Bachelor Program for international Students of NWAFU

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# Agronomy

**Students are cultivated to** masterbasic theories, knowledge and skills in green and efficient crop production, crop genetic breeding, seed production and management, and the graduates will be capable of doing work in teaching and research, technology development and extension, management and administration.

**The main courses** are Botany, Plant Physiology, Basic Biochemistry, Genetics, Experimental Design and Analysis, Agriculture and Forestry Meteorology, Microbiology, Agroecology, Agricultural Biotechnology, Crop Breeding, Crop Cultivation, Farming, etc.

**The duration of this program is** 4 years. Bachelor of Agronomy degree will be awarded upon completion of the required courses and credits and pass of HSK5.

# Forestry

**Students are cultivated to** have solid theoretical foundation in life science and forestry science, and to master forest biology, forest cultivation, forest management, forest resource utilization and other theories and methods, and the students have ability of physiological and biochemical analysis, comprehensive quality and ability for ecological and environmental science and technology innovation.

**The main courses** are Botany, Plant Physiology, Genetics, Dendrology, Forest Measurement, Forest Ecology, Forest Cultivation, Forest Breeding, Forest Management, Economic Forest Cultivation, Forest Conservation, Plant Biotechnology, Forestry Remote Sensing, Introduction to GIS and GPS, etc.

**The duration of this program is** 4 years. Bachelor of Agronomy degree will be awarded upon completion of the required courses and credits and pass of HSK5.

# Horticulture

**The goal of this program** is to cultivate students to have a solid biological foundation, master the basic theory, basic knowledge and professional skills of horticulture.

**The main courses** are horticultural plant cultivation, horticultural plant breeding, horticultural product storage and processing, facility horticulture, horticultural plant biotechnology, horticultural plant molecular biology, horticultural plant ecology.

**The duration of this program** is 4 years. Bachelor's degree of Agronomy will be awarded upon the completion of the required courses, credits and pass of HSK5.

# Plant Protection

**Students are cultivated** to have solid professional knowledge and practical skills in plant protection, to master modern agricultural science and technology. The graduates can engage in teaching, scientific research, development and promotion, administrative management in agriculture, forestry, food and related fields

**The main courses** are General Plant Pathology, General Entomology, Agricultural Plant Pathology, Agricultural Entomology, Phytochemical Protection, Experimental Design and Statistical Analysis

**The duration of this program is** 4 years. Bachelor of Agronomy will be awarded upon completion of the required credits and pass of HSK5.

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# Soil and Water Conservation and Desertification Control

**Students are cultivated** to master basic theory of soil and water conservation and desertification control; to have the skills in regional or watershed soil and water conservation planning and design, water conservation planing for development and construction projects, national land improvement planning, construction and supervision of soil and water conservation projects; to have the ability to engage in training in water conservation theory and technology, scientific investigation and research, application review and management of water conservation projects.

**The main core courses** are Botany, Pedology, Ecology, Hydrology, Soil Erosion Principle, Desert Science, Wind and Sand Physics; applied technologies and tools such as Surveying and Cartography, Remote Sensing and Geographic Information System, Engineering Drawing and CAD; Professional knowledge of soil and water conservation and desertification control including Engineering theories and technologies such as Soil Mechanics, Hydraulics, Soil and Water Conservation Engineering, etc.;Grassland management and other forest and grass plant courses including Forestry of Soil and Water Conservation, Economic Plant Cultivation of Soil and Water Conservation

**The duration of this program is** 4 years. Bachelor of Agronomy will be awarded upon completion of the required credits and pass of HSK5.

# Resources and Environmental Science

**Students are cultivated** to have a broad international vision and concept of efficient utilization of resources and green development of the ecological environment. The students will master the basic theories, methods and techniques, and will have the ability and quality to use the knowledge and skills in the development, utilization and management of resources, such as soil, land, fertilizer, water, biology, etc., analysis and evaluation of environmental quality.

**The main courses** are Soil Science, Plant Nutrition, Microbiology, Resource and Environmental Analysis Techniques, Experimental Design and Statistical Analysis, Nutrient Resource Utilization and Management, Resource and Environmental Investigation and Evaluation, etc.

**The duration of this program is** 4 years. Bachelor of Science will be awarded upon completion of the required credits and pass of HSK5.

# Animal Science

**Students are cultivated** to master the basic theoretical knowledge and skills of animal science, to understand the trend of modern animal husbandry production and the frontier of this discipline, and to have basic concepts of animal healthy breeding under the conditions of modern information technology. They are expected to be academic elites, or versatile-and-practical talents in the field of animal husbandry.

**The main courses** are Animal Physiology, Animal Biochemistry, Animal Anatomy and Tissue Embryology, Biostatistics and Experimental Design, Animal Genetics, Animal Breeding, Animal Reproduction, Animal Nutrition, Pig Production, Poultry Production, Cattle Production, Sheep Production.

**The duration of this program** is 4 years. Bachelor of Agronomy will be awarded upon completion of the required credits and pass of HSK5.

# Veterinary Medicine

**Students are cultivated to** be qualified to engage in diagnosis and treatment of animal disease, prevention and control of animal disease, supervision of animal health, animal quarantine and food safety, veterinary medicine and production of veterinary biological products, prevention and control of human and veterinary disease, etc.in the related fields or the enterprises for large-scale animal breeding and veterinary drug .

**The main courses** of this program are Animal Anatomy, Animal Histology and Embryology, Animal Physiology, Animal Pathophysiology, Animal Pathophysiology, Veterinary Pharmacology, Veterinary Microbiology, Veterinary Immunology, Veterinary Clinical Diagnostics, Veterinary Internal Medicine, Veterinary Surgery, Veterinary Obstetrics, Traditional Chinese Veterinary Medicine, Veterinary Infectious Diseases and Veterinary Parasitology.

**The duration of this program is** 5 years. Bachelor of Agronomy degree will be awarded upon completion of the required courses, credits, and pass of HSK5.

# Veterinary Pharmacy

**Students are cultivated to** be compound professionals in development of new veterinary products, production management, quality inspection, analysis of veterinary drug residues, clinical application, innovation and entrepreneurship,etc. The students will be engaged in research and development of veterinary drug, production management, quality test,analysis veterinary of drug residue and clinical application in veterinary drug enterprises, governments, quality test institutions and related fields.

**The main courses** of this program are Veterinary Pharmacology, Pharmaceutical Chemistry, Veterinary Drug Analysis, Veterinary Pharmacy, Traditional Chinese Veterinary Pharmacy, Veterinary Biological Products, Veterinary Pharmacokinetics, Animal Welfare and Behavior.

**The duration of this program** is 4 years. Bachelor of Agronomy degree will be awarded upon completion of the required courses, credits, and pass of HSK5.

# Biotechnology

**Students are cultivated to** master basic theory,methods and experimental skills in biochemistry, molecular biology, genetic engineering and biological information.Students are trained to have a solid biological foundation, to have ability in applied basic research on life science and biological information processing.

**The main courses** are Botany, Zoology, Microbiology, Biochemistry, Molecular Biology, Cell Biology, Genetics, Bioinformatics, Genetic Engineering, Enzyme Engineering, Cell Engineering, Fermentation Engineering, Etc.

**The duration of this program is** 4 years. Bachelor of Science will be awarded upon completion of the required courses and credits and pass of HSK5.

# Food Science and Engineering

**Students are cultivated** to master the basic theory and knowledge system of modern food science and engineering, to have the ability of research in food science, to have good quality of technology communication and innovation, be able to engage in product development, engineering design, food production and technical management in the field of food processing and distribution.

**The main courses** are Basic Biochemistry, Basic Biochemical Experiments, Physical Chemistry, Physical Chemistry Experiments, Food Chemistry, Food Microbiology (B) , Food Microbiology Experiments, Engineering Graphics and Computer Graphics (a) , Engineering Graphics and Computer Graphics Experiments (a) , Principles of Food Engineering (a) , Experimental Design and Statistical Analysis, Mechanical Basis, Food Machinery and Equipment (a) , Food Factory Design, Food Nutrition and Hygiene (B) , Food Analysis and Inspection (B) , Food Technology (a) , Food Standards and Regulations, Application of Artificial Intelligence in food, Introduction to Food Internet.

**The duration of this program** is 4 years. Bachelor of Engineering degree will be awarded upon completion of the required credits and pass of HSK5.

# Data Science and Big Data Technology

**Students are cultivated to** be qualified and innovative to have broad basic theories and systematic expertise in data science, master the basic theories of data science and professional knowledge of big data technology, and have the ability to use big data thinking to analyze complex problems in engineering and modern agriculture.

**The main core courses** are Probability and Mathematical Statistics, Data Structure, Principles and Applications of Database, Principles of Computer Organization, Operating System, Introduction to Data Science and Big Data Technology, Big Data Processing and Analysis, Cloud Computing, Machine Learning and Data Mining

**The duration of this program is** 4 years. Bachelor of Science will be awarded upon completion of the required courses and credits and passing HSK5.

# Applied Chemistry

**Students are cultivated to** master basic knowledge of chemistry,have solid basic theory and skillful experimental skills, good quality in research, innovation and practical skills. In the first academic year, the students will take courses of general knowledge; in the second and third academic years, they are required to complete the main courses and practices; in the 4th academic year, they will complete their graduation thesis (design) and thesis defense.

**The main courses** are Inorganic Chemistry, Analytical Chemistry, Organic Chemistry, Physical Chemistry, Chemical Engineering Principles, Organic Structure Characterization, Instrumental Analysis, Advanced Organic Chemistry, Natural Product Chemistry, Organic Synthesis, etc.

**The duration of this program is** 4 years. The Bachelor of Science will be awarded upon completion of required courses and credits and pass of HSK5.

# Agricultural Water Conservancy Engineering

**Students are cultivated to** master basic theory, basic knowledge and basic skills of agricultural engineering and water conservancy engineering. The students are expected to have ability to engage in the survey, planning, design, construction, research, management, development and utilization of soil and water resources in agriculture, water conservancy, hydro power, soil and water conservation, construction and other industries.

**The main courses** are Theoretical Mechanics, Mechanics of Materials, Structural Mechanics, Hydraulics, Engineering Surveying, Engineering Geology and Hydro-geology, Geotechnics and Foundation, Construction Materials, Ecology and Environmental Hydraulics; Irrigation and Drainage Engineering, Soil and Crop, Engineering Hydrology and Water Conservancy Calculation, Water and Soil Resources Planning and Management, Pumps and Pumping Stations, Hydraulic Structures, Engineering Economics, Hydraulic Reinforced Concrete Structures.

**The duration of this program is** 4 years. Bachelor of Engineering degree will be awarded upon completion of the required credits and pass of HSK5.

# Engineering of Intelligent Agricultural Equipment

**The students are cultivated** to master the basic knowledge of mathematics, physics and computers science, the basic theories, methods and basic skills related to the field of agricultural intelligent equipment,and have ability to solve complex engineering problems.

**The main courses** are Mechanical Principles, Mechanical Design, Electrical Technology, Electronic Technology, Automatic Control Principles, Robot Kinematics and Dynamics, Intelligent Sensing and Detection Technology, Fundamentals of Agricultural Mechanics, Agricultural Robots, and Agricultural Intelligent Production Systems.

**The duration of this program** is 4 years. The bachelor of Engineering degree will be awarded upon the completion of required courses and credits and pass of HSK5.

# International Economy and Trading

**The International Economics and Trade Major aims to** cultivate innovative, multi-skilled, and highly competent professionals with international perspective and solid academic foundation, familiar with contemporary international politics, economy, culture and society, possessing theoretical knowledge and practical skills of international economics and trade, competent for jobs in foreign trade enterprises and government departments and to promote the friendly cooperative relations among countries.

**The main courses are** Microeconomics, Macroeconomics, Econometrics, Statistical Principles, International Economics, International Trade Practice, International Trade of Agricultural Products, International Settlement, International Business, Cross-border E-commerce, etc.

**The duration of this program** is 4 years. Bachelor of Economics degree will be awarded upon completion of required courses and credits and pass of HSK5.

# Agriculture and Forestry Economic Management

**Students are cultivated** to have solid basic theories and knowledge in economics, management and agricultural and forestry sciences, master basic research methods and skills in agricultural and forestry economics and management, be familiar with the laws of economic development of agricultural and forestry industries and related policies, have an international perspective, innovative spirit and innovative and entrepreneurial ability, and be competent to engage in policy research, management, teaching and research in the related fields.

**The main courses** of this program are Microeconomics, Macroeconomics, Principles of Management, Principles of Statistics, Econometrics, Agricultural Economics, Forestry Economics, Agricultural Technology Economics, Agroforestry Policy, Rural Public Management, Agribusiness Management.

**The duration of this program** is 4 years. Bachelor of Science in Management degree will be awarded upon completion of the required courses, credits, and pass of HSK5.

# Sociology

**Students are cultivated** to have ability of critical thinking, innovation, scientific research and language expression. The students are trained to have an international vision and a team spirit，and excel in social practice through learning of theoretical knowledge in sociology and methods of social investigation.

**The main courses** are Introduction to Sociology, Introduction to Social Work, Social Anthropology, Social Statistics, Intellectual History of Chinese Society, Western Sociological Theories, Rural Sociology, Cultural Sociology, Environmental Sociology, Political Sociology.

**The duration of this program is** 4 years. Bachelor of Laws will be awarded upon completion of the required credits and pass of HSK5.

# Teaching Chinese to Speakers of Other Languages

**Students are cultivated** **to** have solid knowledge of Chinese culture, to master systematic theories and methods of international Chinese teaching, to have international vision and cross-cultural communication competence and have certain practice experiences in international Chinese teaching.

**The main courses** are Comprehensive Chinese, General Situation of China, Modern Chinese, Introduction to Teaching Chinese as a Foreign Language, Introduction to Second Language Acquisition, Introduction to Linguistics, Applied Linguistics, Language Teaching Method, General Theory of Chinese Culture, Cross-cultural Communication, Language and Multiculturalism, etc.

**The duration of this program is** 4 years. Bachelor of Arts will be awarded upon completion of the required courses and credits and pass of HSK 5.