Description of the Doctoral Program
Animal Science and Agriculture
Graduate School of Animal and Veterinary Sciences and Agriculture
Obihiro University of Agriculture and Veterinary Medicine

1. Education Policy of the Doctoral Program of Animal Science and Agriculture

Admission Policy

The Doctoral Program of Animal Science and Agriculture at the Graduate School of Animal and Veterinary Science and Agriculture, utilizing its educational systems, which involve "fusion of veterinary medicine, animal science and agriculture" and "cooperation with overseas universities," aims to develop educators and researchers who, while keeping globalization of food and agriculture in mind, have technical knowledge, creativity, excellent research and development skills, and excellent educational abilities as well as great personality. For that purpose, we want students:

1. Who aim to be educators and researchers who can conduct international-standard, advanced research with global views on veterinary medicine, animal science and agriculture, and who have good communication skills,
2. Who are eager to contribute to society domestically and globally by giving back to society their research results in the field where veterinary medicine, animal science and agriculture are fused, and by playing a central role in maintaining animal and human health, conserving the global environment and ecosystem, and developing industries and life science,
3. Who want to pursue comprehensive knowledge and advanced research in a specific area of the animal science and agriculture program, and
4. Who have acquired basic knowledge and skills up to the master's level in a specific area of the animal science and agriculture program.

Diploma Policy

In the Doctoral Program of Animal Science and Agriculture, the degree shall be conferred on persons who have taken the courses set up in the curriculum and obtained the required credits to complete the program, and have acquired the following skills that enable them to shoulder advanced research using their up-to-date knowledge and skills in the fields of animal science and agriculture such as animal production, ecology and environmental science, food science, agricultural economics, engineering for agriculture, plant production science, and interdisciplinary fields:

1. Ethics
   - Ethics based on up-to-date knowledge and skills in the fields of animal science and agriculture such as animal production, ecology and environmental science, food science, agricultural economics, engineering for agriculture, plant production science, animal and food hygiene, and veterinary life science, and interdisciplinary fields, and based on deep understanding of life phenomena and social activities
2. International competence and leadership
   - Abilities to conduct international-standard, advanced research in a wide range of fields of the life sciences including the intravital micro-level, the macro-level dealing with individuals and populations, and animal production.
   - Abilities to conduct international-standard, advanced research in the field of ecological research dealing with the inside of organisms, individuals and populations.
   - Advanced knowledge and skills, and abilities to conduct international-standard, advanced research on processing and utilization of agricultural and livestock products, and their functionality and safety.
   - Abilities to conduct international-standard, advanced research on agricultural economy in order to improve productivity of food production utilizing domestic and overseas resources.
   - Abilities to conduct international-standard, advanced research on production techniques and environmental control in order to improve productivity of food production utilizing domestic and overseas resources.
   - A wide range of technical knowledge on veterinary life science, and abilities to conduct international-standard, advanced research.
3. Communication skills
   - Internationally competent presentation skills and communication skills necessary to explain their process of thinking and making judgments with regard to their specialty in the fields of animal production, ecology and

environmental science, food science, agricultural economics, engineering for agriculture, and plant production science.

4. Technical knowledge and skills:
   - Advanced knowledge and skills on animal production, ecology and environmental science, food science, agricultural economics, engineering for agriculture, and plant production science, global views with regard to the fields of veterinary medicine, animal science and agriculture, and their interdisciplinary fields, practical skills and leadership to meet various social needs according to the globalization of agricultural and livestock businesses, and international-standard, advanced research skills.

Curriculum Policy

In order to have the students acquire knowledge and skills specified in the diploma policy, we conduct education paying attention to the following points:

1. Developing a high-level of ethics as a researcher:
   - We offer courses to develop a high-level of ethics using e-learning and active learning.
2. Developing leadership:
   - We offer courses for students to acquire advanced knowledge and skills, and an ability to manage the whole in order to develop educators and researchers with practical skills and leadership, which enable them to satisfy social needs.
3. Developing international competence:
   - We offer courses that enhance skills for presentation, debate and academic writing for students to play an active role globally in the future.
   - We offer courses to develop international competence such as research internships and fieldwork in cooperation with overseas universities for students to acquire advanced research skills.
4. Developing comprehensive research abilities as a doctor:
   - We offer common courses as well as selective courses from other degree programs for students to acquire a wide range of highly technical knowledge interdisciplinarily from the viewpoint of fusing veterinary medicine, animal science and agricultural studies.
   - We offer courses for students to acquire international-standard, advanced research skills that aim to resolve global issues.
5. We offer courses for students to acquire a wide range of advanced knowledge and skills from life science to production science with regard to biofunction and production and management of domestic animals while keeping animal welfare and environmental conservation in consideration.
6. We offer courses for students to acquire the globally most advanced knowledge and skills on food safety and animal and human health, involving highly advanced knowledge on food safety management systems and domestic and overseas safety monitoring of agricultural and livestock products, and excellent analysis and livestock management techniques in veterinary medicine and veterinary life science.
7. We offer courses for students to acquire the globally most advanced knowledge and skills on the roles, functions, and interactions of the components of the natural environment (wild animals, insects and plants), and the compatibility of ecosystem conservation, taking into account animal welfare and ecological conservation in the matured global community.
8. We offer courses for students to acquire the globally most advanced knowledge and skills on food production and processing from agricultural and livestock ingredients, and on the functionality and safety of these products, from the molecular level to industrial production level.
9. We offer courses for students to acquire the globally most advanced knowledge and skills on the quantitative and qualitative improvement of plant production based on advanced knowledge of plants' physiology, ecology and heredity as well as soil, taking sustainable recycling and local resources into account, and utilizing resources of Tokachi, Hokkaido, which is regarded as Japan's principal food production base.
10. We offer courses for students to acquire the globally most advanced knowledge and skills on economics and business studies related to food production, taking sustainable recycling and local resources into account, and utilizing resources of Tokachi, Hokkaido, which is regarded as Japan's principal food production base.
11. We offer courses for students to acquire the globally most advanced knowledge and skills on the improvement of food production environment by mechanical, biological, and civil engineering methods, taking sustainable recycling and local resources into account, and utilizing resources of Tokachi, Hokkaido, which is regarded as

Japan's principal food production base.

2. Graduate Degree Program of Animal and Food Hygiene

The Graduate Degree Program of Animal and Food Hygiene has been established to train persons who can deal with the acquisition and maintenance of international safety and hygienic standards, which businesses are demanded to meet, as distribution of agricultural products and food beyond nation boundaries is expanding. The program has been developed by making highly professional education on securing food safety into a graduate degree program that students of any of the Specialties can take.

The program trains animal and food hygiene specialists with abilities for practice and application, by conducting professional education on management system for safety and hygiene of agricultural products and other foods in a practical environment that meets international standards.

Students who take this program must take the required and elective courses of this specific program in addition to the required courses and elective courses common in the doctoral program.

Note: Students in this program are to choose the Doctoral Degree in Agriculture or the Doctoral Degree in Animal and Food Hygiene when they have completed each academic year.

Graduate Degree Program of Animal and Food Hygiene

Persons We Train

By conducting education on internal auditing methods, which is further development from professional education on the HACCP system in food safety management systems, in addition to education for students to acquire the most advanced knowledge and skills on animal and food hygiene, we develop international researchers and advanced specialists on animal and food hygiene.

Diploma Policy

The degree shall be conferred on persons who have acquired a wide range of knowledge and excellent abilities to resolve issues as international researchers who shoulder responsibility of securing food safety.

Curriculum Policy

We offer courses for students to acquire the globally most advanced knowledge and skills on animal and food hygiene focusing on hygiene all the way from livestock production sites to dining tables.

3. Completion of programs and awarding degrees

Students are awarded the Doctoral Degree in Agriculture or the Doctoral Degree in Animal and Food Hygiene (the Doctoral Degree in Animal and Food Hygiene can be awarded to those who completed the Graduate Degree Program of Animal and Food Hygiene), after they complete the program, i.e., those who have been enrolled in the Doctoral Program of Animal Science and Agriculture of the Graduate School of Animal and Veterinary Science and Agriculture of our university for three years or longer, and have earned the required credits (12 credits for the regular doctoral program, 16 credits for the Graduate Degree Program of Animal and Food Hygiene), who received the necessary research instruction, and passed the examination of their doctoral thesis in addition to the final examinations of the courses relevant to the thesis.

However, for those who achieved excellent results, the period enrolled in the graduate school could be shortened to one year.

4. Admission of Mature Students

The Doctoral Program of Animal Science and Agriculture of the Graduate School of Animal and Veterinary Science and Agriculture of our university has a special selection for mature applicants to admit students who have completed undergraduate studies, have worked at a company, public office or educational institute, and want to study in a graduate school to acquire more advanced academic knowledge and skills. In the special selection for mature applicants, the applicants' experience and achievements in society, and enthusiasm for research will be examined by the interview and document screening.

Before application, the applicants have to consult with their prospective supervisors on the contents of their research and what courses they will take.

5. Special long term limit

This system allows students who have a job or other special considerations to complete their degree within an agreed-upon time (maximum of 6 years) beyond the standard term limit and still pay the same fee as those students who complete their degrees in the standard amount of time.

In principle, those who want to use this system have to apply for it at the time they enroll after consulting with their prospective supervisors.

6. Supervisors

Name	Position	Field of Research	Contents
△Ohwada Takuji	Professor	Applied Microbiology	Symbiotic relationship between plant and microorganism
Oshida Tatsuo	Professor	Mammalogy	Ecological and phylogeographical studies of wild mammals
Kato Kiyoaki	Professor	Plant Molecular Breeding	Molecular basis and applied studies on plant breeding
Kinoshita Mikio	Professor	Food Chemistry	Food biochemistry of functional lipids
Kuchida Keigo	Professor	Animal Breeding	Statistical genetics for beef cattle based on objective measurements
Koike Masanori	Professor	Insect Pathology	Biological control using entomopathogenic fungi
Kono Hiroichi	Professor	Agricultural Economics	1) Economics and Epidemiology 2) Development Economics, 3) Livestock Development and Poverty Reduction
Shimada Kenichiro	Professor	Meat Science	Applied studies on meat science / meat processing
Michihiro Fukushima	Professor	Nutritional Biochemistry	Health benefits of probiotics and prebiotics
Sembokuya Yasushi	Professor	Agricultural Economics	1) Risk management on agricultural production 2) Comparative analysis on food system
Tani Masayuki	Professor	Soil Science	Evaluation and improvement on soil fertility in arable land
Tetsuka Masafumi	Professor	Reproductive Physiology	Studies on ovarian physiology, oocyte maturation, fertilization and embryo development in domestic animals
Nade Toshihiro	Professor	Animal Feeding	Nutritional physiology and meat production
Nishida Takehiro	Professor	Animal Feeding	Nutritional physiology and feed evaluation in ruminants
□Hanada Masaaki	Professor	Livestock Production	Improvement of productivity and sustainability of livestock production based on regional feed resources such as herbage and agricultural byproducts
Hirata Masahiro	Professor	Rangeland Ecology Culture Anthropology	1) Study on rangeland ecology and environmental conservation in dry areas 2) Study on subsistence and milk culture of pastoralists in dry areas
□Fukushima Michihiro	Professor	Nutritional Biochemistry	Health benefits of probiotics and prebiotics
Fukuda Kenji	Professor	Dairy Chemistry	Studies on functionalities of milk components and lactic acid bacteria

Hosaka Kazuyoshi	Specially Appointed Professor	Plant Genetics and Breeding	Potato genetics and germplasm enhancement
△Miyamoto Akio	Professor	Animal Reproduction	Immune system for regulating fertility: a cross-talk between sperm/embryo and maternal genital tract
Muneoka Toshimi	Professor	Irrigation, Drainage and Rural Engineering	1) River water quality and land use in agricultural and forest watersheds 2) Slope conservation and revegetation technology
Watanabe Jun	Professor	Food Functional Chemistry	Mechanistical studies on functionalities of food resources
Aiuchi Daigo	Associate Professor	Applied Entomology	Studies on pest control of pathogen vector insects
Akasaka Takumi	Associate Professor	Conservation Science	1) Biodiversity Conservation and Ecosystem Service 2) Systematic Conservation Planning Anthropogenic Disturbance and Land-use Strategy
Akimoto Masahiro	Associate Professor	Crop Science	Improvement of cultivation methods of common food crops and fodder crops.
Acosta Ayala Tomas Javier	Associate Professor	Animal Production Animal Disease Control	Improving efficiency in dairy and beef cattle production. Herd health management.
Iwamoto Hiroyuki	Associate Professor	Agricultural Economics	1) Economic Valuation of the Agricultural Environment 2) Research on internalization of external diseconomies in the livestock industry 3) Research on local resource evaluation
Onishi Kazumitsu	Associate Professor	Plant Breeding	Genetic studies on quantitative traits in crop species
Kawashima Chiho	Associate Professor	Animal Nutrition and Reproduction	1) Study on metabolic status and reproductive function during the peripatum period. 2) Study on nutritional and metabolic status of dam and fetus
Kawano Youichi	Associate Professor	Agricultural management	1) Management Capabilities 2) Decision Information Analysis 3) Management Strategy in Traditional Industries
Kawamura Kensuke	Associate Professor	Grassland Ecology	Grassland ecology and remote sensing
Kimura Masato	Associate Professor	Agricultural Meteorology	Use of cold energy from natural ice
Kusaba Nobuyuki	Associate Professor	Animal Hygiene Dairy Production Medicine	1) Animal Hygiene: Disease control of calves 2) Mastitis Control: Prevention and therapy
Kubota Satoko	Associate Professor	Agricultural Economics	1) Economic analysis on food safety 2) Risk communication
Kumano Norikuni	Associate Professor	Insect Ecology	Behavioral Ecology, Population Ecology
Sanetomo Rena	Associate Professor	Plant Genetics and Breeding	Potato genetics and germplasm enhancement
Sugawara Masayuki	Associate Professor	Applied Microbiology	Studies on brewing microorganisms and plant symbiotic bacteria
Seo Tetsuya	Associate Professor	Animal Behavior Animal Welfare	Studies on animal behavior and animal welfare
Nakamura Tadashi	Associate Professor	Dairy Science	Applied studies on utilization and processing of dairy products
Hagiya Koichi	Associate Professor	Animal Breeding	Genetic improvement of dairy cattle based on quantitative genetics

Han Kyu-Ho	Associate Professor	Functional Nutrition	Research for bio-resources on health function
Matsunaga Nobuyoshi	Associate Professor	Animal Physiology	1) Study on metabolic hormones related to growth 2) Study on intermediate blood metabolites
Miyatake Fumihito	Associate Professor	Bioresource Engineering	Theoretical and technological studies on composting and biomass
Yamauchi Takeo	Associate Professor	Systematic Entomology	1) Taxonomc study using insect specimens 2) Evaluation of environment using insects as bioindicators 3) Medical and veterinary entomology
Yamashita Shinji	Associate Professor	Food Chemistry	Food function of lipids
Yoshikawa Takuya	Associate Professor	Bioresource Engineering	Studies on fractionation and utilization of biomass, and development of its process

The Professor marked with △ will retire on March 31, 2025. If you would like to be supervised by him/her, please consult in advance about research instruction.
The Professor marked with □ will retire on March 31, 2026. If you would like to be supervised by him/her, please consult in advance about research instruction.