

MINISTRY OF AGRICULTURE
REPUBLIC OF KAZAKHSTAN
Saken Seifullin Kazakh Agrotechnical University

**CATALOG of
Summer Semester**



Astana 2018

Background Information

Saken Seifullin Kazakh Agrotechnical University is one of the largest agricultural universities in Central and Northern Kazakhstan and the first higher educational institution in Astana city.

The establishment of a new educational institution was the answer to challenge of time, the period of developing virgin and long-fallow lands in North Kazakhstan when agricultural experts were necessary for the country. For expansion of training of experts for agricultural production for the northern and central regions of Kazakhstan Akmola Agricultural Institute that included agronomic, mechanization of agriculture and land management departments, was organized by the Decree of Council of Ministers of the USSR on October 3, 1957 and by the order of the Ministry of Agriculture of the USSR on October 9, 1957.

For over half a century 63,434 thousand highly qualified specialists for various sectors of Kazakhstan's agro-industrial complex have been educated. They have made and continue making worthy contribution to the development of state economy. The University is proud of its graduates, among them there are employees of the Presidential Executive Office and the Prime Minister's Office, the Senate and the Majilis deputies, ambassadors, prominent scientists, candidates and doctors of sciences, oblast, city and region akims, heads of large companies and agro companies, specialists in various spheres of the national economy.

Although the University is known as the agrotechnical it is not one directional but multi-directional. Except for agricultural and technical majors it provides education in the sphere of arts, services, social welfare and business. Being the oldest university of the capital city, it has its scientific schools, on account of which created current faculty members have been formed.

Seifullin Kazakh Agro Technical University is a full member of the Great Charter of Universities, which is the basis for the formation of a single European educational space.

Seifullin KATU is reckoned among 10 basic universities of the country which are carrying out personnel training for projects of a state program of industrial and innovative development of the Republic of Kazakhstan for 2015 - 2019.

Today KATU is the diversified university having its established scientific schools thanks to which the basis of the present faculty is created.

Recommended Courses

Faculty of Agriculture

Major 5B080800- Soil science and agrochemistry

Kazakhstan's Soils - 3 credits
Geography of soils - 3 credits
Methods of soil investigations -3 credits

Major 5B081100- Plant Protection and Quarantine

Methods of identifying and registration of plant diseases- 3 credits
Agricultural entomology - 3 credits
Biological plant protection - 3 credits
Agricultural phytopathology - 3 credits
Methods of detection of quarantine organisms - 3 credits

Major 5B080700 - Forest resources and forestry

Forest nurseries - 4 credits
Forest taxation - 3 credits
Forest management-3 credits
Forest economy - 2 credits

Major 5B060800 - Ecology

Physical and chemical methods of analysis in ecology - 3 credits
Chemistry of the environment - 2 credits
Physical and chemical methods of analysis in ecology - 3 credits

Faculty of Land Management, Architecture and Design

Major 5B042100 - Design

Basics of design composition - 2 credits
Professional computer programs, 3 credits
Visual communications in architecture, 3 credits
Advertising in architecture, 2 credits
Elements and processes of profile design- I - 3 credits

Major 5B042000 - Architecture

Drawing -2 credit
Painting 2 credit
Regional features of architectural design - 1 credit
Landscape architecture- 2 credits
Architecture design IX- 3 credits
Architecture design X- 3 credits

Major 5B090700- "Cadastre"

The automated information system of land cadastre - 3 credits
Land cadastre-3 credits

Major 5B071100- "Geodesy and Cartography"

Photogrammetry- 3 credits
Digital cartography - 3 credits
Engineering geodesy - 4 credits

Major 5B09080 - Estimation

Geographic Information Systems (GIS) in appraisal - 3 credits
Computer graphics – 2 credits

Major 5B090300 - Land use planning

History of land relations and land management - 2 credits
Geodetic work in land management and cadastre - 3 credits

The Faculty of Veterinary Sciences & Animal Husbandry

Major 5B080300 - "Hunting study and fur farming"

Fundamentals of taxidermy-3 credit
Diacardiculture-3 credits
Trophy-2 credits

Major 5B080400- "Fishery and commercial fisheries"

Fish feed -3 credit
Ichthyopathology-3 credits

Major 5B120100 - "Veterinary medicine"

Invasive diseases of carnivorous and fur-bearing animals - 3 credits
Laboratory Diagnosis of Animal Disease-2

Major 5B080200 - "Production technology of animal husbandry products"

Livestock, milk and beef production technology - 4 credits
Sheep breeding, wool and lamb production technology - 3 credits

Major 5B070100 - "Biotechnology"

Biotechnology of microorganisms - 3 credits
Biotechnology of mushrooms – 3 credits
Biotechnology of plants - 3 credits
Genetic Plant Engineering - 3 credits
Technological processes of production of secondary synthesis substances -3 credit

Faculty of Computer Systems and Vocational Education(CSaVE)

Major 5B012000 - Vocational training

Professional pedagogy-3 credits
Professional psychology-2 credits

Major 5B070400 - Computing and software

Microprocessor complexes and industrial equipment programming - 3 credits
Programming in Python - 3 credits
Fundamentals of robotics -3 credit.
Programming in Java - 3 credits

Major 5B070300 - Information Systems

Methods and models in management - 3 credits

Web-programming in PHP - 3 credits

Technical faculty

Major 5B080600 - Agrarian technique and technology

Mechanization of animal husbandry - 3 credits

Fundamentals of caterpillar and wheel machinery - 2 credits

Fundamentals of agricultural machinery - 4 credits

Fundamentals of Precision Farming – 2 credits

Major 5B071300 - Transport, transport equipment and technologies

Technical operation of cars-3 credits

Automotive operational materials-3 credits

The device of vehicles-3 credits

Faculty of Economics

Major 5B050600 - Economics

Entrepreneurship - 3 credits

Major 5B050700 – Management

Cooperative forms of management - 3 credits

Business management - 3 credits

Basics of corporate management-3 credits

Project Management- 3 credits

Major 5B050800 - Accounting and audit

Statistics - 3 credits

Economic analysis - 3 credits

Tax accounting - 3 credits

Analysis of projects - 3 credits

Audit and related services - 3 credits

Major 5B050900 - Finance

Taxes and taxation - 3 credits

Banking - 3 credits

Major 5B051100 - Marketing

Marketing research - 3 credits

Marketing in agribusiness - 3 credits

Recommended courses for any specialty

Legal basis of entrepreneurship - 2 credits

Fundamentals of labor law - 2 credits

Faculty of Agronomy

Major 5B080800 - "Soil science and agrochemistry"

Recommended courses:

Kazakhstan soils - 3 credits

Characteristics of climatic zones of the Republic of Kazakhstan. Factors of soil formation in the Republic of Kazakhstan. Main types of soils, features of education, agronomic, agrochemical and ecological characteristics. Intrazonal soil. Soils of mountainous areas. Agricultural industrial grouping of lands. Features of soil use in agriculture

Kenzhegulova S.O. senior lecturer, Candidate of Agricultural Sciences.

Geography of soils - 3 credits

Genesis, classification and characteristics of main types of soil of bio-climatic zones and areas of world continents and natural zones of the Republic of Kazakhstan.

Informative and diagnostic, morphogenetic features, composition and properties of soil. Principles of agricultural industrial groups of soils, soil evaluation methods.

Kekilbaeva GR, candidate of biological sciences, senior lecturer.

System of application of fertilizers in rainfed agriculture - 3 credits

Value of fertilizers in improving soil fertility, productivity and crop quality.

Principles and conditions governing development of science-based system. Main factors determining efficiency of fertilizers. Features of nitrogen, phosphorus and potassium soil conditions and their relation to crop productivity and fertilizer efficiency. Optimization of mineral nutrition. Diagnosis fertilizer necessity and application efficiency. System of fertilizer application as a method of purposeful management of soil fertility and crop productivity. Environmental and economic assessment of fertilizer effectiveness in different crop rotations.

Valentina Chernenok, Doctor of Agricultural Sciences, Professor.

The existing research laboratory: Laboratory of Soil Science.



Major 5B081100- "Plant Protection and Quarantine"

Recommended courses:

Methods of identifying and registering plant diseases - 3 credits

Proper planning and organization of activities for the protection of plants against diseases; gaining knowledge of the species composition of diseases, their prevalence, severity, estimation of their symptoms and development. Application of theoretical knowledge into practice.

Tuleyeva AK, Candidate of Agricultural Sciences, Associate Professor;
Suleimenova Z. Sh Senior Lecturer

Agricultural Entomology - 3 credits

Gaining knowledge on the taxonomy and classification of insects, introducing main types of crop pests, their biology, ecology, development, distribution and harmfulness. To combat pests using methods and means of complex agronomic, biological, chemical measures.

Tuleyeva AK, Candidate of Agricultural Sciences, Associate Professor;
Suleimenova Z.Sh. Senior Lecturer

Biological plant protection - 3 credits

Study of the use of different biological agents in plant protection practice against harmful organisms, including microbiologic specimen, insects and mites, bred on biofactory and production biological laboratories, study of the use of biologically active substances, as well as combinations with other biological plant protection methods. Formation of views on the management and implementation of environmentally friendly agricultural practices.

Bekenova Sh.Sh., Candidate of Agricultural Sciences, Senior Lecturer
Yatsyuk S. V. Candidate of Agricultural Sciences, Senior Lecturer

Agricultural Phytopathology - 3 credits

Study of the species composition of diseases, biological characteristics of pathogens, their systematic position, range of host plants, area of distribution, symptoms and harmfulness of diseases, as well as systems of plant protection measures.

Tuleyeva AK, Candidate of Agricultural Sciences, Associate Professor;
Alipbekova Ch. A., Candidate of Agricultural Sciences, Senior Lecturer

Course of lectures delivered by employers (production workers)

Methods of detection of quarantine organisms - 3 credits

Broadening and deepening students' knowledge about the methods of inspection and phytosanitary examination of quarantine products coming from abroad and transported within the country using different modes of transport, which is professional way to protect plants from pests.

Kaliev BR, Deputy Director, State Republic Quarantine Laboratory

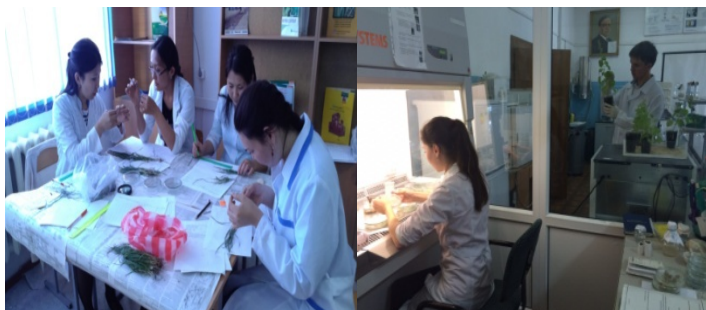
"Entomology" Laboratory

Analysis of samples and registration of plant damage.

The laboratory carries out training and research to study insect fauna, species composition of crop pests, crops and lands; to study morphological and biological characteristics of pests, pest damage and protective measures. It is equipped with state-of-the-art measuring equipment to identify and register plant pests, equipped with tools to analyze insects. A unique collection of insect agrocenosis in the Northern region of the country has been created.

Tuleyeva AK, Candidate of Agricultural Sciences, Associate Professor.

Plant Biotechnology laboratory



Plant Biotechnology laboratory based on the Department of Plant Protection and Quarantine implements biotech work on clonal micropropagation of various crops, diagnosis of viral diseases of potato, inoculation of test plants with potato viruses to create domestic diagnostic tests. Greenhouse with drip irrigation and phytotron operates on the basis of the laboratory.

Hasanov V.T., PhD in biological sciences, associate professor.

Major 5B080700- «Forest resources and forestry»

Recommended courses:

Forest nurseries - 4 credits

Theoretical Foundations of forest seed business; biological characteristics of the main tree and shrub species; agricultural machinery cultivation of forest planting material; basics of designing forest nurseries.

Mazarzhanova KM, senior lecturer, candidate of agriculture sciences

Forest inventory- 3 credits

Inventory of felled trees; valuation of growing trees; valuation of plantations; growth.

Dudina N.N., senior teacher.

The course subjects read by employers (production workers)

Forest economy - 2 credits

Purpose of forest economy in general boils down to in order to justify the most effective directions for using the vaniyu-limited economic resources to meet the needs in products and services that society needs. Similarly, such a purpose and role of this branch of the economy in the end is to produce the most effective decisions at different levels of forest management to balance supply and demand for forest resources and services for the limited factors of production available to the public at every certain stage of its development.

Lektor- academician of NAS RK, Doctor of Economics, professor Baizakov S

Existing laboratory

Department of Forest Resources and Forestry was established in 2012 on the basis of the reorganization of the department "Ecology and Forestry", "Plant Production", "Agricultural Chemistry and Soil Science».

Head of the Department of Forest Resources and Forestry is Sarsekova D.N.

Doctor, Corresponding Member and Professor

The department has the following laboratories:

Laboratory of Plant Physiology:

In the laboratory, conducting research in the following directions-leniyam: structural-functional and eco-physiological laws of biological production processes in forest plant communities; biochemical and physiological processes in woody plants in nature ..



Major 5B060800 - "Ecology"

Recommended courses:

Physico-chemical methods of environmental analysis - 3 credits

Optical methods of analysis. Absorption spectroscopy. Refractometric and polarimetric methods of analysis. Emission spectral analysis. Conductometry. Potentiometry. Coulometry. Polarography. Chromatography.
Satova K.M., Associate Professor, Candidate of Engineering Sciences

Environmental Chemistry - 2 credits

Chemical pollutants, their sources and dissemination in the biosphere. Classification of substances based on impact on living organisms. Chemical composition of soil, soil properties. Chemical composition of water of artificial lakes and reservoirs.

Satova K.M., Associate Professor, Candidate of Engineering Sciences

System of fertilizer application in rainfed agriculture - 3 credits.

The value of fertilizers in improving soil fertility, productivity and crop quality. The principles and conditions governing the construction of a science-based system. The main factors determining the efficiency of fertilizers. Features of nitrogen, phosphorus and potassium conditions of soil and their relation to productivity and crop fertilizer efficiency. Optimizing the conditions of mineral nutrition. Diagnosis crops need fertilizer and forecast efficiency. The system of fertilizer application as a method of purposeful management of soil fertility and crop productivity. Environmental and economic evaluation of the effectiveness of fertilizers in different crop rotations.

Existing lab

Physico-chemical methods of environmental analysis



Faculty of Land Management, Architecture and Design

Specialty 5B042100 - "Design"

Recommended courses:

Basics of composition in design - 2 credits

Acquiring of knowledge on the basics of the composition course, which are the starting point for the professional deep understanding of the laws, methods and means of artistic and compositional forming of artificial systems as an essential component of professional diplomas and creative thinking of designer. Mastering the system of special concepts and their corresponding artistic and compositional means of expression, the understanding of which requires the special methods which allow to assimilate mental, artistic and professional work.

Master of architecture and design department – Ospanov T.Zh.

Professional computer programs - 3 credits

Acquiring of knowledge on the fundamentals of computer-aided design course, which is the original basis for the professional use of computer programs, necessary for the further professional activity. Mastering the basic principles of work with programs 2d and 3d-modeling.

Assistant of architecture and design department – Batirbekova H.U.

Visual communications in architecture environment - 3 credits

Familiarization of students with the visual communications systems, the role and value of visual communication in the design of the urban environment, architecture, buildings, interior design, fashion design, advertising. The study of specific formative, information and artistic possibilities of visual communication systems: symbolism and semantics of light, color relationships. Development of spatial imagination and art taste. Mastering the techniques of modeling and harmonizing of artificial environment in the development of projects. Senior Master of architecture and design department – Tyurin S.M.

Advertising in the architectural space - 2 credits

The course is aimed at mastering the principles of designing different graphic design products, from logo creation to solve complex problems, the formulation of a coherent concept and its implementation in qualitative advertising - graphic form. Introduction students with visual communications systems, the role and value of visual communications in urban design, architecture constructions, interior design,

fashion design, advertising. The study of the specific shaping, informational and artistic possibilities of visual communication systems.

Master of architecture and design department - Tyurin S.M.

Elements and processes profile design- I - 3 credits

The study of the role and importance of the elements and processes in Architectural Design. Theoretical bases of architectural design, socio - functional processes in the objects of architectural design. Introduction to graphic language, methods of image objects of landscape design, features images of natural elements open architectural environment, the example of accomplishment and territory planning of individual houses. Making project documentation for stage design: the development of a master site plan, dendrological plan, projection drawings elements of improvement.

Master of architecture and design department – Ospanov T.Zh.

Specialty 5B042000 - "Architecture"

Drawing - 2 credits

Acquisition of knowledge of Drawing course bases which are initial base for professionally deep understanding of laws, methods and means of an art shaping of artificial systems as an essential component of the professional diploma and creative thinking of the architect. Assimilation of system of special concepts and the means of art expressiveness corresponding to them which understanding demands and allows to acquire special methods of cogitative and art and practical professional activity.

senior lecturer of department of architecture Ismailov U.D., assistant professor Baitenov M.S.

Painting - 2 credits

The course of discipline is calculated on further studying in systems of the academic realistic school of the fine arts and studying of techniques of work in the style directions of a modernism that promotes development of the imagination and formation of creative thinking. It is offered to several those a practical training – "Still life", "Person", "Environment" - an interior, an exterior, architecture. The program gives the chance to accent the choice of a subject and direction of system of training (academic, composite) towards specialization in a profile.

senior lecturer of department of architecture Ismailov U.D., assistant professor Baitenov M.S.

Regional features of architectural design - 1 credit

Regional features of architectural design allow to study features of architectural and town-planning design in climatic, landscape ecological, social and economic conditions of Northern Kazakhstan. Studying of discipline helps to study the principles of the system analysis in relation to architectural and town-planning problems; to establish interrelation between architectural and town-planning design

and a complex of various regional features, to get acquainted with current architectural and town-planning trends from a position of landscape and ecological approach

Senior Lecturer of architecture and design department – Karabayev G.A.

Landscape architecture- 2 credits

The theoretical knowledge that students acquire in the classroom, give future architects the opportunity to confidently judge the aesthetic and artistic usefulness of spatial environment, to penetrate into the essence of their harmonious structure, clearly aware of the mechanisms of action of such works on the emotional and sensory perception of man. The formation of comfortable environment for a person with reasonable complex approach to the changes that occur in the natural environment as a result of anthropogenic impacts on it, including in the implementation of architectural solutions.

Master of architecture and design department – Ospanov T.Zh.

The disciplines read by employers (production workers)

Artykov Ruslan Ravilevich - Chief architect of LLP «VL»

«Architectural design - IX» -3 credits

The purpose of the discipline - the functional, structural and technical and creative solution to residential complexes (12-16 storey), mastery of process design of this type of property for housing, having a specific functional-planning structure. Contents aims: on the development of skills in the design of the most promising residential complexes with services in an urban setting; according to local climatic, ethnic, structural and technical features; to study the organization of the internal zoning of the space in accordance with the functional and hygiene requirements to the modern home.

Senior teachers of architecture and design department – Artykov R.R., Shlachtich E.V., Esenbaev A.M.

Architectural Design - X - 3 credits

Designing of the educational building with the expanded structure of premises of buildings. Creation of a single ensemble of separate blocks. The location of the complex assumes a large territory with a clear functional zoning. Development of an architectural and planning solution that meets the overall conceptual orientation of the projected building. Development of the master plan taking into account all the necessary zones, with established norms and rules.

Specialty 5B090700- "Cadastre"

Recommended courses:

The automated information system of land cadastre - 3 credits

The main objectives of the discipline is to acquire theoretical and practical skills of accounting, land registration and land evaluation by using the computer technology. Mastering of ArcGIS program, its main components and functions on

the land cadastre.
Musyka O.S Master, senior teacher.

Course subjects, delivered by employers (production workers)

Land cadastre- 3 credits

Contents of land registry, methods of payment for the land, the cadastral zoning, the content of registration and accounting of the land, determining the cadastral value of land.
Mambetov EE, Deputy. Assistant manager of Astana Branch of RSE "NPTszem"

The existing laboratory for specialty:

Research specialized laboratory on land management and land cadastre
Specialized Laboratory is intended for scientific research in the field of land management and land cadastre. The laboratory is equipped with modern computers and information systems.

Specialty 5B071100- "Geodesy and Cartography"

Recommended courses:

Photogrammetry- 3 credits

The purpose of discipline is to study the theory of photogrammetry, techniques and technologies for the production and photogrammetric processing of space images for the creation and updating of topographic and cadastral maps, and other documents on the ground.
Sagyndyk M.Zh Ph.D., associate professor.

Cartography- 2 credits

The course covers the following topics: definition and properties of geographic map classification maps; cartographic generalization; the ways of cartographic images; automation of cartographic works; modern trends of thematic mapping.
Babkenova L.T.

Engineering geodesy- 4 credits

The course covers the following topics: Information about the shape and size of the Earth, the orientation of lines and angles of the directions, maps, plans and profiles of the terrain, linear measurements.
Kussainova G.D.

Specialty 5B090800 - "Estimation"

Recommended Courses:

Geoinformation systems in the evaluation - 3 credits.

History of GIS; Classification and function of GIS; GIS communication with other sciences; Modeling in the GIS system; Use of the GIS capability in valuation activities; Studying software product ArcGIS 9.3, ArcGIS 10.4.
Zhagiparova TT, Master, Senior Teacher.

Computer graphics - 2 credits

The main objectives of the discipline is to teach students the possibilities of plotting computer programs, work in the program Corel Draw and AutoCAD. Vector and raster models in the construction of planning cartographic material in the evaluation of real estate and land.

Smuneva L.V. Master, Art. teacher.

Specialty 5B090300 - "Land use planning"

Recommended Courses:

History of land relations and land management - 2 credits

The emergence of land relations in ancient states. The first land management activities. Features of land relations among nomadic peoples. The influence of tsarist colonial policy on the development of land relations in Kazakhstan. Land relations and land management of Kazakhstan in the Soviet period. Development of land relations in independent Kazakhstan. Land reforms in foreign countries.

Krykbayev Zh.K., Candidate of Economic Sciences, Professor

Geodetic work in land management and cadastre - 3 credits

Methods and techniques for calculating the areas and design of land plots, transferring them to nature, solving geodetic tasks for performing calculations and determining the coordinates for transferring land management projects to the terrain. Adjustment of plans and maps, providing a planned basis for design.

Djamankulova BG, Master, Senior Lecturer

Faculty of veterinary science and technology of animal husbandry

Specialty 5B080300 - "Hunting study and fur farming"

The recommended courses:

Fundamentals of taxidermy - 3 bases

The student in the course of training will examine and will gain skills about anatomo-morphological a structure of different types of animals, birds, reptiles, fishes, etc., technology of production of models and effigies with application of modern technologies and materials taking into account biological features of objects, decorating of exhibits, a trophy assessment of hunting production.

Rashitov S. S.

Dicardiculture - 3 credits

The student in the course of training will examine and will gain skills in studying of biology of animals and birds, being objects of a gamebreeding, technology of contents and cultivation, cultivation and feeding of objects of a gamebreeding. To study questions of a nutria farming, a ostrich breeding, a chinchilla breeding as the new directions of development of a gamebreeding in Kazakhstan.

Lecturer, associate professor, candidate of agricultural sciences Kulmagambetov T.I.

Course of the disciplines reading by employers (production workers)

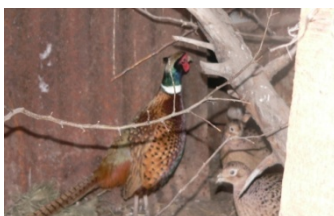
Trophy - 2 credits

The student in the course of training will examine and will get skills of an assessment of the giving-out individual qualities of the got animals and birds (the sizes of a body, a horn, color, a species of an animal or bird, etc.) of practice of carrying out trophy hunting, the organization of exhibitions and promotion of rules of hunting. Studying biology of animals and birds, being the object of trophy hunting, ways and rules of processing of trophies, requirements to quality and registration of a trophy.

Lecturer of the course: Mironchuk I.I. chairman of the board of regional society of hunters and fishers Astana

The operating laboratory on the specialty:

Industrial practice hunting-fishing economy "Dudaray" (IPHFE "Dudaray")



IPHFE "Dudaray" - is in the territory of Korgalzhinsky district, the Akmola region. The total area of the hunting ground is 54 000 hectares. In the territory there are three lakes - Kumkol, Ashchikol, Zhumay. The wetland game is presented.

IPHFE "Dudaray" is used as educational base for carrying out practical training on disciplines of the specialty - the accounting of hunting animals and birds, fur-bearing animals and other useful animals under natural conditions and gamebreeding, typology of hunting grounds, game management, technology of hunting animals and birds, ornithology, a theriology, etc., and also it is intended for carrying out production and educational the practice, research works of students for the purpose of implementation of theses (projects).

For full carrying out educational and scientific work of students there are the corresponding material and technical resources of IPHFE "Dudaray", namely - the car the UAZ - farmer, watercrafts (boat), field-glasses, navigators, the device of night vision, traps, the snowmobile, the equipment for field works (tent, sleeping bags, etc.), video cameras, cameras, etc.

The recommended courses:

Fish feed -3 credits

The student in the course of training will examine and will gain skills in questions of physiology of food of fish, diets of feeding of different types of fish, types of forage, technological processes of preparation of forage for different types of fish, influence of feeding on growth and development of fish.

Assylbekova A.S.

Ichthyopathology-3 credits

The student in the learning process to get acquainted and acquire skills in the study of the mechanism of disease in fish, etiological factors, variety of pathological processes and disease control measures and preventive treatment of fish diseases.

Murzagulov K.K. associated professor, Doctor of Veterinary Sciences

Speciality 5B12010- "Veterinary Medicine"

Related courses:

Invasive disease of carnivorous fur-bearing animals - 3 credits

Learning discipline "Invasive disease and carnivorous fur-bearing animals" will allow to learn how to plan and implement evidence-based measures against invasive disease and carnivorous fur-bearing animals.

Lider L.A., the candidate of veterinary sciences, associate professor

Laboratory diagnosis of animals illness - 2 credits

Studying the discipline "Laboratory diagnosis of animals illness" will allow to study questions of modern methods of laboratory researches for diagnosis of diseases of an infectious and noncontagious etiology of animals.

Terlikbayev A.A., candidate of veterinary sciences, associate professor

Specialty 5B080200 - "The production technology of products of animal husbandry"

The recommended courses:

Livestock, milk and beef production technology - 4 credits

Modern methods of dairy and beef cattle. Selection and breeding work in animal husbandry. The scientific basis for the creation of new lines and breeds. Modern methods of breeding. The experience of foreign and domestic enterprises for cattle breeding business in animal husbandry.

Bekkozhin A.Zh Associate Professor, Cand.Vet.Sci

Sheep breeding, wool and lamb production technology - 3 credits

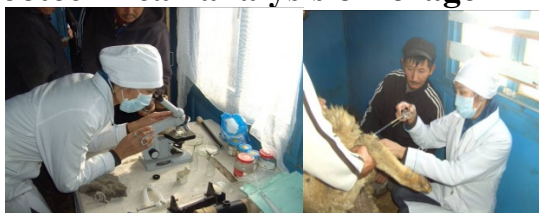
Production technology, selection and breeding work with sheep, production of wool, mutton, astrakhan fur, sheepskin. Procuring standards and specifications on wool, astrakhan fur and sheepskins. Instructions on a judging practice of sheep. Shauyenov S. K. professor, Doctor of Science in Agriculture

The operating laboratories on the specialty

Hematologic laboratory.

The hematologic analyzer defines 18 indicators of blood of all species of farm animals. Calculation of a nuclear Arneht index. Definition of cellular and humoral factors of protection: phagocytal, lysozymic, bactericidal activity.

Laboratory of zootechnical analysis of forage



Definition of a chemical composition of forage: initial humidity, hygroscopic humidity, "crude" ash, calcium and phosphorus, general nitrogen and "crude" protein by Kjeldal's method, etc.



Speciality 5B070100- "Biotechnology"

Recommended courses:

Biotechnology of microorganisms, 3 credits

Biotechnology as a scientific discipline. Objects of biotechnology. Fundamentals of microbial biotechnology. Device of biotechnology laboratories and technological requirements to it. Biosafety in Biotechnology. TB in the biotechnology lab. Sterilization methods. Sterilization Parameters. Cleaning and air sterilization. Fundamentals and autoclave equipment. The membrane filtration. The basic principles of the biotechnological process. Study of microbial growth and the effect on pH and its cultivation temperature. The raw material base of industrial biotechnology. Technology of preparation and sterilization of culture media for the biosynthesis.

Biotechnology of mushrooms - 3 credits

Environmental aspects of biodrugs' production - 3 credits

The specific application of biotechnological methods for the solution of environmental problems in the production of drugs for medical and veterinary purposes, plant protection products and other biological products. Purification of water and air in their manufacture. Elimination of microbial contamination. Identification of air pollution, water and soil. Determination of the presence of contamination in samples. Technical and biological control of biological products
Microbiological basics of food and biotechnology industries, 3 credits

Plant Biotechnology - 3 credits

Cellular Biotechnology is based on the ability of cells to totipotency and regeneration, reproduction of invitro. isolated tissue culture method on artificial media in a sterile environment used in crop. for the preservation and reproduction of valuable genotypes, in embryogenesis, improved planting material for secondary metabolic products, in the creation of plants resistant to abiotic and biotic factors, etc.

Genetic Plant Engineering - 3 credits

Course "Genetic engineering of plants" is intended to educate future professional to methods of agricultural biotechnology plant that will significantly accelerate the breeding process by using techniques of genetic engineering of plants; methods and technologies of creation of transgenic plants resistant to biotic and abiotic factors of the environment; methods of synthesis and recombinant DNA cloning vectors of different types; obtaining and analyzing genomic and cDNA libraries; modern methods of molecular analysis and labeling genome. To introduce modern equipment and operating principles by using different methods of genetic engineering. Instill the knowledge and skills of modern agricultural production, which has increased productivity, resistance to stress factors of the environment and economic efficiency

Technological processes of production of secondary synthesis substances - 3credits

Introduction of undergraduates with the different areas of biotechnology and its contribution to solving the problems of second metabolites obtaining ; with the basics of biotechnology of microbial synthesis, principles of plant breeding used for Superior of human's life; Usages of cell technologies for industrial production of biologically active substances of plant origin, obtained in plant cells invitro biologically active substances, usage of which may have a commercial success.

Bekkuzhina SS, .D. b. s., associate professor.

Faculty of Computer Systems and Professional Education (CSaPO)

Specialty 5B012000 - Vocational training

Recommended courses:

Professional pedagogy - 3 credits

Scientific and theoretical basis of professional pedagogy. The content of professional training. Forms, methods, principles and systems of vocational training. Theory and practice of educational work in the system of technical and vocational education.

Abenova BT, senior lecturer of the department of PO, Ph.D.

Professional psychology - 2 credits

Methodological foundations of professional psychology. Psychological features of the organization of professional training of future specialists and organization of work. Fundamentals of socio-psychological management of work.

MD Essekesheva, associate professor, Ph.D.

Specialty 5B070400 - "Computing and software"

Recommended courses:

Microprocessor complexes and industrial equipment programming - 3 credits

Intra-machine system interface. Architecture of the CPU of the MP. Memories of the Ministry of Railways. Organization of the input / output subsystem. Organization of interrupts and direct access to memory. Multi-machine and multi-microprocessor systems. Classification MPVS by the multiplicity of command and data streams. Stages and tasks of MPS design. Software development of MPS. History and perspectives of microprocessor means development. Memory programs and data MK. Working with the microcontroller port. Register shifts. Assembling the chip "Flashing light with 8 LEDs."

Bulegenov A.B. - Candidate of Physical and Mathematical Sciences, art. teacher.

Tabis T. - Master of Computer Science, Senior Teacher

Programming in Python - 3 credits.

Introduction to the Python language. Numbers: integers, real. Lines. Functions and their arguments. Exceptions in Python. The try-except for processing. Tuples. Working with modules. Connecting with the instructions import and from. Encapsulation. Inheritance, polymorphism. Decarators. Bitwise operations. Functions and methods of strings. Lists list

Bulegenov A.B. - Candidate of Physical and Mathematical Sciences, art. teacher.

Musayf M. - Master of Informatics, art. teacher

Fundamentals of robotics - 3 credit.

History of the creation of Arduino. Overview of the Arduino family of controllers. The Arduino IDE programming environment. Programming in Arduino. The structure of the program. A set of functions in Arduino and Serial. Arduino and sign-tone indicators. The EEPROM library. Connect keyboard and mouse. Arduino and touch panel. Arduino and 1-Wire. Arduino and digital temperature sensor DS18B20. Arduino and temperature sensor. Network exchange using Arduino. Arduino and SD memory card.

Bulegenov A.B. - Candidate of Physical and Mathematical Sciences, Senior Teacher.

Tabis T. - Master of Computer Science, Senior Teacher

Programming in Java - 3 credits

General understanding of the Java language. Object-oriented design and NetBeans platform. Creating a simple Java application in NetBeans. Adding a selection of files to the Java application. Primitive data types and operators for working with them. Control structures. Initial information about object programming. Polymorphism. The most important object types. Work with files and folders. Inheritance: problems and alternatives. Additional elements of object programming in the Java language. Introduction to network programming. Built-in classes. Component programming.

Baideldinov M.U. - Candidate of Technical Sciences, art. Teacher

Specialty 5B070300- "Information Systems"

Recommended Courses:

Methods and models in management - 3 credits

The course contains a presentation of the basic mathematical methods and models of processing information data used in the development of management decisions for forecasting. Network optimization, linear programming, hierarchy analysis method, prediction methods, probabilistic and statistical methods, the theory of control of organized systems are considered.

Aniyarov Almir Askarovia, Candidate of Physical and Mathematical Sciences, Senior Lecturer

Web-programming in PHP - 3 credits

Introduction to PHP. The basic syntax of PHP. PHP data types. PHP control constructs. Processing requests using PHP. Functions in PHP. Objects and classes in PHP. Work with arrays of data in PHP. Working with strings in PHP. Working with the file system in PHP. Databases and DBMS. Introduction to SQL. Interaction between PHP and MySQL. Authorization of access with the help of sessions. Regular expressions in PHP. Use templates in PHP.

Nurbekova A.Kh., Senior Lecturer, N. Mishunina, Senior Lecturer

Disciplines read by employers (manufacturers):

Technical Faculty

Specialty 5B080600 - Agrarian technique and technology

Recommended Courses:

Mechanization of animal husbandry - 3 credits

Mechanization of production processes on the farm. Theoretical bases of processes of preparation and storage of forages. Theoretical basis of the process of distribution of feed. Theoretical bases of the processes of manure removal, storage and disposal. Theoretical bases of processes of milking, primary processing and processing of milk. Theoretical bases of processes of a shearing of sheep and primary processing of a wool. Theoretical bases of maintenance of machines and equipment of cattle-breeding farms. Fundamentals of designing technological processes on farms.

Mustafin Zh.Zh. Ph.D., Associate Professor and Zaichko GA Candidate of technical sciences, associate professor.

Fundamentals of caterpillar and wheel machinery - 2 credits

Classification of tractors and cars. General arrangement of tractors and cars. General arrangement and operation of automotive tractor engines. Transmission of tractors and cars. Chassis and control mechanisms for crawler, wheeled tractors and cars. Features of the running system and control mechanisms of caterpillar, wheeled tractors. Work equipment of tractors and cars.

Sagyndyk T.Zh. Candidate of technical sciences, associate professor.

Fundamentals of agricultural machinery - 4 credits

Technological means and technologies and designs of agricultural machines for soil cultivation, fertilizer application, sowing and planting, crop care, harvesting, post harvest harvesting, and land reclamation. Technological complexes and technological means for plant growing, Device and adjustment and aggregation. Methods and technologies for harvesting grain crops. Types of machinery and agrotechnical requirements. General arrangement and principle of operation of grain harvesters. Organization and quality control of basic agricultural machines.

Kaspakov E.Zh. Candidate of technical sciences, associate professor.

The course of disciplines that are read by employers (producers)

Service maintenance of harvesting machines (3rd year) Baimoldin Erkin, director of the branch of Rostselmash LLP.

- Overview lectures on service maintenance of harvesting machines.
- Overview lectures on the principles of operation of technology.
- Hydraulics of agricultural machinery.

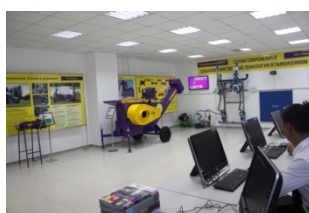
Modern CX machines are used to increase the efficiency of processes in agricultural production, as well as dealing with the problems of processing agricultural products and requires new innovative developments.

Acting laboratory for the specialty "Agricultural technology and technology"

Laboratory for testing agricultural machinery.



Tractor pavilion and the audience are intended for conducting laboratory classes on the discipline "Tractors and cars and the fundamentals of caterpillar and wheeled equipment."



5B071300 - "Transport, transport equipment and technologies"

Recommended Courses:

Technical operation of cars -3 credits

Technical condition and performance of cars. Determination of the technical condition of cars. Definition of technical operation of cars, quality and reliability of products. Influence of operating conditions on the technical condition of cars. Regularities of changes in the technical condition of cars. Maintenance and repair system. Technology and equipment for vehicle maintenance and repair.

Khlynov V.N., art. Teacher.

Automotive operational materials - 3 credits

General information about fuels. Automobile gasolines. Automotive diesel fuel. Alternative fuels. General information about automotive lubricants. Organization of rational use of fuel and lubricants for road transport. Construction and repair materials. Safety and environmental protection in the use of automotive operational materials.

Abdrakhmanov AB, candidate of technical sciences, associate professor.

The device of vehicles - 3 credits

Classification of cars and tractors. General arrangement and layout of cars and tractors. General arrangement and operation of automobile and tractor engines. Transmission of cars and tractors. Chassis and control mechanisms for cars and wheeled tractors. Features of the running system and control mechanisms of caterpillar tractors. Work equipment of tractors and cars.

Orazaliev BT, Ph.D., Associate Professor.

Course of the disciplines read by employers (workers) D Review lectures on car service maintenance Theoretical bases of a technical condition of the car. The theory of vehicle reliability. Changes in the technical condition of the car during operation. Preventive maintenance of vehicles. Diagnosis of the technical condition of cars. Technological equipment for the service of vehicles. Experience in servicing of modern cars of Invest City LLP.

Zhunosov Daniyar Isabekovich, Ph.D.

Deputy Director for Technical Issues.

Invest City LLP.

Using APM WinMachine in the design and calculation of transport equipment units

Levels, aspects and stages of designing vehicles. Typical design procedures. Modern computer systems for designing machines. WinMachine Universal Calculation System. Examples of using APM WinMachine in the design and calculation of transport equipment units. Experience of LLP "AstanaTechProject Service-M" application APM WinMachine. Batyrbekov Dulat Kadyrovich, Ph.D.

Engineer-designer.

LLP "AstanaTechProject Service-M".

Faculty of Economics

Specialty 5B050600 - "Economics"

Recommended Courses:

Entrepreneurship - 3 credits

Course content: the process of organizing entrepreneurial activities and assessing its effectiveness, the mechanism of state regulation and support of enterprise development, the culture of contractual relations, the ethical code of the entrepreneur, the psychology of entrepreneurship, elements of business communication, the causes, factors and conditions for the termination of business activities. Be able to organize and manage a business; to make decisions in the process of functioning of entrepreneurial activity, to conclude contracts. Own methods of personnel assessment, methods of risk management, methods of assessing the effectiveness of entrepreneurial activities.

Students should know the process of organization of entrepreneurial activity and evaluation of its effectiveness, the mechanism of state regulation and support of enterprise development, the culture of contractual relations, the ethical code of the entrepreneur, the psychology of entrepreneurship, elements of business communication, causes, factors and conditions for termination of entrepreneurial activity. Be able to organize and manage a business; to make decisions in the process of functioning of entrepreneurial activity, to conclude contracts. Own methods of personnel assessment, methods of risk management, methods of assessing the effectiveness of entrepreneurial activities.

Teacher: Narbaeva G.K. - Master of Economics, Senior Lecturer

Specialty 5B050700 "Management"

Recommended Courses:

Cooperative forms of management - 3 credits

Obtaining a holistic and systematic understanding of the essence, history of development, problems and principles of cooperation, acquiring knowledge on the current legal and regulatory framework for cooperation; On the creation and organization of a cooperative; Training in methodological issues of assessing the effectiveness of cooperative formations; Acquisition of skills in the creation of agricultural cooperatives and the ability to assess the effectiveness of their performance.

Teacher: Anafiyeva Zh.A., Doctor of Science, Professor, Balkibaeva AM
Candidate of Economic Sciences, Associate Professor

Business management - 3 credits

This discipline is built on the basis of a joint program with the University of Applied Sciences in Weihenstephan-Trisdorf (Germany) and involves the acquisition of knowledge in the field of the functioning of productive sectors in the agrarian sector of the economy. The trainees will learn to objectively perceive all production processes in the technological connection of the sectoral structures of the economy, which will help to successfully solve possible production situations while independently managing the agrarian business. Discipline teaches the most important methods for determining the optimal organization of an enterprise, mastering the important for the conduct of business management techniques and personnel work through the use of applied examples and entrepreneurial games.

Teacher: Nukesheva A.Zh.

Basics of corporate management-3 credits

The purpose of studying the discipline is to master a set of knowledge, skills and skills to apply the norms and rules of corporate governance in practice; Familiarize students with the basic concepts and models of corporate governance, applied in practice; Analysis of the structure, charter and criteria for the effectiveness of the board of directors; Familiarize students with the criteria for assessing corporate governance; The role of risk management, internal control and internal audit in the corporate governance system.

Teacher: Koytanova A. Zh., Candidate of Economic Sciences, Senior Lecturer

Project Management - 3 credits

Studying the course of "Project Management" students will get knowledge about different types of projects and ways of their development.

Students will learn how to develop a financial project plan, manage the project cost; Determine the timeframe for the project; Efficiently distribute projects; Use project management tools; Will study international approaches to project management and the features of the organization of project management companies

Teacher: Aidynov Z.P. Ph.D., senior lecturer

Specialty 5B050800 - "Accounting and audit"

Recommended Courses:

Statistics - 3 credits

The goal of the course is to develop the basic skills of processing and analyzing quantitative information for students as an element of the professional competence of a modern specialist in the field of economics and business.

The course is focused on practical work with professional statistical packages (SPSS, STATISTICA). The laboratory workshop can also be built on the basis of other applied computational packages (Microsoft Excel, MatLab).

Course content: Introduction to statistics. Data structure, classification of different types of data sets. Statistical observation, systematization of data and their presentation. Mean values in statistical analysis. Study of variation. A selective method in statistical research of business processes. Statistical study of the dynamics of business processes. Statistical testing of hypotheses. Random variables and probabilistic models. Index analysis. Introduction to the theory of regression analysis. Correlation and linear regression: the relationship between data. Multiple regression. Regression analysis of time series. Statistical methods for forecasting business processes.

Teacher: Ph.D. Baidakov A.K.

Economic analysis - 3 credits

The purpose of the course: to develop students' skills of effective independent analysis of the financial and economic performance of the enterprise; Help to understand the relationship between the key indicators for the successful application of the results of the analysis in practice.

The course is oriented to practical work with the use of analytical systems for diagnosing, evaluating and monitoring the financial condition of enterprises. Audit expert, your financial analyst based on financial and management reporting data of economic entities.

Course contents: Scientific basis of economic analysis. Organization of economic analysis. Method and methodology of economic analysis. Analysis of the effectiveness of the use of enterprise resources. Managerial analysis of costs and production costs. Marginal Analysis. Financial analysis: the main formats for analyzing financial information. Analysis of financial stability, indicators of capital structure. Analysis of solvency. Profitability analysis: profitability of sales; Correlation of profitability and cost indicators; Return on investment: return on assets (ROA), return on equity (ROE); A study of factors affecting the ROE, the DuPont model. Indicators of operational, financial, full leverage. Estimation of potential bankruptcy of enterprises. Models of valuation of the company (forecast and post-forecast periods, terminal cost, models of infinite growth, calculation of FCF and WACC).

Teacher: Candidate of Economic Sciences, Associate Professor Ismailova AS

Tax accounting - 3 credits

The purpose of the course: the formation of theoretical knowledge and practical skills in the field of establishing and maintaining tax accounting in an economic entity, depending on the specifics of its activities.

Sometimes the main condition of doing business is knowledge of tax legislation. The ability to properly form a tax accounting system and plan taxes will help reduce the amount of tax payments, reduce the risks of incorrect calculation and payment of taxes.

The content of the course summarizes various aspects of tax accounting and accounting policy, explains the main concepts and methods, specifies the nature of tax accounting for various types and subjects of activity. The material is presented in accordance with the latest legislative acts of the Republic of Kazakhstan.

Course contents: Tax accounting policy as a basis for tax accounting organization. Tax reporting. Features of tax accounting. Accounting for the aggregate annual income of a legal entity. Invoice, as the main document that generates income. Accounting for deductions from the aggregate annual income of a legal entity. Accounting for the formation of costs for goods sold (work, services). Tax accounting rules and deductions for fixed assets. Tax accounting for interest (interest) for loans received (loans) and deductions for doubtful claims. Special tax treatment. Tax accounting of deductions for deductions to reserve funds and expenses for insurance premiums. Tax accounting of deductions for expenditures on social payments and social services. Deduction of taxes, penalties, compensation costs and negative exchange rate differences.

Analysis of projects - 3 credits

The purpose of the course is to provide a systematic understanding of the principles, methods and means for making investment decisions that allow rational use of available resources to meet public and personal needs.

The study of the course allows you to familiarize yourself with the basic concepts, methods and approaches that are used in world practice in the analysis of project solutions; Identify the most important problems associated with the implementation of investment projects at different levels; Master practical, analytical skills, tools, necessary for making investment decisions.

Course contents: Classification of projects. Life cycle of the project. Structure of project management. Audit, monitoring and examination of the project. International standards for the evaluation of investment projects, project management and project analysis. Key performance indicators of projects. Calculation of planned project indicators based on forecast values. The time value of money and the discount rate. Risk analysis. Asset valuation: net assets method, substitution and liquidation value method. Cost-based approach. Discounting of cash flows and capitalization of income. Profitable approach. Comparative evaluation: the capital market method, the method of transactions and the method of industry multipliers. Market approach. Valuation through options (conditional requirements). Analytical capabilities of the Project Expert. Analysis of investment projects in the Project Expert environment.

Teacher: Candidate of Economic Sciences, Associate Professor Akhmetova DT

Disciplines read by employers (manufacturers):

Audit and related services - 3 credits

The goal of the course is to develop the knowledge and skills necessary to understand the process of conducting an audit in the context of a professional environment.

Course contents: The course "Audit and related services" is divided into five blocks. The course begins with the presentation of information about the nature, purposes and boundaries of internal and external audit, including mandatory audit, its regulatory framework and ethical issues. Next, the topics of planning and risk assessment are discussed. The following chapters deal with various areas of audit

of financial statements, including internal control boundaries, internal control evaluation, audit evidence, and a review of financial statements. The last chapter of the course discloses information about audit reports, including the form and content of the report on mandatory audit.

Employer: Baltabaev BK, Director of Synergy-Audit LLP, Deputy Chairman of the Council of PJSC "Chamber of Auditors of the RK".

Specialty 5B050900 - "Finance"

Recommended Courses:

Taxes and taxation is a discipline of the tax-banking module, belongs to the group of profiling disciplines, a component of a choice of **-3 credits**.

Knowledge, skills and competences in the field of taxes and taxation are necessary for a wide range of specialists: those who are engaged in the taxation system in the sphere of state and local government, as well as specialists of various profiles employed in various sectors and sectors of the economy.

Teacher: Tleuzhanova DA, Candidate of Sciences, Associate Professor, MA Kasimbekova, Ph.D., Senior Teacher

Banking - 3 credits

Modern banking is a dynamic business all over the world and in Kazakhstan in particular. The role of banks in the economy is large enough. In the course of their activities, they enter into relationships with other banks and customers of different forms of ownership, as well as with various subjects of the economic life of the country. In this regard, the basis for reviewing the activities of a commercial bank is a comprehensive approach that allows to link the activities of banks with the processes of reproduction and development of the economy as a whole.

The purpose of the discipline is to form a student's view of the activities of a commercial bank as a single organization, revealing all aspects of its activities.

When studying the discipline "Banking", the focus is on all stages of the development of a commercial bank: from the moment of its formation to the development of the maximum number of banking operations and the maximum capture of the financial market in the region. As an extreme option, the bankruptcy procedure of a commercial bank is also considered.

Theoretical material of lectures is fixed on practical exercises and at independent work of students.

A student who has successfully mastered the course "Banking" will be able to perform any banking operations in a commercial bank. The course will allow students to carry out professional analytical, consulting activities in commercial banks and other financial and credit institutions, taking into account possible banking innovations and Internet technologies, to have the skills to organize activities within the framework of monetary policy at the micro and macro levels.

Teacher: Baimagambetova ZA- Ph.D., Associate Professor.

Specialty 5B051100 - "Marketing"

Recommended Courses:

Marketing research - 3 credits

The theoretical and practical part of the training course deals with the collection, accounting and analysis of data on marketing and marketing issues in order to improve the quality of decision-making and control procedures in the marketing environment.

The essence of marketing works involves market analysis, compilation of reports on its conjuncture, the formation of a new strategy and tactics, the development and implementation of plans and programs for marketing activities, the satisfaction of inquiries of target buyers at a higher level than competitors.

Teacher: Kaskatayev N.M., Candidate of Economic Sciences, Associate Professor.

Recommended courses for any specialty

Legal basis of entrepreneurship - 2 credits

This discipline is an integrated and integrated branch of law, enabling students and stakeholders to maneuver in economic legal relations and have legal awareness.

Subjects of entrepreneurship. Organizational and legal forms of legal entities. Private enterprise. Individual business. Licensing of entrepreneurial activities. Means of individualization of entrepreneurial activity. Franchising. Business agreements. Legal liability for economic offenses.

Teacher: Ph.D., Associate Professor Kozhakhmetova A.E.

Fundamentals of labor law - 2 credits

Labor law is a set of legal relations and legal norms governing the relationship between employees and employers. Knowledge of the basics of labor law for students, future professionals, an important tool and help in life.

The system of labor law. Sources, subject and methods of labor law. Employment contract. Working time. Rest time. Discipline of labor. Social partnership. Activity of trade unions. Labor disputes. Legal liability for labor offenses.

Tolegen Z.S.

Conclusion

Dear students, you are not mistaken in the choice of high school and specialty! The implementation of your creative abilities in the future depends on your commitment, perseverance, responsibility and active participation in the educational process. Chief specialists are always in demand. Good luck in learning, an interesting students' life and excellent prospects!



010011, Astana, Zhenis av., 62
Phone 8 (7172) 39-73-78
E-mail: agun.katu@gmail.com
<http://www.kazatu.kz>