g.35s. 3. Gostev V.F., Yuskevich N.N. Design of gardens and parks, buildizdat 1991 4. Yevtushenko M.G., Gurevich L.V. Engineering preparation of territories of settlements Yevtushenko M.G., buildingizdat 1971
8. The content of the discipline. Elements of the park landscape. The structure of the park space. Ratios of park volume forms. Methods of organizing the ratios of park spatial forms. Drawing up breakout and planting drawings of the planting areas of greenery objects.	

1. basic information about the discipline:	
Name of the discipline	Mechanization of landscaping
2. Number of loans	4
3. Pre-requisites:	Forestry Soil Science, Forest Nursery, Forest Cultures
4. Postrequisites:	Landscaping and landscaping, technology and organization of green construction
5. Competence:	To know the design of basic planting machines, the principle of their operation, technological process and adjustments in the work. To be able to choose and apply technical means of mechanization in practice.

	Ability to assess the quality of work and efficiency of use of technical means of mechanization. Calculate technological indicators of planting machines and equipment, solve issues related to the mechanization of planting works.
6. Course author	Department of Forestry and Forestry
7. Basic literature	1. Documents and resolutions of the Government of the Republic of Kazakhstan on the development of forestry and logging production. 2. Lariukhin A.G., Zlatouov L.S., Rakov V.S. "Mechanization of forestry and logging" M. "Agropromizdat" 1987 3. Winter I.M. Malyugin T.T. "Mechanization of Forestry Work" M., "Forestry Industry" 1976 4. Metalnikov M.S. "Forestry Machinery Workshop" M.M. "Forestry Industry" 1982 5. System of machines for complex mechanization and technology of forestry and protective forestation of the Republic of Kazakhstan for the period up to 2005. "KazRIFA" RNI Bastau, Haliman E.I. 2000
8. The content of the discipline. Energy resources used in landscaping. Forestry machines and tools. Using machines in landscaping. Basic parts of machines and mechanisms, general structure, tractors and cars, main forestry machines and tools, organization of machinery and tools use in forestry, traction and operation calculations. Fundamentals of technical operation of the machine and tractor park.	

1. basic information about the discipline:	
Name of the discipline	Forest science and forest resource studies
2. Number of loans	6
3. Pre-requisites:	Forest Botany and Physiology of Tree Plants, Dendrology, Ecology and Basics of Life Safety
4. Postrequisites:	Forestry with the basics of recreational use, forest use and protection of forests
5. Competence:	As a result of the study, the student should know - Morphology and ecology of forest biogeocenoses; regularities of plantation regeneration and formation, change of tree species; - Types of forest resources, their geographical location, ways and opportunities for their rational use. Know how to do it: - to distinguish the main directions in forest typology and principles of classification of forest types; - to make calculations on the economic assessment of forest use; - study components of forest biocoenoses, give forest typological characteristics of forest plantations, determine the composition, structure and productivity of forest plantations. Possess: -methods of forecasting the directions of forest formation processes taking place in forest phytocenoses; - the main methods of determining the indicators of productivity, sustainability and species diversity of forest phytocenoses
6. Course author	Department of Forestry and Forestry
7. Basic literature	1. Morozov G.F. Selected works. Volume 1-2. "Forestry

	industry." 1970. 2. Atrokhin V.G., Kuznetsov G.V. Forestry. M.V.O. "Agropromizdat", 1989 3. Atrokhin V.G. Forestry and Dendrology. Uh, "Forestry." 1982 r. 4. Kolpikov M.V.. Forestry. Goslesbumizdt. M. 1962. Forest Encyclopedia "Soviet Encyclopedia". 1985. Biryukov V.N. Groups of forest types in Kazakhstan. Alma-Ata, Kainar Publishing House, 1982. 5. Rules of felling of main use in plain forests and forests of Kazakh melkosobochnik of the Republic of Kazakhstan, 1995.
8. The content of the discipline. Forest science is a scientific discipline about the nature of the forest, its biology and ecology, regularities of dynamics in space and time. It is an integral part of forestry, its natural and historical basis. Forest resource management - identification of accounting and comprehensive assessment of forest vegetation resources. Quantitative and qualitative accounting of all plant organic matter produced by forests, multi-purpose, rational, continuous, sustainable use of forests.	

1. basic information about the discipline:	
Name of the discipline	Forest management and protection
2. Number of loans	4
3. Pre-requisites:	Forestry with the basics of recreational use, Mechanization of landscaping, Labour protection in forestry.
4. Postrequisites:	Green Building Economics
5. Competence:	To know the technology and organization of logging and sidling operations; types and methods of timber transportation, mechanisms and machines used in woodworking, logging and processing. To be able to design and organize the production of complex harvesting, transportation and processing of wood, to use mechanisms and machines in woodworking, harvesting and processing. To know the theoretical and practical fundamentals of forest pyrology: the nature of forest fires; causes, spread and development of forest fires; factors affecting the speed of fire propagation; the structure of forest protection from fires. Be able to use natural fire hazard scales; extinguish fires, depending on their types; design and implement fire prevention measures.
6. Course author	Department of Forestry and Forestry
7. Basic literature	1. Forest exploitation (collective of authors) - Moscow, Academy. - 2006 . – 317 p. Forest Code of the Republic of Kazakhstan. - Almaty, Lawyer. – 2005. – 96 p. Larionov L.A., Shelgunov Y.V., Kuznetsov G.V. Technology and organization of forest use. - Moscow: Forestry industry, 1990. – 494 p. 4. Forestry handbook for loggers. - Moscow, Forestry industry. – 1976. – 224 p. 5. Ebel A.V., Ebel E.I. Forest management. - Astana: Kazakh Agrotechnical University named after A.V. Lomonosov S. Seifullina, 2015. - – 198 p.
8. The content of the discipline. Cutting work. General information on forest management. Logging the woods. Technology and organization of harvesting operations. Technology and	

scraping technique. Basics of chemical processing of non-wood products. Side use of the forest. Classification of forest fires. Causes of forest fires. Detection and extinguishing of forest fires. Organization of forest firefighting and planning of firefighting activities.

1. basic information about the discipline:	
Name of the discipline	Occupational health and safety in forestry
2. Number of loans	4
3. Pre-requisites:	Forest nursery business, ecology and basics of life safety
4. Postrequisites:	Protection of woody and flower plants, Forestry with the basics of forest inventory, Forest management and protection of forests, Mechanization of landscaping works.
5. Competence:	To know: - Basic normative and legal acts on labour safety, fire safety, industrial sanitation and hygiene; - The system of state supervision and public control over labor protection. Know how to do it: -Assess the danger of production processes and make independent decisions to ensure their safety; organize work on occupational safety; -Develop and implement measures to improve working conditions, reduce injuries, develop instructions on occupational safety, and check the serviceability of technical means of protection; -To use educational and methodical literature, visual and technical means of training, to organize work on labor protection, to control compliance with labor protection and fire safety rules.
6. Course author	Department of Forestry and Forestry
7. Basic literature	1. Law of the Republic of Kazakhstan "On labor protection". 2. Law "On Nature Protection" of the Republic of Kazakhstan. Forest Code of the Republic of Kazakhstan. 2003 Model Regulations on Occupational Safety and Health Services in Associations, Corporations, Companies and Other Associations, Almaty, 1994. 5. Model Regulations on the Occupational Safety and Health Service of the Enterprise, Almaty, 1994. 6. Standard regulation on the authorized representative for labor protection of the labor collective, A-Ata, 1995. 7. Nikitin L.I., Scherbakov A.S. - Labour protection in forestry, forestry and woodworking industry, M. "Forest industry", 1985. 8. Nikitin L.I., Popov Y.V., - Labour protection and fire-prevention protection, M. "Forest industry", 1974. 9. Lukovnikov A.V., Grigoriev N.D., Vargazov V.G. - Occupational Safety Workshop, M, VO "Agropromizdat", 1988. Buyanov V.M. - First medical aid, M. "Medicine", 1981. 10. Fire safety rules in the forests of the Republic of Kazakhstan. Almaty. Committee on Forestry of the Republic of Kazakhstan.
8. The content of the discipline. Theoretical foundations of occupational safety. Organizational and legal issues of labor protection. Industrial sanitation. Safety fundamentals. Basics of fire safety. Providing pre-hospital care to victims.	

1. basic information about the discipline:	
Name of the discipline	Selection of woody and flower plants
2. Number of loans	5
3. Pre-requisites:	Forest Cultures
4. Postrequisites:	Landscaping of populated areas and landscaping
5. Competence:	Knowledge of hybridization, mutagenesis and polyploidy methods for creating primary breeding material. To be able to study signs of quality of trees, to know ways of preservation of valuable gene pool, to allocate breeding categories of trees, to know supports for selection of plus trees and plantations of main forest forming species of Kazakhstan. Acquisition of skills in hybridization, selection of parent pairs and selection of the best forms and varieties, creation of LSPs, formation of PLSUs, filling in passports for PLSB facilities. To be able to analyze the results of hybridization, varieties of forest tree species and flower crops.
6. Course author	Department of Forestry and Forestry

7. Basic literature	1. Baizakov S.B., Medvedev A.N., Iskakov S.I., Mukanov B.M. Forest Cultures in Kazakhstan: - Training for HEI - Almaty: KazNAU, 2007.-288 p.
	2. Tsarev A.P., S.P.'s death, Trenin V.V. Selection and reproduction of forest tree species: Textbook/Pod edited by A.P. Tsareva. - Moscow: Logos, 2001. – 520 p.
	3. Veresin M.M., Efimov Y.P., Arefiev Y.F. Reference book on forest seed breeding. - M.:Agroproizdat, 1985. – 245 p.
	4. Forest selection. Kundensh, A.V.; and others (in Russian) // Forestry industry, 1872.-200 p.
	5. Dokuchaeva M.I. Vegetative reproduction of coniferous species // Forestry industry, Moscow, 1967. -106 p.
	6. Konovalov N.A., Pugach E.A. Fundamentals of forest breeding and varietal seed production // Forest industry, 1978. - – 176 p.
	7. Butova, G.P. Fabric culture (in Russian) // Forest selection (in Russian) / Under edition of A.P. Tsareva. Dep. At the VNIITSlesresource. 16.11.1995, № 936.– M., 1995. –P. 73-87.
	8. Gusev S.P. Forest selection (terms and definitions). - L.: Leningradskaya lesotekhno. Academy, 1984. – 38 p.
	9. Dospekhov, B.A. Field experience methodology (with the basics of the statistical processing).-M.: Kolos, 1979. – 416 p.

8. Selection is the science of methods of creating plant varieties and hybrids. Hybridization, mutagenesis and polyploidy methods to create a primary breeding material. Main directions of wood species selection. Laws of variability of morphological features, their connection with economic categories. Selection and genetic methods of increasing productivity and improving the quality of forest species. Successes in the selection of forest species.	

1. basic information about the discipline:	
Name of the discipline	Protection of woody and flower plants
2. Number of loans	5
3. Pre-requisites:	Forest Botany and Physiology of Tree Plants, Dendrology
4. Postrequisites:	Forest Management and Protection, Botanical Gardens and Greenhouses
5. Competence:	Knowledge and understanding of theoretical knowledge in the field of biology and ecology of insects and pathogens; rules of

	operation of technological equipment during forest protection works. Practise methods and means of protecting green spaces from pests and diseases with due regard for the environment, as well as skills in pest and disease diagnosis. To be able to properly conduct protective measures. The ability to conduct pest and disease counts, compare test data, draw conclusions, and justify one's position.
6. Course author	Department of Forestry and Forestry
7. Basic literature	1. Vorontsov A.I. Forest Entomology. - Moscow: Higher School, 1994; 1982. – 384 p. 2. Vorontsov A.I., Semenkova I.G. Forest protection. - M.: Agropromizdat, 1988. – 327 p. 3. Padius N.N. et al. Forest Entomology - Moscow: Forestry Industry, 1965. – 359 p. 4. Semenkova I.G., Sokolova E.G. Phytopathology. - Moscow: Academy, 2003. – 480 p. 5. Sokolova E.S., Semenkova I.G. Forest Pathology - Moscow: Forestry Industry, 1981. – 312 p. 6. Vorontsov A.I., Mozolevskaya E.G., Sokolova E.S. Technology of forest protection. - Moscow: Ecology, 1991. – 304 p.
8. The content of the discipline. Ecology and dynamics of pests and diseases of forest plantations. Methods and means of forest protection from pests and diseases. Main features of forest pest biology. Main ecological groups of insects - pests of forests. Diseases of seedlings and young trees. Diseases of adult plantations. Destruction of wood. Methods of disease accounting and forecasting.	

1. basic information about the discipline:	
Name of the discipline	Geoinformation systems and remote sensing of forests
2. Number of loans	5
3. Pre-requisites:	Computer science, higher mathematics, forest management with the basics of forest inventory, engineering landscaping
4. Postrequisites:	The course "Geoinformation Systems and Remote Sensing of Forests" is the basis for writing the thesis and forming the professional skills of a bachelor.
5. Competence:	As a result of studying the discipline, the student should know - definition, main components and history of GIS development; - Main properties and features of analogue maps, cartographic projections; - digital and electronic maps, types of digital terrain models, methods of building digital terrain models and their accuracy, principles of "GPS" functioning; Know how to do it: - set up and adjust specialized GIS, create new projects, create the map structure, set up the attributes of objects displaying on the screen; - to solve problems with the use of digital and mathematical models of terrain; - Analyze the terrain using geoinformation systems; - monitor compliance with standards and regulations at the workplace. Compete in basic spatial and attributive information analysis, basic GIS software for forest management, and satellite

	navigation systems
6. Course author	Obezinskaya E.V., Ospangaliyev A.S.
7. Basic literature	1. Atroshchenko O.A., Tolkach I.V. - Monday: BSTU, 2003. – 375 p. 2. Atroshchenko O.A., Tolkach I.V., Geographic Information Systems in Forestry. A workshop. - Monday: BSTU, 2003. – 375 p. 3. Geoinformation system Formap 4.0. User's Guide. Electronic version, supplied with GIS Formap.
8. The content of the discipline. Digital card and electronic card. Vector and raster representation of geographic information. The concept of automated design system (CAD). Types of digital terrain models, methods of building digital terrain models and their accuracy. Principles of GPS functioning". GPS classification. DGPS" basic reference stations.	

1. basic information about the discipline:	
Name of the discipline	Fundamentals of entrepreneurial activities in forestry
2. Number of loans	5
3. Pre-requisites:	Forest nursery business
4. Postrequisites:	Green Building Economics, Forest Management and Protection
5. Competence:	As a result of mastering the discipline, the student must To know: Current norms in the sphere of entrepreneurial legal relations, the order of registration, re-registration, liquidation of legal entities and individual entrepreneurs, normative documents of the organization of activity of legal entities, the mechanism of functioning of organizations of various forms of ownership and others. Know how to do it: *-interpret* and apply normative acts, make legal decisions and perform other legal actions in strict compliance with the law; -To carry out preventive work to clarify legislation and law enforcement practices. Possess: skills in working with information sources, educational and reference literature on economic issues. Acquire practical skills: on the basics of entrepreneurial activity of managers and specialists of enterprises.
6. Course author	Dudina N.N., Ospangaliyev A.S.
7. Basic literature	1. Constitution of the Republic of Kazakhstan (with amendments and additions for 2016). 2.Civil Code of the RK (Special part). Commentary Otv. Red. M.K. Suleimenov, Y.G. Basin. Almaty, 2000 3.Busygin A.V. Entrepreneurship. A textbook. Publishing house: Busygin, 2003 p.614. 4.Sulemenov M.K. et al. "Law and Entrepreneurship in the Republic of Kazakhstan" - A., 1994 5.Asaul A.N. Organization of entrepreneurial activity: Textbook. St. Petersburg: Peter, 2005. C.368. 6.Law of the RK "On Protection and Support of Economic Activity and Development of Entrepreneurship" dated 04.07.1992 7.Law of the RK "On Individual Entrepreneurship" dated 29.06.1997 8.Law of the RK "On Limited Liability Companies and Additional Liability Companies" dated 22.04.1998 9.Romankov I.V. Problems of legal regulation of entrepreneurial

	activity of citizens in the Republic of Kazakhstan. – A., 1997
8. The content of the discipline. Fundamentals of entrepreneurial activity in forestry is a science, about the basic directions of entrepreneurial law, about normative-legal acts in the sphere of entrepreneurial relations, about specificity of entrepreneurial relations.	

1. basic information about the discipline:	
Name of the discipline	Green Building Economics
2. Number of loans	5
3. Pre-requisites:	Forestry with the basics of recreational use, Forest cultures, forest inventory with the basics of forest inventory
4. Postrequisites:	Writing a thesis (projects)
5. Competence:	Knowledge in the field of formation and development of forestry in the country, economic reforms and market relations, the role of forestry and forest parks in solving economic and social problems, forms of ownership, the essence and content of the main economic categories. Acquire practical skills in park planning and forest and park financing, as well as skills to work in market conditions. Ability to analyze peculiarities of forestry and forest park functioning. Formation of a broad economic outlook among future forestry specialists.
6. Course author	Department of Forestry and Forestry
7. Basic literature	1. Safronova N.A. Economics of the enterprise. - Moscow: Lawyer, 1998.-584 p. Adamchuk V.V., Romashov O.V., Sorokina M.E. Economics and Sociology of Labor: Textbook for HEIs. - M.: UNITY, 2000. - 407 p. 3. Alekseicheva E.Y. Economics of organization (enterprise): Textbook for bachelors/Alekseicheva E.Y., Magomedov M.D., Kostin I.B.. - Moscow: Dashkov I.K., 2013. - 292 p. 4. Volkov O.I. "Economy of the enterprise". 3rd ed., redesign and addition. - Moscow: INFRA-M, 2007. - 601 p. 5. Mamedov O.Yu. Modern economics: textbook/Knorus Publishing House, - Moscow - 2010. - 320 p. 6. Kozhukhov N.I. Forestry Economics/Forestry Industry Publishing House, - Moscow, - 1978.- 230 p. 7. Anoshin R.M., Voronin I.V., Kulikova T.A., Pavlov V.V., Tryanov M.A. Economics, organization and planning of production in forestry enterprises. - Forest Industry Publishing House, - M., -1971. – 280 p. 8. Voronin E. B. Economics of forestry enterprises. /Forest Industry Publishing House, - M., - 1976. - 312 c. 9. Bulgakov N.K., Koziakov S.N., Fesuka. B. Technology of harvesting and processing of non-timber forest resources. - Moscow: Forestry industry, 1987.-224 p. 10 Forest Code of the Republic of Kazakhstan. - Almaty, 2015.
8. The content of the discipline. Labor resources and labor productivity in landscaping of settlements. The role of greenery in the agricultural sector. Peculiarities of using the market mechanism in forestry and forest park economy. Concept and peculiarities of goods and services in forestry and forest park. Production costs. Profit and profitability of production. Prices and pricing in landscaping of settlements.	