2017 Enrollment

Hokkaido University

Graduate School of Agriculture

Doctoral Course

Application Guidelines

Graduate School of Agriculture, Hokkaido University

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Application Guidelines

How to Request a Copy of the Application Guidelines (Doctoral Course)

Send a self-addressed stamped envelope to the address below. (The envelope should be 24 cm × 33.2 cm and have ¥205 worth of postage stamps affixed to it or ¥485 if you want express delivery. Be sure to write your name, address, and postal code on the envelope.) In the lower left portion of the front of the outer envelope, write in red letters “Request for Doctoral Course Application Guideline.”

Where to submit requests:

Student Affairs Section, Agricultural Studies Administration Office, Hokkaido University
Kita 9, Nishi 9, Kita-ku, Sapporo 060-8589

2017 Enrollment Hokkaido University Graduate School of Agriculture
Doctoral Course

Application Guidelines

Educational Philosophy of the Graduate School of Agriculture

The Graduate School of Agriculture aims to produce students who have both basic and specialized knowledge of agriculture by providing advanced, interdisciplinary, and comprehensive education and research opportunities that incorporate both the humanities and the sciences as well as students who have a diverse range of knowledge and the good judgment needed to respond to the various issues facing all of humankind today, including stable food supplies, food safety, the preservation of the global environment, and biomass uses.

1. Number of Students to be Admitted

Division of Bio-systems Sustainability.....8
Division of Agrobiology.....14
Division of Applied Bioscience.....6
Division of Environmental Resources.....14 Total: 42

2. Examinations (Specialized Subjects and Foreign Language)

- Select one of the specialized subjects listed below in your preferred chair that corresponds to the academic advisor you intend to work with on your graduate school studies.
- Foreign-language exams are given by individual divisions. However, those who have completed (or expect to complete) the Hokkaido University graduate school's master's course are exempt from the foreign-language exam.
- List of exam subjects

Division	Chair	Exam Subject	
		Specialized Subject and Prospective Academic Advisor after Enrollment	Foreign Language
Division of Bio-systems Sustainability	Chair of Agricultural and Resource Economics	- Agricultural Policy (Prof. Yasutaka Yamamoto or Daisuke Sawauchi [Lecturer]) - Farm Business Management (Prof. Shunsuke Yanagimura, Assoc. Prof. Kan Higashiyama or Tomomi Komatsu [Lecturer]) - Agricultural and Rural Development Economics (Prof. Takumi Kondo or Assoc. Prof. Hideo Aizaki) - Agricultural Cooperative (Prof. Akihiko Sakashita, Assoc. Prof. Park Hong or Assoc. Prof. Kuniyuki Kobayashi) - Agricultural Marketing (Prof. Hiroshi Sakazume or Yoshiharu Shimizuike [Lecturer]) - Applied Statistics (Assoc.Prof. Tomoaki Nakatani) - Agricultural Resource Economics (Yoko Saito [Lecturer]) -Agricultural Cooperative[4] (Specially Appt. Assoc. Prof. Suguru Masaki or Specially Appt. Asst. Prof. Gao Huichen)	English and Japanese
	Chair of Safety and Function of Food	- Agricultural and Food Process Engineering (Assoc. Prof. Shigenobu Koseki) - Meat Science (Assoc. Prof. Junichi Wakamatsu) - Muscle Biology(Prof. Takanori Nishimura or Asst. Prof. Takahiro Suzuki) - Biochemistry (Prof. Haruhide Mori) - General Microbiology (Prof. Atsushi Yokota or Satoru Fukiya[Lecturer])	
	Chair of Biomass Conversion	- Woody Plant Biology (Assoc. Prof. Keita Arakawa) - Bioorganic Chemistry (Assoc. Prof. Yukiharu Fukushi or Kosaku Takahashi [Lecturer]) - Genome-enabled Biochemistry (Asst. Prof. Taichi Takasuka)	

Division of Bio-systems Sustainability	Chair of Sustainable Agro-science	- Insect Evolutionary Ecology (Prof. Shinichi Akimoto) - Plant Nutritional Ecology (Assoc. Prof. Toshihiro Watanabe) - Molecular Plant-Microbe Interactions (Prof. Teruo Sone) - Remote Sensing (Assoc. Prof. Hiroshi Tani or Assoc. Prof. Wang Xiufeng) - Environmental Biogeochemistry (Asst. Prof. Yoshitaka Uchida) - Ecosystem Ecology (Asst.Prof.Tomomichi Kato) - National Land Conservatiopn[3] (Specially Appt. Prof. Nobutomo Osanai or Specially Appt. Asst. Prof. Shinichiro Hayashi) - Molecular Plant Physiology[1] (Affiliate Prof. Ryozo Imai) - Crop Breeding Science for Cold Regions[1] (Affiliate Prof. Yutaka Sato) - Agricultural Meteorology and Agricultural Physics[1] (Affiliate Prof. Tomoyoshi Hirota or Affiliate Prof. Yutaka Sato) - Plant Nutritional Ecology or Soil Science[1] (Affiliate Assoc. Prof. Norikuni Oka)	English and Japanese
Division of Agrobiology	Chair of Applied Molecular Biology	- Applied Molecular Entomology (Prof. Hisanori Bando, Assoc. Prof. Shinichiro Asano or Asst. Prof. Masanao Sato) - Molecular Biology (Assoc. Prof. Hitoshi Onouchi or Asst. Prof. Junpei Takano) - Molecular Enzymology (Prof. Atsuo Kimura, Masayuki Okuyama [Lecturer] or Asst. Prof. Takayoshi Tagami)	English and Japanese
	Chair of Plant Breeding Science	- Plant Genetic Resources (Prof. Jun Abe or Tetsuya Yamada [Lecturer]) - Plant Breeding (Prof. Yuji Kishima, Itsuro Takamure [Lecturer] or Asst. Prof. Yohei Koide) - Genetic Engineering (Prof. Tomohiko Kubo, Yasuyuki Onodera [Lecturer] or Asst. Prof. Kazuyoshi Kitazaki) - Plant Virology (Prof. Chikara Masuta, Tatsuji Hataya [Lecturer] or Kenji Nakahara [Lecturer]) - Cell Technology (Assoc. Prof. Masumi Yamagishi, Assoc. Prof. Akira Kanazawa or Tsuyoshi Inukai [Lecturer]) - Molecular Farming[2]（Affiliate Prof. Takeshi Matsumura） - Applied Prant Genomics (Asst. Prof. Maria Stefanie Dwiyanti)	
	Chair of Botany and Agronomy	- Crop Science (Junichi Kashiwagi [Lecturer] or Asst.Prof.Taiken Nakashima) - Horticultural Science (Assoc. Prof. Takashi Suzuki, Yutaka Jitsuyama [Lecturer] or Asst. Prof. Hanako Shimura) - Crop Physiology (Specially Appt. Prof. Kiyoshi Masuda, Assoc. Prof. Kaien Fujino or Asst.Prof. Yuusuke Tugama) - Plant Pathology (Prof. Norio Kondo or Seishi Akino [Lecturer])	
	Chair of Animal Production	- Animal Breeding and Reproduction (Prof. Masashi Takahashi, Assoc. Prof. Manabu Kawahara or Asst. Prof. Hanako Bai) - Animal Production System (Prof. Koichiro Ueda) - Animal Nutrition (Prof. Yasuo Kobayashi, Assoc. Prof. Satoshi Koike or Asst. Prof. Yutaka Suzuki)	
Division of Applied Bioscience Division of Applied Bioscience	Chair of Food Science	- Dairy Food Science (Prof. Haruto Kumura Assoc. Prof. Ken Kobayashi or Asst. Prof. Toru Hayakawa) - Science of Animal By-Products (Assoc. Prof. Shigeharu Fukunaga) - Nutritional Biochemistry (Prof. Hiroshi Hara, Assoc. Prof. Satoshi Ishizuka or Tohru Hira [Lecturer]) - Food Biochemistry (Prof. Jun Kawabata or Eisuke Kato [Lecturer])	English and Japanese English and Japanese

	Chair of Biomolecular Chemistry	- Biochemistry (Asst. Prof. Wataru Saburi) - General Microbiology (Assoc. Prof. Masaru Wada) - Rhizosphere Control (Assoc. Prof. Tatsuhiro Ezawa) - Bioorganic Chemistry (Prof. Hideyuki Matsuura) - Molecular ＆ Ecological Chemistry (Prof. Yasuyuki Hashidoko, Assoc. Prof. Makoto Hashimoto or Yasuko Sakihama [Lecturer]) - Wood Chemistry and Chemical Biology (Specially Appt. Prof. Makoto Ubukata or Kengo Shigetomi [Lecturer]) - Applied Microbiology, General Microbiology, or Biochemistry[2] (Affiliate Prof. Tomohiro Tamura, Affiliate Prof. Yoichi Kamagata, Affiliate Prof. Isao Yumoto, or Affiliate Assoc. Prof. Naoki Morita, Affiliate Assoc. Prof.Wataru Kitagawa, Affiliate Assoc. Prof. Yoshitomo Kikuchi or Affiliate Assoc. Prof. Souichiro Kato)	
Division of Environmental Resources	Chair of Ecology and Systematics	- Animal Ecology (Prof. Hitoshi Araki or Assoc. Prof. Eisuke Hasegawa) - Systematic Entomology (Prof. Masahiro Ohara or Assoc. Prof. Kazunori Yoshizawa) - Plant Systematics (Prof. Hideki Takahashi, Asst. Prof. Takayuki Azuma or Asst. Prof. Koh Nakamura) - Plant Ecology (Prof. Hiroko Fujita) - Museum Materials Management (Asst. Prof. Masaru Kato)	English and Japanese
	Chair of Regional Environment	- Land Improvement and Management (Prof. Takashi Inoue or Tadao Yamamoto [Lecturer]) - Agricultural Meteorology and Agricultural Physics (Prof. Ryoji Sameshima or Keiji Okada [Lecturer]) - Soil Physics (Prof. Munehide Ishiguro or Junichi Kashiwagi [Lecturer]) - Soil Science (Prof. Ryusuke Hatano, Assoc. Prof. Osamu Nakahara or Kanta Kuramochi [Lecturer]) - Eco-informatics (Prof. Takashi Hirano or Hiroyuki Yamada [Lecturer])	
	Chair of Science of Forest Resources	- Silviculture & Forest Ecology (Prof. Takayoshi Koike, Assoc. Prof. Masato Shibuya or Hideyuki Saito [Lecturer]) - Forest Chemistry (Prof. Yasumitsu Uraki or Keiichi Koda [Lecturer]) - Forest Resource Biology (Assoc. Prof. Yutaka Tamai or Asst. Prof. Toshizumi Miyamoto) - Timber Engineering (Prof. Akio Koizumi or Kei Sawata [Lecturer]) - Woody Plant Biology (Prof. Yuzou Sano or Asst. Prof. Yusuke Yamagishi)	

	Chair of Integrated Forest-Landscape Management	- Forest Ecosystem Management (Prof. Futoshi Nakamura or Assoc. Prof. Junko Morimoto) - Earth Surface Processes and Land Management (Specially Appt. Prof. Tomomi Marutani, Assoc. Prof. Mio Kasai or Asst. Prof. Shin'ya Katsura) - Forest Policy (Prof. Hiroaki Kakizawa or Assoc. Prof. Yasushi Shoji) - Ornamental Horticulture (Prof. Tetsuya Kondo, Assoc. Prof. Tetsuya Aikoh or Hajime Matsushima [Lecturer]) - Landscape Architecture (Prof. Tetsuya Kondo, Assoc. Prof. Tetsuya Aikoh or Hajime Matsushima [Lecturer])	
Division of Environmental Resources	Chair of Bioproduction Engineering	- Field Informatics (Prof. Noboru Noguchi or Assoc. Prof. Hiroshi Okamoto) - Agricultural and Food Process Engineering (Prof. Shuso Kawamura) - Crop Production Engineering (Prof. Yoichi Shibata) - Bioresource Engineering (Prof. Kazunori Iwabuchi or Assoc. Prof. Naoto Shimizu) - Agricultural Instrumentation Engineering (Assoc. Prof. Kazunobu Ishii)	English And Japanese

[1]Cooperative laboratory with the National Agricultural Research Center for Hokkaido Region, National Agriculture and Food Research Organization
[2]Cooperative laboratory with Hokkaido Center, National Institute of Advanced Industrial Science and Technology (AIST)
[3]Endowed laboratory by STC (Sabo & Landslide Technical Center)
[4]Endowed laboratory by The Norinchukin Bank
Note: The academic advisors shown in the table are subject to change after the enrollment period.
◎The academic advisors shaded in the table do not recruit any new students this time.

3. Evaluation of Applicants

Admission decisions will be made based on an assessment of the applicant's written and oral exams, master's thesis, and a review of his/her transcript submitted by the dean of the applicant's previous graduate school or other educational institution.

4. Application Qualifications

(1) Individuals who have been awarded or expect to be awarded a master's degree or professional degree in March 2017

(2) Individuals who have been awarded or expect to be awarded a degree equivalent to a master's degree or professional degree from a foreign university by March 2017

(3) Individuals who have been awarded or expect to be awarded a degree equivalent to a master's degree or professional degree by taking correspondence courses in Japan offered by a foreign school by March ~~2016~~ 2017

(4) Individuals who have completed a foreign university's graduate school coursework at an educational institution in Japan and have been awarded or expect to be awarded a degree equivalent to a master's degree or professional degree by March 2017. The institution needs to be positioned within the school education system of that foreign country as an educational body with a graduate school course and is required to be designated by the Japanese Minister of Education, Culture, Sports, Science and Technology

(5) Individuals who have been awarded or expected to be awarded a degree equivalent to a master's degree by March 2017 from a United Nations University as prescribed in Article 1(2) of the Act on Special Measures Incidental of Enforcement of the Agreement between the United Nations and Japan regarding the Headquarters of the United Nations University (Act No.72 of 1976), which was established under the December 11, 1972 resolution of the General Assembly of the United Nations

(6) Individuals who have completed their formal education by taking a correspondence course through a non-Japanese university, an educational institution which received the designation by (4), or the United Nations University, who have passed an examination or a screening equivalent to the regulations by Article 16.2 in Standards for the Establishment of Graduate Schools, and who are recognized to have an academic ability equivalent to Master's degree holders by the Graduate School, or who will obtain it by March 2017. (hereinafter referred to as "individuals from a foreign university who have been passed a Qualifying Examination").

(7) Individuals designated by the minister of education, culture, sports, science and technology (1989 Notice No. 118, Ministry of Education, Science and Culture; 2001 Notice No. 55, Ministry of Education, Culture, Sports, Science and Technology)

(a) Those who have graduated from a university, have worked for two years or longer at a university or research institution, and have earned a master's degree or are recognized by the Hokkaido University Graduate School of Agriculture as possessing equivalent or greater academic capabilities based on its research findings

(b) Those who have completed 16 years of school education in a foreign country or 16 years of school education of a foreign country by taking a correspondence course in Japan offered by a school of that foreign country, have worked for two years or longer at a university or research institution, and have earned a master's degree or are recognized by the Hokkaido University Graduate School of Agriculture as possessing equivalent or greater academic capabilities based on its research findings

(8) Individuals who are recognized by this graduate school as possessing the equivalent or greater academic skills as that of a person who has a master's degree or professional degree based on an individual admission qualification screening and who will be 24 years of age as of March 31, 2017*

*This qualification applies to those who do not have the qualifications of a university graduate, such as

graduates of a national college of technology, junior college, specialized training college, or other types of schools as well as graduates of Japanese branch schools of foreign universities or foreign schools.

Note: Individuals applying based on qualification (6) or (7) or (8) are required to undergo a preliminary review of application qualifications, so be sure to submit the following documents between November 24 (Thu.) and December 2 (Fri.), 2016.

In the case of (6)…"Application form for the preliminary review of application qualifications" and "Success certificate of the Qualifying Examination"

In the case of (7) or (8)…"Application form for the preliminary review of application qualifications", "Certificate verifying your research history", "Record of research findings", and "Letter of recommendation from the director, etc., of the institution where you conducted research or an equivalent document"

【Be sure to use the prescribed forms for "Application form for the preliminary review of application qualifications", "Certificate verifying your research history", and "Record of research findings".】

5. Application Materials

□ □ □	Application From Admission Ticket Photograph Ticket	Use the prescribed form. Affix a photo of yourself (taken within 3 months of application, 4 cm high × 3 cm wide, upper body, facing front, no hats) to the appropriate spot on each form.
□	Examination fee: ¥30,000 Note: Government-funded international students, China Scholarship Council (CSC) supported students, Hokkaido University President's Fellowship international students and those who expect to earn a master's degree from this graduate school are exempt from this fee.	(a) Pay the examination fee at a post office or bank using the attached payment slip and then affix the validated portion to the designated section of the sticking form. (b) Upon payment of the examination fee, the post office or bank will validate the payment slip. Be sure this portion is stamped with the payment date. Applications with receipts that are not date-stamped will not be processed. (c) Examination fees cannot be paid in cash or by regular money order, so be sure to complete the bank transfer procedure at a post office or bank. You may not make your payment at an ATM. (d) Once application materials have been accepted, the examination fee will not be refunded for any reason except those listed below. Situations Warranting a Refund of the Examination Fee A. If an individual paid the examination fee but did not apply for admission (did not submit an application or submitted an application that was not accepted) B. If the examination fee was accidentally paid twice C. If a person who is exempt from the fee pays the fee
□	Transcript	Issued by the dean of your graduate school, etc.
□	Certificate of (expected) completion	Issued by the dean of your graduate school, etc.
□	Copy of your master's thesis or an abstract thereof (Japanese: 2,000 to 3,000 characters, English: 1,100 to 1,700 words)	Not required of applicants who completed or expect to complete courses at Graduate School of Agriculture, Hokkaido University.
□	Elective exam subject form	Fill out and submit the prescribed form provided.

□	Envelope in which your admission ticket is to be mailed	Write your name, address, and postal code on the envelope provided, affix ¥362 worth of postage stamps to it, and submit it. Please do not put a line through the honorific ending 様 (*sama*) already printed.
□	Contact information stickers	Fill out and submit the prescribed form provided.

Notes: 1. Individuals applying based on qualification (6) or (7) or (8) will receive separate instructions about application materials when they receive the results of their preliminary review.
2. International student applicants will receive separate instructions.
3. Special accommodations need to be made to enable physically handicapped applicants to take the entrance examination and attend university classes. Thus, physically handicapped applicants should contact the Student Affairs Section, Agricultural Studies Administration Office.

6. Application Period, etc.

(1) Period: December 26 (Mon.), 2016 through January 6 (Fri.), 2017 (except for December 29th (Thu.) to January 3rd (Tue.))

Hours: 9:00 a.m. to 5:00 p.m. (closed weekends)
If mailing your application, mark the outside of the envelope "Graduate School Doctoral Course Admission Application" in red ink and send it by simplified registered mail so that it arrives at the university during the application period.

(2) Place: Student Affairs Section, Agricultural Studies Administration Office, Hokkaido University

7. Examination Dates and Place

Date	Time	Exam Category		Place
February 9 (Thu.)	10:40 to 12:00	Foreign language	Conducted by division	Graduate School of Agriculture, Hokkaido University Kita 9, Nishi 9, Kita-ku, Sapporo
	13:00 to 15:30	Specialized subjects		
February 10(Fri.)	• 13:00 • 15:00 (only for applicants to the Division of Bio-systems Sustainability)	Oral interview		

8. Announcement of Exam Results

Results will be posted in the front entrance hall of the Graduate School of Agriculture at 16:00 (subject to change) on March 2 (Thu.), 2017. At the same time, results will be mailed to applicants individually. Information about whether an applicant has passed or failed the exam will not be provided over the phone.

9. Enrollment Fee and Tuition

(1) Enrollment fee: ¥282,000
Applicants who have completed this graduate school's master's course and are continuing on to the doctoral course do not need to pay this fee.

(2) First-semester tuition: ¥267,900 (annual total: ¥535,800)

Note: The above amounts are estimates. If these figures are revised at the time of admission or during enrollment, the new amount will apply as of the time of revision.

10. Notice

For the "Academic Background and Work History" section of the admission application, be sure to list information for all time periods since graduating from high school. Do not leave any periods of time unaccounted for. If an applicant has been accepted but is found to have provided false or incomplete information, that applicant's enrollment may be canceled.

11. Privacy Policy

Names, addresses, and other personal information provided to the university on application documents will be used

solely for enrollee selection, the announcement of exam results, and admission procedures. The personal information of those who are accepted for admission shall also be used for administrative purposes after enrollment (student registration, academic counseling, etc.), student support services (health management, scholarship applications, etc.), and administrative tasks related to tuition, etc.
Only the names and addresses of applicants will be used to facilitate communications from the Hokkaido University Frontier Foundation and an organizations associated with the university: the Hokkaido University Athletic Union.
The information will not be used for any purpose other than those mentioned above.

12. Others

Japanese students who wish to write a thesis in English could participate in the "Special Postgraduate Program in Biosphere Sustainability Science. (Special Postgraduate Program)" A qualification screening to participate in the program will be conducted after the enrollment. For the outline and participating laboratories of the Special Postgraduate Program, please confirm the following website. (http://www.agr.hokudai.ac.jp/en/spgp/)

Notice: Graduate School of Agriculture is planning to restructure the faculties in 2019 academic year. The detailed information will be uploaded on a website once finalized.

October 2016

Graduate School of Agriculture, Hokkaido University
Kita 9, Nishi 9, Kita-ku, Sapporo 060-8589
Tel: 011-706-4041/2422
E-mail: kyomu@agr.hokudai.ac.jp

Long-Term Study System

1. Purpose of the Long-Term Study System

The long-term study system is available to students who would not be able to complete the program within the standard course term (two years for a master's course and three years for a doctoral course) due to full-time employment or other circumstances (including responsibilities related to the care of elderly or disabled family members or the raising of children) and therefore want a longer period of time to conduct their studies systematically. Students must file an application and may be approved for a systematically planned course of study (hereinafter referred to as "long-term study") after an individual review.

2. Eligibility for the Long-Term Study System

Individuals applying for the long-term study system must qualify as one of those listed below, be unable to make a commitment to full-time studies as a consequence of the circumstances described, and would therefore like to extend in advance the number of years over which they will conduct their studies (research).

(1) Individuals who are engaged in full-time employment, such as those currently employed by government agencies or companies (excluding those who will continue to receive salaries while being relieved of their work duties), and self-employed individuals
(2) Individuals who are engaged in temporary or part-time employment that adversely affects their studies
(3) Individuals whose responsibilities, such as raising children or caring for other family members, adversely affect their studies to the same degree as the responsibilities listed in item (2) above

3. Long-Term Study Period

The allowable length of period under the long-term study system is up to four years for a master's course and up to six years for a doctoral course. Study periods for long-term study applicants are approved in one-year increments.
The maximum length of enrollment for a student who has been approved for long-term study is up to an additional two years beyond the approved long-term study period in the master's course and six years in the doctoral course, the same maximum length of time as students under the standard term of study.
The period of time off that the Graduate School of Agriculture will allow is the same for students under either the standard term of study or long-term study program, i.e., two years for master's students and three years for doctoral students.

4. Application Procedures for the Long-Term Study System

(1) Application Deadline
Those wishing to apply for the long-term study system should apply at the time they submit their admission applications. Application forms for the long-term study system are available at the Students Affairs Section, Agricultural Studies Administration Office
(2) Submission of Documents
Submit the following documents to the Students Affairs Section, Agricultural Studies Administration Office:

(a) Application for long-term study (form 1)
(b) Long-term study plan (form 2)
(c) Materials verifying your reasons for needing long-term study approval

(3) Notification of Review Results
The dean of the graduate school will notify applicants of the results of their reviews.

5. Contraction or Extension of the Long-Term Study Period

If deemed necessary by the Graduate School of Agriculture, approval may be granted for a contraction or extension of the long-term study period once, and only once, during the student's period of enrollment.
For more information, contact the Students Affairs Section, Agricultural Studies Administration Office.

6. Tuition Adaptations

The tuition of students who have been approved for the long-term study system shall be calculated in annual amounts by dividing the total tuition for the standard term of study (master's course: annual tuition × 2 years; doctoral course: annual tuition × 3 years) by the number of years for which the long-term study has been approved. In cases where the tuition amount is revised or a change to the long-term study period is approved, tuition will be recalculated at that time. However, any tuition already paid will not be adjusted retroactively.

Be sure not to pay the tuition for your current term of study until you are notified of whether your application for the long-term study system or a change thereof has been approved.

Educational Philosophy and Specialized Curriculum of Each Division and Chair

1. Division of Bio-systems Sustainability

This division covers food safety, production environments and living environments, biomass use, and the symbiosis between living organisms. Specifically, topics will include the social scientific analysis of the most essential food for survival and environments used as the production bases of such food; the pursuit of functionality for ensuring the safety of food and food products and building a healthy society; the environment-friendly use of biomass production, including food; and ways to achieve a balance between humans and the earth, humans and other living beings, and humans and other humans to achieve a sustainable existence.

(1) **Chair of Agricultural and Resource Economics:** This chair covers socioeconomic problems related to food, resources, and environments that affect the social infrastructure for human survival. The chair fosters an understanding of food system development and food safety; the construction of sustainable agricultural and fisheries production systems; the formation of a recycling-oriented society that takes environmental problems into consideration and building a partnership in that society; the formation of landscapes that can accommodate many agricultural functions and the tourism development of farming villages; and global population and food problems.

(2) **Chair of Safety and Function of Food:** This chair covers food safety; the establishment of safe food storage methods; the search for safe food product ingredients and the development of functional food that uses enzyme reactions, etc.; the search for microorganisms that have new functions, that live in the gastrointestinal tracts of animals and humans; and so forth.

(3) **Chair of Biomass Conversion:** This chair analyzes the basis of the living environments from the perspectives of physics and chemistry to mitigate the increase in CO_2 in the air due to the consumption of fossil fuels and to reduce associated global warming. The chair also covers the development of new resource plants, environmental adaptation mechanisms of resource plants, the process control of biomass-based products and the conversion to energy using physical and biochemical methods, and the provision of added value to biomass resources through chemical conversion.

(4) **Chair of Sustainable Agro-science:** This chair identifies the mechanisms of mutual interaction between living organisms—including animals, plants, and microorganisms—and the symbiotic relationships between them and integrates those relationships into systems that have allowed for the achievement in recent years of innovative technological developments in stable, safe, and environmentally focused primary production. To this end, students learn about the predation chain and symbiotic relationships between living beings as well as the principles at work therein by analyzing the patterns of behavior of animals. They analyze the rhizosphere environments of plants from the perspectives of biology, microbiology, and chemistry and develop the skills to comprehensively understand complex systems and analyze, restore, and preserve the relationships between production systems and their peripheral environments.

2. Division of Agrobiology

This division covers basic and applied research on food development and production. Specifically, it teaches students about the development and use of crops as well as plant and animal resources. It also teaches them to develop technologies that enable sustainable production. It covers the prevention of pests and weeds using environmentally sound means; the preservation and functional analysis of genetic resources; the analysis of the gene expression mechanisms and functions of proteins in animals and plants; and animal nutrition and production systems, from the molecular level to actual production.

(1) **Chair of Applied Molecular Biology:** Living organisms are living systems, the characteristic of which is that they can self-replicate. Various types of living organisms engage in self-replication and metabolism, while adapting to their environments. Students analyze complex gene expression mechanisms that play important roles in the maintenance of these living systems and apply their findings to the context of crop production.

(2) **Chair of Plant Breeding Science:** Using methods that range from basic biology to molecular and cellular biology, students will implement the development of materials ranging from advanced plants to viruses while analyzing their functions and comprehensively breed new plant varieties that aim for the genetic control of environmentally sound living organisms.

(3) **Chair of Botany and Agronomy:** Students will analyze the production functions of plants, particularly those used in food and horticultural crops, under diverse environmental conditions using techniques from the fields of physiology, pathology, and ecology. They will study the development of sustainable food production premised on the efficient use of resources and environmental preservation.

(4) **Chair of Animal Production:** Students will study principles that are common to livestock production systems, whose foundation is the soil, and will study livestock production comprehensively from the molecular level to the individual animal and herd level, including the symbiotic relationship between livestock and production environment factors.

3. Division of Applied Bioscience

In this division, students gain a basic understanding of biofunctions and learn about the applied development of that knowledge. Specifically, using recently developed techniques in the fields of bioscience and biotechnology, students learn about macro-level identification and systems involved in the use of biological functions and bio-resources from the micro-level viewpoint, such as molecules.

(1) **Chair of Food Science:** Students will study the diversity and functionality of animals, plants and microorganisms as food sources and their effective use. More specifically, students will take a comprehensive look at animals, plants and microorganisms as food sources and gain a comprehensive understanding of their nutritional physiology and biological regulatory functions that occur when food is in their digestive tracts, when it moves from the digestive tract into the body, and while it is in the body. In addition, potential of their materials for biological modulation on the cutaneous appendages is to be evaluated. They will also learn about the reuse of the inedible portions of food resource biomass in products that are used in everyday life.

(2) **Chair of Biomolecular Chemistry:** Students will study microorganisms, plants, and animal cells and use methods from biochemistry, microbiology, protein engineering, genetic engineering, and organic chemistry to discover their functions and complex mutual interactions. Using this knowledge, students will explore the control of biological functions, discover new functions, and seek applications in bioproduction, useful substance production through bioprocesses, environmental control, and substances and materials with new functions.

4. Division of Environmental Resources

This division offers basic and applied education and research for achieving a balance between the environment and biological production. Specifically, it covers the understanding of the diversity, use, and management of biological resources; the management and control of environmental resources, primarily air, soil, and water; the understanding of the physiology and ecology of living organisms in forests, the sustainable use of them, and technological development for such use; the management, preservation, planning, multipurpose use, and ecosystem restoration of forests and green spaces; and environmentally sound food production and substance recycling systems.

(1) **Chair of Ecology and Systematics:** Students gain an understanding of the diversity of living organisms through their patterns (ecology and taxonomy) and development (evolution). From these perspectives, the chair will explain the conditions of living beings in natural outdoor environments and in such man-made environments as farms and cities. Also, it will cover the preservation and management of species and ecosystems in danger of extinction.

(2) **Chair of Regional Environment:** Students study the preservation and advanced use of the basic elements of the natural environment, that is, soil, water, and air; the substance recycling and energy flow between elements; the mutual interactions between elements, including living beings; and the efficient acquisition and analysis of comprehensive information on the natural environment. Through these studies, students will develop capabilities so that they will contribute to the creation of high-quality local environmental foundations and the formation of sustainable local communities.

(3) **Chair of Science of Forest Resources:** Students examine the various phenomena of forests and the physiological phenomena specific to timber using theories and techniques from related fields, such as ecology, physiology, genetics, anatomy, molecular biology, structural mechanics, and biochemistry. They will apply this knowledge to the preservation and sustainable use of forest resources, striving to develop new effective uses and advanced processing technologies for timber resources and exploring and developing uses for currently unused forest resources, such as fungi.

(4) **Chair of Integrated Forest-Landscape Management:** Students study the functions of forests and green spaces, which are the greatest natural inland resources, using methods from the natural and social sciences and learn about the development of new methods for multipurpose management, preservation, and planning. They will also learn about natural disaster mitigation measures, groundwater environment preservation, nature revitalization, and ecosystem restoration technologies in the watershed zones that surround forests and green areas.

(5) **Chair of Bioproduction Engineering:** Students study food, from food production to use, mainly from physiological perspectives. With the goal of building sustainable systems of agricultural production and use that to address issues related to the environment, people, and society, students study and work to develop new technologies related to the means of food production, processing and storage methods for agricultural products, and the use and disposal methods of organic waste from the perspectives of the environment, energy, human labor, food safety, sustainable food supplies, substance recycling, and so forth.

List of Academic Advisors in the Graduate School of Agriculture

October 16, 2016

Division of Bio-systems Sustainability

Chair	Academic Advisor in Charge (Field of Specialization [Name of Unit])
Chair of Agricultural and Resource Economics	Professor: Yasutaka Yamamoto (Agricultural and Environmental Policy) Shunsuke Yanagimura (Farm Business Management) Akihiko Sakashita (Regional Alliances Economics Agricultural Organizations) Takumi Kondo (Agricultural Development) Hiroshi Sakazume (Food and Agricultural Marketing) Associate Professor: Hideo Aizaki (Agricultural Development) Park Hong (Regional Alliances Economics Agricultural Organizations) Tomoaki Nakatani (Agro-Food Economics and Statistics) Kan Higashiyama (Farm Business Management) Kuniyuki Kobayashi (Regional Alliances Economics Agricultural Organizations) Specially Appt. Associate Professor: Suguru Masaki[4] (Cooperative's Raison D'être) Lecturer: Daisuke Sawauchi (Agricultural and Environmental Policy) Yoshiharu Shimizuike (Food and Agricultural Marketing) Yoko Saito (Agricultural Resource Economics) Tomomi Komatsu (Farm Business Management) Specially Appt. Assistant Professor: Gao Huichen[4] (Cooperative's Raison D'être)
Chair of Safety and Function of Food	Professor: Takanori Nishimura (Muscle Cell Molecular Science) Haruhide Mori (Chemistry of Functional Foods) Atsushi Yokota (Gastrointestinal Microbiology) Associate Professor: Shigenobu Koseki (Comprehensive Technical Management for Foods) Junichi Wakamatsu[1] (Meat Science) Lecturer: Satoru Fukiya (Gastrointestinal Microbiology) Assistant Professor: Takahiro Suzuki (Muscle Cell Molecular Science)
Chair of Biomass Conversion	Associate Professor: Keita Arakawa (Plant Resource Invention) Yukiharu Fukushi (Chemical Biology) Lecturer: Kosaku Takahashi (Chemical Biology) Assistant Professor: Taichi Takasuka (Genome-enabled Biochemistry)
Chair of Sustainable Agro-science	Professor: Shinichi Akimoto (Insect Evolutionary Ecology)

Chair of Sustainable Agro-science	Teruo Sone (Molecular Plant-Microbe Interactions) Specially Appt. Professor: Nobutomo Osanai (National Land Conservation[4]) Affiliate Professor: Tomoyoshi Hirota (Regional Agricultural Bioscience[2]) Yutaka Sato[4] (National Land Conservation) Associate Professor: Hiroshi Tani (Bio-environmental Informatics) Wang Xiufeng (Bio-environmental Informatics) Toshihiro Watanabe (Plant Nutritional Ecology) Affiliate Associate Professor: Norikuni Oka(Regional Agricultural Bioscience[2]) Assistant Professor: Yoshitaka Uchida (Environmental Biogeochemistry) Tomomichi Kato (Terrestrial Ecosystem Modeling) Hayato Maruyama (Plant Nutritional Ecology) Specially Appt. Assistant Professor: Shinichiro Hayashi[4] (National Land Conservation)

Division of Agrobiology

Chair	Academic Advisor in Charge (Field of Specialization [Name of Unit])
Chair of Applied Molecular Biology	Professor: Hisanori Bando (Applied Molecular Entomology) Atsuo Kimura (Molecular Enzymology) Associate Professor: Shinichiro Asano (Applied Molecular Entomology) Hitoshi Onouchi (Molecular Biology) Lecturer: Masayuki Okuyama (Molecular Enzymology) Assistant Professor: Masanao Sato (Applied Molecular Entomology) Takayoshi Tagami (Molecular Enzymology)
Chair of Plant Breeding Science	Professor: Jun Abe (Plant Genetics and Evolution) Yuji Kishima (Plant Breeding) Chikara Masuta (Pathogen-Plant Interactions) Tomohiko Kubo (Genetic Engineering) Affiliate Professor: Takeshi Matsumura (Molecular Farming[2]) Associate Professor: Masumi Yamagishi (Cell Biology and Manipulation) Akira Kanazawa (Cell Biology and Manipulation) Lecturer: Itsuro Takamure (Plant Breeding)

	Tatsuji Hataya (Pathogen-Plant Interactions) Tsuyoshi Inukai (Cell Biology and Manipulation) Tetsuya Yamada (Plant Genetics and Evolution) Yasuyuki Onodera (Genetic Engineering) Kenji Nakahara (Pathogen-Plant Interactions) Assistant Professor: Yohei Koide (Plant Breeding) Kazuyoshi Kitazaki (Genetic Engineering) Maria Stefanie Dwiyanti (Applied Plant Genomics)
Chair of Botany and Agronomy	Specially Appt. Professor: Kiyoshi Masuda☆ (Crop Physiology) Professor: Norio Kondo[1] (Plant Pathology) Associate Professor: Kaien Fujino (Crop Physiology) Takashi Suzuki (Horticultural Science) Masumi Yamagishi (Plant Functions Development) Lecturer: Junichi Kashiwagi (Crop Science) Yutaka Jitsuyama (Horticultural Science) Seishi Akino (Plant Pathology) Assistant Professor: Hanako Shimura (Horticultural Science) Daisuke Tsugama (Crop Physiology) Taiken Nakashima (Crop Science)
Chair of Animal Production	Professor: Masashi Takahashi (Animal Breeding and Reproduction) Yasuo Kobayashi (Animal Nutrition) Koichiro Ueda (Animal Production System) Associate Professor: Manabu Kawahara (Animal Breeding and Reproduction) Satoshi Koike (Animal Nutrition) Assistant Professor: Hanako Bai (Animal Breeding and Reproduction) Yutaka Suzuki (Animal Nutrition)

Division of Applied Bioscience

Chair	Academic Advisor in Charge (Field of Specialization [Name of Unit])
Chair of Food Science	Professor: Haruto Kumura (Applied Food Science) Hiroshi Hara (Food Science for Health) Jun Kawabata (Food Biochemistry) Associate Professor: Shigeharu Fukunaga (Animal By-product Science) Satoshi Ishizuka (Nutritional Biochemistry) Ken Kobayashi (Functional Histocytology)

	Lecturer: Tohru Hira (Food Science for Health) Eisuke Kato (Food Biochemistry) Assistant Professor: Toru Hayakawa (Applied Food Science)
Chair of Biomolecular Chemistry	Specially Appt. Professor: Makoto Ubukata☆ (Wood Chemistry & Chemical Biology) Professor: Yasuyuki Hashidoko (Molecular & Ecological Chemistry) Hideyuki Matsuura (Natural Products Chemistry) Affiliate Professor: Tomohiro Tamura[2] (Molecular Environmental Microbiology) Yoichi Kamagata[2] (Molecular Environmental Microbiology) Isao Yumoto[2] (Molecular Environmental Microbiology) Associate Professor: Masaru Wada (Microbial Physiology) Tatsuhiro Ezawa (Rhizosphere Control) Makoto Hashimoto (Molecular & Ecological Chemistry) Affiliate Associate Professor: Naoki Morita[2] (Molecular Environmental Microbiology) Wataru Kitagawa[2] (Molecular Environmental Microbiology) Yoshitomo Kikuchi[2] (Molecular Environmental Microbiology) Souichiro Kato[2] (Molecular Environmental Microbiology) Lecturer: Yasuko Sakihama (Molecular & Ecological Chemistry) Kengo Shigetomi (Wood Chemistry & Chemical Biology) Assistant Professor: Wataru Saburi (Biochemistry)

Division of Environmental Resources

Chair	Academic Advisor in Charge (Field of Specialization [Name of Unit])
Chair of Ecology and Systematics	Professor: Masahiro Ohara[3] (Entomology) Hideki Takahashi[3] (Plant Systematics) Hitoshi Araki (Animal Ecology and Evolution) Hiroko Fujita[1] (Plant Ecology and Systematics) Associate Professor: Eisuke Hasegawa (Animal Ecology) Kazunori Yoshizawa (Phylogenetic Systematics) Assistant Professor: Takayuki Azuma[1] (Plant Ecology and Systematics) Koh Nakamura[1](Plant Ecology and Systematics) Masaru Kato[1] (Museology and Museum Materials Management)
Chair of Regional Environment	Professor: Ryoji Sameshima (Agricultural and Environmental Physics) Munehide Ishiguro (Soil Physics)

Chair of Regional Environment	Ryusuke Hatano (Soil Science) Takashi Hirano (Eco-informatics) Takashi Inoue (Water and Soil Environmental Science) Associate Professor: Osamu Nakahara (Soil Science) Lecturer: Tadao Yamamoto (Water and Soil Environmental Science) Keiji Okada (Agricultural and Environmental Physics) Junichi Kashiwagi (Soil Conservation) Kanta Kuramochi (Soil Science) Hiroyuki Yamada (Eco-informatics)
Chair of Science of Forest Resources	Professor: Takayoshi Koike (Silviculture and Forest Ecology) Yasumitsu Uraki (Forest Chemistry) Yuzou Sano (Woody Plant Biology) Akio Koizumi (Timber Engineering) Associate Professor: Masato Shibuya (Silviculture and Forest Ecology) Yutaka Tamai (Forest Resource Biology) Lecturer: Hideyuki Saito (Silviculture and Forest Ecology) Keiichi Koda (Forest Chemistry) Toshizumi Miyamoto (Forest Resource Biology) Kei Sawata (Timber Engineering) Assistant Professor: Yusuke Yamagishi (Woody Plant Biology)
Chair of Integrated Forest-Landscape Management	Specially Appt. Professor: Tomomi Marutani☆ (Earth Surface Processes and Land Management) Professor: Futoshi Nakamura (Forest Ecosystem Management) Hiroaki Kakizawa (Forest Policy) Tetsuya Kondo (Environmental Horticulture and Landscape Architecture) Associate Professor: Mio Kasai (Earth Surface Processes and Land Management) Yasushi Shoji (Forest Policy) Tetsuya Aikoh (Environmental Horticulture and Landscape Architecture) Junko Morimoto (Forest Ecosystem Management) Lecturer: Hajime Matsushima (Environmental Horticulture and Landscape Architecture) Assistant Professor Shin'ya Katsura (Earth Surface Processes and Land Management)
Chair of Bioproduction Engineering	Professor: Noboru Noguchi (Vehicle Robotics) Shuso Kawamura (Agricultural and Food Process Engineering) Yoichi Shibata (Crop Production Engineering) Kazunori Iwabuchi (Agricultural Circulative Engineering)

	Associate Professor: Hiroshi Okamoto (Vehicle Robotics) Naoto Shimizu[1] (Agricultural Circulative Engineering) Kazunobu Ishii (Applied Bioproduction Engineering)

Notes:
1. Field Science Center for Northern Biosphere
2. Unit (laboratory) affiliated with an organization outside the Graduate School of Agriculture
3. Hokkaido University Museum
4. Unit (laboratory) endowed by an organization outside the Graduate School of Agriculture

Those with ☆ will be resigned (retired) as of March 31, 2017.
Please note that the academic advisors with ☆ do not recruit any new students.