

April 2019

Dear Dean/President,

Thank you for your understanding, cooperation and support of educational research at The United Graduate School of Agricultural Sciences, Ehime University (UGAS-EU).

Please allow me to inform you that application for Special Three-Year Doctoral Program for International Students in Tropical and Subtropical Agriculture and Related Sciences at UGAS-EU (April 2020-March 2023) is available on the following website.

<http://rendai.agr.ehime-u.ac.jp/english/annai/about.html>

I would be grateful if you would make this application available to interested students currently undertaking a graduate school master's program (those expected to complete their studies this academic year or later) and personnel at your institution who wish to gain a doctoral degree appropriate for a profession in education, research or technology.

Thank you for encouraging promising students to apply for this course.

Yours sincerely,

Hiroki OUE

Dean

The United Graduate School of Agricultural Sciences

Ehime University

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SPECIAL THREE-YEAR DOCTORAL PROGRAM

for INTERNATIONAL STUDENTS in TROPICAL and SUBTROPICAL AGRICULTURE and RELATED SCIENCES

April 2020/March 2023



**The United Graduate School of Agricultural Sciences
Ehime University**

The United Graduate School of Agricultural Sciences, Ehime University

Admission Policy

Agricultural science brings together a broad range of academic disciplines covering biology, chemistry, physics, engineering, economics and biotechnology to improve the efficiency and productivity of biological processes. To achieve these agricultural objectives, it is necessary to adopt an interdisciplinary perspective and build a balanced, sustainable relationship between nature and society. It is equally important to develop and train people to deepen their understanding of biological functions by applying broad knowledge and a flexible mindset unconstrained by conventional academic thinking. They will explore agriculture of the future that goes beyond a simple regional focus and seeks to preserve the global environment. Based on these principles, The United Graduate School of Agricultural Sciences, Ehime University (a consortium of the graduate schools of agriculture at Ehime and Kagawa Universities, and Agricultural Science, Graduate School of Integrated Arts and Sciences, Kochi University) established a three-year doctoral program offering three majors: Bioresource Production Science, Applied Bioresource Science and Life Environment Conservation Science. These majors accept students with master's degrees from universities in Japan. There are also two courses for outstanding international students to pursue research in specific countries and regions.

Agriculture is an academic field rich in future potential and vital for environmental and ecological conservation and improvement for sustaining a healthy life. We welcome applicants who are motivated to lead and explore the many possibilities of agricultural science from diverse perspectives. The Special Program for International Students in Tropical and Subtropical Agriculture and Related Sciences is aimed at research and education in the various sciences related to the production and use of biological resources and the environment that supports such activities in the tropics and subtropics. Centered on such regions, this program accepts outstanding mid-level scientists engaged in research or teaching in all parts of the world and aspires to train scientists and engineers who can positively contribute to their home countries.

The Special Doctoral Course Program in Agricultural Sciences for Students from Asia, Africa and the Pacific Rim (AAP) is a unified master's course and doctoral program. The doctoral program accepts students from countries in Asia, Africa and the Pacific Rim who have completed the master's component of this program at the graduate school in Ehime university, Kagawa university or Kochi University and has the goal of training advanced researchers and engineers.

THE THREE-YEAR SPECIAL PROGRAM FOR INTERNATIONAL STUDENTS IN TROPICAL AND SUBTROPICAL AGRICULTURE AND RELATED SCIENCES

The United Graduate School of Agricultural Sciences, Ehime University (UGAS-EU) is a consortium of the graduate schools of agriculture at Ehime and Kagawa Universities, and Agricultural Science, Graduate School of Integrated Arts and Sciences, Kochi University, on the island of Shikoku, Japan. We consider it necessary that students of agricultural sciences widen their scope and deepen their discipline. Accordingly, to fill the growing need for environmental studies as well as resource studies in the tropics, UGAS-EU established in 1990 a special program for international students in the field of tropical and subtropical agriculture and related sciences. Applications are now being accepted for the April 2020-March 2023 program in accordance with the UGAS-EU admission policy.

Application Guidelines

1. Field of Study, Number Accepted and Supervisor

(1) Field of Study

Applications for any field in tropical and subtropical agriculture and related sciences are accepted.

(2) Number Accepted

Not fixed. Successful applicants will be notified by the end of November 2019.

(3) Supervisor

An application will not be considered if your choice of supervisor is not included. Before applying you must consult with your preferred supervisor about your research topic. Please refer to the list provided in this booklet ("**Field of Instruction and Supervising Professors**"). After admission, two co-supervisors (selected from "**Co-Supervising Professors**") are assigned to each candidate. A Doctor of Philosophy degree will be conferred on those who satisfactorily complete all the requirements.

2. Qualifications

(1) Eligibility

Those living in Japan and abroad who wish to pursue graduate study and are engaged in research in a university, institute or enterprise

(2) Nationality

Any nationality approved by the Japanese Government

(3) Age

There is no age restriction as long as the academic requirements are fulfilled.

(4) Academic Career

Applicants should possess a master's or equivalent degree as at March 31, 2020. If the applicant does not have a master's degree but feels he or she has done the work, it is possible to submit the work to UGAS-EU for review. Those who have not possessed a master's degree must be reviewed preliminary, so he or she should contact the Dean's office of UGAS-EU by July 16, 2019. If the applicant's research work is deemed acceptable, the application will be considered. Admission may be canceled if a successful applicant does not hold a master's or equivalent degree by the end of March 2020.

(5) Language

a. The applicant is required to read and write English.

b. The applicant is encouraged to learn some Japanese because it will be necessary for everyday life. If it is not possible to study Japanese before coming, classes are offered at all three universities.

(6) Arrival in Japan

In principle, successful applicants should be able to arrive in Japan between March 20 and April 7, 2020. Successful applicants affiliated with Ehime University or Kagawa University should attend an orientation session which will be held in late March and early April for the students affiliated with Ehime University and in early April for the students affiliated with Kagawa University.

Note: Japanese Government (MEXT) Scholarship students (Research Students) should satisfy both the *Qualifications and Conditions* outlined in the application guidelines of the Japanese Government (MEXT) scholarship and the qualifications listed above.

3. Application

All the documents listed below should be sent to the Dean of UGAS-EU through the head of the institution with which the applicant is affiliated. All documents should be sent by registered mail and must arrive at the Dean's office by September 30, 2019. (Any application received after September 30, 2019 will not be accepted.) Applications sent directly by an applicant will not be accepted. Incomplete documents or documents arriving at UGAS-EU after the deadline will not be accepted.

- a. **Application form for UGAS-EU** (use uploaded form*: *Application for Special Program for International Students in Tropical and Subtropical Agriculture and Related Sciences (Three-Year Doctoral Course) April 2020-March 2023*)

*Download and use the form from the UGAS-EU website.

- b. **Field of study and study program** (use uploaded form*: *Field of Study and Study Program*)

*Download and use the form from the UGAS-EU website.

- c. **Official proof of the applicant's master's degree** or a certificate issued by the applicant's graduate school indicating that the applicant is expected to receive a master's degree

- d. **Official proof of the applicant's undergraduate degree**

- e. **Official transcripts of the applicant's academic records** for both the graduate and undergraduate grades

- f. **Certificate of citizenship** issued by a government authority or a copy of your passport

- g. **Four passport-sized photographs** (4.5 × 3.5 cm) (showing the head and top of shoulders with face and shoulders square on; no hat) taken within six months of the application date with the applicant's name and nationality written on the reverse side

One photograph should be attached to the application form, and the other three should be enclosed therein.

- h. **List of publications** (master's thesis, books and academic papers) (use uploaded form*: *List of publications*)

*Download and use the form from the UGAS-EU website.

- i. **One copy of the master's thesis** or an equivalent paper (An English abstract is required if the original is not in English.) If the master's thesis is very long, a summary (2-3 A4 pages) is acceptable. Those who have not yet received a master's degree should send a report (in English) of their current research project.

- j. **All reprints (copies are acceptable) of books and academic papers listed in *List of Publications*** for part a (and h), except the master's thesis, must be submitted.

Note: An English abstract (2-3 A4 pages) is required if the original is not in English.

- k. **One copy of the official results of a TOEFL, TOEIC, IELTS or other internationally recognized English language proficiency test** that the applicant has achieved in the past two years

- l. **A detailed proposal** in English or Japanese for the research the applicant hopes to pursue in this program (More detailed than that required for part b above.) The study plan must be related to the applicant's recent research. The proposal should be in Word format and prepared on A4 paper.

- m. **A letter of recommendation written by the head of the applicant's current affiliated institution or enterprise** addressed to the President of Ehime University (use uploaded form*: *Letter of Recommendation*)

*Download and use the form from the UGAS-EU website

- n. **Record of contact with the prospective supervisor** (use uploaded form*: *Record of Contact with the Prospective supervisor*) in which the applicant has written his/her choice of supervisor and what contact has been made

*Download and use the form from the UGAS-EU website

- o. **30,000 yen for the application fee**

Note: The following applicants do not need to pay the application fee.

(1) Those who completed the Master's course at Ehime, Kagawa or Kochi Universities in March 2020.

(2) International students receiving a Japanese government (MEXT) scholarship.

*Excluding international students who are applying for or intend to apply for an extension of a Japanese government scholarship to receive payment after entering UGAS-EU.

(3) Those who have applied for a Japanese government (MEXT) scholarship but have not yet been notified of the result.

- p. **Check list** (use uploaded form*: *Check List*) The applicant should check all the many requirements for application documents using the uploaded check list. We recommend checking off the check box for each completed requirement. Once all the requirement documents have been prepared, submit them along with the completed check list.

*Download and use the form from the UGAS-EU website

Notes

- Documents **a, b, h, m, n, p** should be prepared in typed or neatly handwritten in English or Japanese using the forms provided. They also should be prepared on A4 paper (29.5 × 21 cm). Download and use the forms from the UGAS-EU website. <http://rendai.agr.ehime-u.ac.jp/english/annai/>
- If any document for submission is written in a language other than Japanese or English, an English translation should be submitted. English translations should be provided by the issuing institution or authority. If the issuing institution or authority is not able to provide a translation, applicants should have the document(s) translated and have them certified by the issuing institution or authority. Both the English translation and the original document(s) should be submitted.
- Incomplete documents or documents arriving at UGAS-EU after the deadline will not be accepted.
- None of the submitted documents will be returned to the applicant.
- If paying the 30,000 yen application fee from abroad, please pay in yen via a bank transfer. The bank account information will be sent when needed.
- The application fee will be reimbursed under the following conditions. If you are eligible for reimbursement, please contact the UGAS-EU office. However, please note that all the bank charges (including transfer fees, intermediary bank fees etc.) for the reimbursement through overseas remittance are the responsibility of the applicant.
 - (1) If the applicant does not submit an application to Ehime University after paying the application fee
 - (2) If the applicant pays the application fee twice or pays too much in error
 - (3) If the application is not accepted
 - (4) If the applicant stated in **3. Application o.** (1)-(3) above mistakenly pays the application fee
 - (5) If the applicant has been granted an extension to a Japanese government scholarship

4. Interview Examination

Applicants must take an interview-style examination given by the prospective supervisor and at least two other faculty members (selected by the prospective supervisor). The interview may be conducted in person or via the Internet (e-mail or Skype). Applicants must prepare (a) a summary of their master's thesis and (b) a research proposal, and submit them to the prospective supervisor then to other interviewers by the day of the interview. The prospective supervisor organizes this process and will write a recommendation for a successful applicant based on the results of the interview and the applicant's academic record. The applicant will be judged on the following:

- (1) The content of the master's thesis or equivalent work
- (2) Proposal for research if admitted to UGAS-EU including any relationship to present research at applicant's institution
- (3) Knowledge of the applicant's major field of study
- (4) Motivation and suitability for this program
- (5) Proficiency in English

5. Registration Fees

* The Registration and Tuition fees for 2019 are as stated below. However, the fees for 2020 may be revised. If there is a change in the tuition fee during your course of study, you will be expected to pay the new fee.

(1) Registration fee: 282,000 yen

Note: The following applicants do not need to pay the Registration fee

1. Those who are continuing from the Master's course at Ehime, Kagawa or Kochi Universities.
2. International students receiving a Japanese government (MEXT) scholarship.
3. Those who have applied for a Japanese government (MEXT) scholarship but have not yet been notified of the result.

(2) Tuition fee for 6 months: 267,900 yen (one year: 535,800 yen)

Note: Those international students receiving a Japanese government (MEXT) scholarship do not need to pay the Tuition fee.

(3) Candidates are required to pay 3,620 yen for Student Education/Research Accident and Injury Insurance (Coverage for three years, subject to change).

(4) Medical insurance

Candidates are required to take out "National Health Insurance" (Japan), which covers most medical costs up to 70%.

6. Selection Method

Selection is based on the **Interview Examination** outlined in 4 above, the applicant's academic record and other submitted documents.

7. Notes

Applicants must file complete, accurate and authentic documents for application; otherwise, an application may be rejected.

8. Personal Information

The information provided in the application, such as name, address and other personal matters, will be used only by the UGAS-EU office for the purpose of processing the applications and notifying the accepted applicants.

All correspondence relating to the application should be sent by air mail to the address below (e-mail can be used for inquiry):

Dean's Office
The United Graduate School of Agricultural Sciences,
Ehime University
3-5-7 Tarumi, Matsuyama, Ehime 790-8566, Japan
E-mail: rendai@stu.ehime-u.ac.jp
<http://rendai.agr.ehime-u.ac.jp/english/>

Fields of Instruction and Supervising Professors

EH : Ehime University

KG : Kagawa University

KC : Kochi University

1 Bioresource Production Science Major

Bioresource Production Science Department

a. Plant Resource Production

Professor (Affiliation)	Research Field	Main Subject
Sakae AGARIE (KG)	Plant Production Physiology	Physiological and molecular biological analysis on plant functions and utilization of plant resources
Takuya ARAKI (EH)	Crop Science	Ecophysiological studies on dry matter production and yield of crops
Tomoaki ICHIE (KC)	Tree Ecophysiology	Resource allocation strategies for growth, reproduction and herbivore defense of forest trees
Hideto UENO (EH)	Soil Science and Plant Nutrition	Dynamics of soil nutrients and agroecological soil management for sustainable agriculture
Tsuneo OGATA(KC)	Pomology and Citriculture	Chemical growth regulation in fruit trees
Hidetaka KAYA (EH)	Plant Molecular Biology	Plant Molecular genetics and physiology
Kappei KOBAYASHI (EH)	Plant Molecular Biology and Virology	Molecular biology of plant viruses, plant-virus interactions and plant pathogenesis
Kazuhiko SHIMASAKI (KC)	Floricultural Science	Growth control and tissue culture of ornamental plants
Yo TOMA (EH)	Soil Science and Plant Nutrition Nutrient Cycling in Agroecosystems	Dynamics of soil nutrient and greenhouse gases, soil fertility, sustainable agriculture
Masanori TOYOTA (KG)	Crop Ecophysiology	Ecophysiology and morphology on yield determination of crops
Kenji BEPPU (KG)	Pomology	Reproductive physiology of fruit trees
Akira MIYAZAKI (KC)	Crop Physiology	Physiology and function related with yield production in field crops
Ryosuke MOCHIOKA (KG)	Pomology	Horticultural utilization of fruit resources
Tomohiro YANAGI (KG)	Vegetable Crop Science	Flowering physiology and development of production technique in strawberry plants

b. Plant and Animal Production under Structure

Toshio KAWANO (KC)	Post-harvest Process Engineering	Processing, handling and distribution technology for agricultural products
Yasushi SUZUKI (KC)	Forest Engineering	Logging cable system, Forest operation system, Forest road, Effects of forest operation to residual stands, Woody biomass
Kotaro TAKAYAMA (EH)	Plant diagnostic engineering	Measurement and analysis of plant biological information for plant diagnosis in agricultural plant production
Kenji HATOU (EH)	Information Systems for Plant Factory	Research of the various models for the speaking plant approach in a plant factory

c. Aquaculture and Livestock Production

Kou IKEJIMA (KC)	Coastal and Fisheries Ecology	Ecology and Conservation of coastal ecosystems and fisheries resources
Masayuki IMAJOH (KC)	Fish Pathology	Studies on epidemiology and prevention of fish diseases caused by viruses, bacteria and parasites
Keisuke EDASHIGE (KC)	Applied Cryobiology	Cryobiological property of gametes and embryos Development of cryopreservation methods for gametes and embryos
Shingo SEKI (KC)	Fish Genetics and Breeding Science	Fish genetics and breeding science Conservation genetics in fish
Motohiro TAKAGI (EH)	Fish Breeding and Conservation Genetics	Studies on fish breeding and conservation genetics
Tetsuya TACHIBANA (EH)	Poultry Nutritional Physiology	Studies on the bioactive molecules related to growth and behavior of chickens
Haruhisa FUKADA (KC)	Fish Nutrient Physiology	Studies on hormonal regulation of growth and digestion in fish
Toshiro MASUMOTO (KC)	Fish Physiology and Biochemistry	Studies on bioavailability and physiological roles of nutrients in Fish
Takahiro MATSUBARA (EH)	Fish Reproductive Physiology and Aquaculture	Studies on molecular mechanisms of oocyte development and maturation, and evaluation of gamete quality The results are applied for seed production in fish aquaculture and stock enhancement
Takeshi MIURA (EH)	Fish Reproductive Physiology	Studies of the molecular control mechanisms of gametogenesis in animals, and establishment of the applied techniques in aquaculture based on the basic studies

d. Bioresource Economics

Masahiro ICHIKAWA (KC)	Rural Resource Management	Studies on resource uses, livelihood, society and culture in rural areas in Japan and Asia
Tetsu SATO (EH)	Transdisciplinary Sustainability Science	Integrated transdisciplinary studies on sustainable management and effective use of biological resources collaborating with diverse stakeholders of the world
Naruhito TAKENOUCI (EH)	Fisheries management and business	Study on economics and management theories of the sustainable development in the fisheries and fishing village
HU Bai (EH)	Agricultural Economics and Farm Management	Farm household economy, agricultural and rural development, production and marketing of organic farm products

2 Applied Bioresource Science Major

Applied Bioresource Science Department

a. Food Science

Masahiro OGAWA (KG)	Food Protein Chemistry	Structure-function analysis of food proteins and their functional development
Takehiro KASHIWAGI (KC)	Food Functional Chemistry	Chemicalbiology of food material / Isolation and identification of functional substance in food
Osamu KAWAMURA (KG)	Food Hygiene	Development and application of immunological methods for mycotoxins, and toxicology and human exposure of mycotoxins
Taro KISHIDA (EH)	Nutrition	Studies on nutritional and physiological effects of food components, especially non-nutrient
Tomoko SHIMAMURA (KC)	Food Chemistry	Studies on reaction of food components, food functionality, and food analysis
Goro TAKATA (KG)	Applied Enzymology	Production of Rare Sugar from bio-resources using microbial and enzymatic reactions

Hirotoishi TAMURA (KG)	Food Chemistry	Molecular nutrition and flavor chemistry of Food ingredients
Katsuji MORIOKA (KC)	Fisheries Chemistry	Studies on post - harvest science and technology of fish and fisheries products / Studies on more efficient utilization of fish
Kenji MORIMOTO (KG)	Applied Enzymology	Production of various rare sugars using microbial and enzymatic reactions

b. Bioresource Science for Manufacturing

Mitsuru AKITA (EH)	Applied Molecular Cell Biology	Protein transport and metabolite transport in plant organelles
Koichi AKIYAMA (EH)	Genetic engineering in fungi	Molecular biology and recombinant protein production in <i>Fusarium oxysporum</i>
Makoto ASHIUCHI (KC)	Bioengineering and Nanotechnology	Development of Multi-functional bionanomaterials and Their Applications
Hideaki ICHIURA (KC)	Material Chemistry of Forest Resources	Material Chemistry for utilization of forest resources
Kazutaka ITOH (EH)	Forest Chemistry	Chemistry for utilization of forest resources
Yusuke EDASHIGE (EH)	Biomass Conversion	Utilization of Biomass Energy / Chemical Utilization of Plant Polysaccharides
Kouhei OHNISHI (KC)	Microbiology and Molecular Genetics	Molecular analysis of virulence factor secretion systems in plant and animal pathogenic bacteria
Hisashi KATO (KG)	Plant Biochemistry	Allelopathy and plant biochemistry
Miyuki KAWADA (EH)	Molecular Microbiology	Biochemistry and molecular biology of membrane transporters.
Chul-Sa KIM (KC)	Chemical Ecology	Isolation and determination of semiochemicals between organisms
Masashi SATO (KG)	Bioactive Natural Products Chemistry	Bio-organic chemistry of natural bioactive substances
Takuya SUGAHARA (EH)	Animal Cell Technology	Screening and application of biofunctional substances from foodstuffs
Masatoshi SUGIMORI (EH)	Wood Science and Technology	Wood Quality
Takayuki SEKITO (EH)	Genetic engineering of microorganisms	Molecular mechanism and regulation of intracellular transport
Naotaka TANAKA (KG)	Cell Biology	Functional analysis of the Golgi apparatus and its application to protein production
Mitsuaki TABUCHI (KG)	Applied Molecular Cell Biology	Studies on the regulation of vesicle trafficking and lipid metabolism in yeast and mammalian cells
Shinichi TEBAYASHI (KC)	Bioactive Chemistry	Organic chemical studies on bioactive chemicals from natural occurring: eg. isolation and identification of medical agents from folklore medical plants screening for pesticidal agents from natural occurring
Kosuke NISHI (EH)	Animal Cell Technology	Functional analysis of biomolecules and elucidation of their mode of action
Hisashi NISHIWAKI (EH)	Bioorganic Chemistry	Structure-activity relationship and mode of action of bioactive substances
Mika NOMURA (KG)	Molecular Plant Nutrition	Physiology and molecular biology in plant- microbe interaction
Kazuhiro FUKADA (KG)	Biophysical Chemistry	Physical chemistry on biological amphiphile, monosaccharide, and colloidal materials
Satoshi YAMAUCHI (EH)	Chemistry and Utilization of Bioresources	Synthetic Organic Chemistry for research about function and effective utilization of bioresources

3 Life Environment Conservation Science Major

Life Environment Conservation Science Department

a. Land Conservation and Irrigation Engineering

Hiroki OUE (EH)	Hydrometeorology for Environmental Science	Micrometeorology of the plant canopy under changing environment, hydrological processes in forest and farmland watersheds, irrigation and drainage and integrated agricultural water use management
Noriyuki KOBAYASHI (EH)	Geotechnical and Geoenvironmental Engineering	Application of rehabilitation engineering for Hydraulic Structures
Katsuo SASAHARA (KC)	Erosion and Sediment Control Landslide Engineering	Sediment and Water discharge from mountainous slope, Early warning system against landslide Mechanism of deformation of unsaturated soil
Shushi SATO (KC)	Water Use and Environmental Engineering	The overall engineering research for achieving the management of water environment and infrastructure in river basin
Emi TAKEYAMA (EH)	Rural Landscape Planning	Design and planning of agricultural landscape for sustainable rural development
Hao ZHANG (KC)	Hydraulics and Sediment Transport	Research on water/sediment related disasters and environment problems
Tadashi HARA (KC)	Geotechnical and earthquake proof engineering	Study on liquefaction characteristics of soft ground
Shinsuke HARUTA (EH)	Rural Resources Management for Environmental Preservation	Improvement and Management of Water Quality and Resources in Rural Area
Taku FUJIWARA (KC)	Water Environmental Engineering	Analysis of water pollution mechanism and development of wastewater treatment technology
Masayuki MATSUOKA (KC)	Geographic Information Science	Geospatial analysis of the environment using remote sensing and geographic information system
Naoyuki YAMASHITA (EH)	Water Environmental Engineering	Study on securing of sanitary safety water environment

b. Environmental Science

Kazuya AKIMITSU (KG)	Molecular Plant Pathology	Molecular biology of plant microbe interactions
Masao ADACHI (KC)	Aquatic Environmental Science	Biology, physiology and ecology of harmful algal blooms
Hiroshi ISHIBASHI (EH)	Ecotoxicology/Molecular toxicology	Studies on ecotoxicological effects of environmental contaminants in animals Studies on disruption mechanism of nuclear receptor signaling pathway by environmental contaminants
Kazuhiko ICHIMI (KG)	Coastal Marine Science	Biological and Chemical Processes in Coastal Ecosystems
Fuminori ITO (KG)	Insect Ecology	Behavior and ecology of social insects
Kozo IWASAKI (KC)	Plant Nutrition	Plant nutritional physiology and nutrient dynamics in rhizosphere soils
Yumei KANG (KC)	Soil Environmental Science	Rehabilitation of contaminated soil, water and grassland ecosystem
Akinori KIBA (KC)	Phytopathology	Analysis of plant immunity and disease development
Kazuhiko KONISHI (EH)	Insect taxonomy	Taxonomy of hymenopterous parasitoids based on morphological characters
Shin TAKAHASHI (EH)	Environmental Analytical Chemistry Environmental Chemistry, Ecotoxicology, Resources Recycling Engineering	Studies on development of analytical methods, elucidation of emission sources and environmental behaviors, and assessment of ecological effects for persistent bioaccumulative and toxic substances

Ichiro TAKEUCHI (EH)	Ecosystem Conservation / Marine Ecology	Studies on structure, mechanism and conservation methods of shallow water ecosystem, with special reference to species diversity of amphipod crustaceans
Yasufumi HIKICHI (KC)	Plant Pathology	Analysis on pathogenicity mechanisms of plant pathogens and responses of host plants
Naoto MATSUE (EH)	Environmental Conservation	Removal of pollutants from soils and waters, especially from a glass of drinking water
Haruo YAMAGUCHI (KC)	Aquatic microbial physiology and ecology	Physiology and ecology of microalgae including harmful species
Hiroyuki YOSHITOMI (EH)	Entomology	Systematics and taxonomy of Insects conservation of biodiversity

Tomohito YAMAGUCHI (KC)	Vegetable Crop Science	Flowing physiology and development of production technique in specialty plants
Kazuhiko MORIKUMA (KC)	Crop Husbandry	Improvement of crop productivity by cultivation practices
Ryosuke MOCHIOKA (KC)	Pomology	Genetic improvement of fruit quality
Azumi MIYAZAKI (KC)	Crop Physiology	Mineral and nutrient related with yield increase in field crops
Koji HIRAI (KC)	Pomology	Physiological and genetic related with yield increase in field crops
Yasuo NISHIMURA (KC)	Vegetable Crop Science	Development and nutritional physiology of specialty vegetables
Atsuhiko TOYOTA (KC)	Crop Ecology	Ecophysiology and morphology on yield determination of crops
Yasutomi YAMA (EH)	Soil Science and Plant Nutrition	Dynamic of soil nutrient and greenhouse gases and their sustainable agriculture
Hisao IZUMI (EH)	Forest Nutrition	Assessment of nutrient and environmental impact on forest
Tetsu SHIMAMURA (EH)	Forest Ecology	Plant species coexistence and organic matter dynamics in forest ecosystems
Kazuhiko CHINASEKI (KC)	Floral Science	Growth control and flower culture of ornamental plants
Koji KOBAYASHI (EH)	Plant Molecular Biology and Virology	Molecular biology of plant viruses, virology, resistance and plant pathology
Yasuko KOSUGA (KC)	Postharvest Horticulture	Physiological and molecular aspects of postharvest changes in ornamentals and vegetables
Yoshitaka KAYA (EH)	Plant Molecular Biology	Plant Molecular genetics and physiology
Koichi KAMIYAMA (EH)	Forest Genetics	Molecular evolution and population genetics in forest trees and related organisms
Kazuo KATAOKA (EH)	Horticultural Science of Vegetables and Ornamentals	Developmental physiology of vegetables and ornamentals
Yoshitaka OKUDA (KC)	Vegetable Horticulture	Developmental regulation of vegetable crops and control of nutrient status
Tamotsu OGATA (KC)	Pomology and Citriculture	Genetic control of vegetable in fruit trees
Hiroyuki UENO (EH)	Soil Science and Plant Nutrition	Dynamic of soil nutrient, environmental and management on sustainable plant production
Tomohito ICHIO (KC)	Tree Ecology	Resource allocation strategies for growth, reproduction and nutrient balance of forest trees
Yoshitaka AKAKI (EH)	Crop Science	Ecophysiological studies for crop yield increase and yield control
Yasuo AGARU (KC)	Plant Production Physiology	Physiological and molecular aspects of plant production and utilization of plant resources

Co-Supervising Professors

EH : Ehime University

KG : Kagawa University

KC : Kochi University

1 Bioresource Production Science Major

Bioresource Production Science Department

a. Plant Resource Production

Professor (Affiliation)	Research Field	Main Subject
Sakae AGARIE (KG)	Plant Production Physiology	Physiological and molecular biological analysis on plant functions and utilization of plant resources
Takuya ARAKI (EH)	Crop Science	Ecophysiological studies on dry matter production and yield of crops
Tomoaki ICHIE (KC)	Tree Ecophysiology	Resource allocation strategies for growth, reproduction and herbivore defense of forest trees
Hideto UENO (EH)	Soil Science and Plant Nutrition	Dynamics of soil nutrients, agroecological soil managements for sustainable plant production
Tsuneo OGATA(KC)	Pomology and Citriculture	Chemical growth regulation in fruit trees
Nobuyuki OKUDA (KG)	Vegetable Horticulture	Development regulation of vegetable crops and raising of superior strain
Keiko KATAOKA (EH)	Horticultural Science of Vegetables and Ornamentals	Developmental physiology of vegetables and ornamentals
Koichi KAMIYA (EH)	Forest Genetics	Molecular evolution and population genetics of forest trees and related organisms
Hidetaka KAYA (EH)	Plant Molecular Biology	Plant Molecular genetics and physiology
Yusuke KOSUGI (KG)	Postharvest Horticulture	Physiological and molecular aspects of postharvest changes in ornamentals and vegetables
Kappei KOBAYASHI (EH)	Plant Molecular Biology and Virology	Molecular biology of plant viruses, plant-virus interactions and plant pathogenesis
Kazuhiko SHIMASAKI (KC)	Floricultural Science	Growth control and tissue culture of ornamental plants
Tetsuya SHIMAMURA (EH)	Forest Ecology	Plant species coexistence and organic matter dynamics in forest ecosystems
Hayato TSUZUKI (EH)	Forest Mensuration	Assessment of material and environmental resources of forest
Yo TOMA (EH)	Soil Science and Plant Nutrition Nutrient Cycling in Agroecosystems	Dynamics of soil nutrient and greenhouse gases, soil fertility, sustainable agriculture
Masanori TOYOTA (KG)	Crop Ecophysiology	Ecophysiology and morphology on yield determination of crops
Yasuyo NISHIMURA (KC)	Vegetable Crop Science	Developmental and nutritional physiology, production technique in vegetable
Kenji BEPPU (KG)	Pomology	Reproductive physiology of fruit trees
Akira MIYAZAKI (KC)	Crop Physiology	Physiology and function related with yield production in field crops
Ryosuke MOCHIOKA (KG)	Pomology	Horticultural utilization of fruit resources
Masahiro MOROKUMA (KG)	Crop Husbandry	Improvement of crop productivity by cultivation practices
Tomohiro YANAGI (KG)	Vegetable Crop Science	Flowering physiology and development of production technique in strawberry plants

Hisashi YAMADA (EH)	Pomology	Eco-physiological studies on fruit trees
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b. Plant and Animal Production under Structure

Seiichi ARIMA (EH)	Agrocultural Machinery and Mechatronics	Development of agricultural machinery and robot for intelligent bioproduction system
Toshio KAWANO (KC)	Post-harvest Process Engineering	Processing, handling and distribution technology for agricultural products
Yasushi SUZUKI (KC)	Forest Engineering	Logging cable system, Forest operation system, Forest road, Effects of forest operation to residual stands, Woody biomass
Takejiro TAKAMURA (KG)	Horticultural Plant Breeding	Utilization and genetic improvement of horticultural plant resources Genetic improvement and environmental control for flower color expression
Kotaro TAKAYAMA (EH)	Plant diagnostic engineering	Measurement and analysis of plant biological information for plant diagnosis in agricultural plant production
Takako NARUMI (KG)	Floricultural Science	Study on physiology of ornamental plants
Kenji HATOU (EH)	Information Systems for Plant Factory	Research of the various models for the speaking plant approach in a plant factory
Makito MORI (KC)	Applied Meteorology	Climatological studies on agricultural ecosystems
Yozo YAMADA (EH)	Forest Ergonomics	Working Safety, environmental ethics, working skill, labor productivity, education and training

c. Aquaculture and Livestock Production

Kou IKEJIMA (KC)	Coastal and Fisheries Ecology	Ecology and Conservation of coastal ecosystems and fisheries resources
Masayuki IMAJOH (KC)	Fish Pathology	Studies on epidemiology and prevention of fish diseases caused by viruses, bacteria and parasites
Keisuke EDASHIGE (KC)	Applied Cryobiology	Cryobiological property of gametes and embryos Development of cryopreservation methods for gametes and embryos
Rie GOTO (EH)	Reproductive Physiology and Developmental Biotechnology of Fish	Studies on the mechanism of fish gametogenesis and its application to aquaculture
Sonoko SHIMIZU (EH)	Environmental Science of Aquaculture	Studies on early detection and countermeasure methods of harmful algal bloom and infective disease of fish in aquacultural environment
Shingo SEKI (KC)	Fish Genetics and Breeding Science	Fish genetics and breeding science Conservation genetics in fish
Motohiro TAKAGI (EH)	Fish Breeding and Conservation Genetics	Studies on fish breeding and conservation genetics
Tetsuya TACHIBANA (EH)	Poultry Nutritional Physiology	Studies on the bioactive molecules related to growth and behavior of chickens
Haruhisa FUKADA (KC)	Fish Nutrient Physiology	Studies on hormonal regulation of growth and digestion in fish
Toshiro MASUMOTO (KC)	Fish Physiology and Biochemistry	Studies on bioavailability and physiological roles of nutrients in Fish

Takahiro MATSUBARA (EH)	Fish Reproductive Physiology and Aquaculture	Studies on molecular mechanisms of oocyte development and maturation, and evaluation of gamete quality The results are applied for seed production in fish aquaculture and stock enhancement
Yoshiki MATSUMOTO (KG)	Animal Anatomy and Physiology	Focus on the safe animal feed, nutrition, preventing disease and best animal welfare of the poultry farm, using morphometric aspects in the digestive organ.
Takeshi MIURA (EH)	Fish Reproductive Physiology	Studies of the molecular control mechanisms of gametogenesis in animals, and establishment of the applied techniques in aquaculture based on the basic studies

d. Bioresource Economics

Masahiro ICHIKAWA (KC)	Rural Resource Management	Studies on resource uses, livelihood, society and culture in rural areas in Japan and Asia
Hiroshi KAMEYAMA (KG)	Rural Management	Sustainable community based resource management, human resource development, PtoP project and the LEWIE methodology, food policy
Tetsu SATO (EH)	Transdisciplinary Sustainability Science	Integrated transdisciplinary studies on sustainable management and effective use of biological resources collaborating with diverse stakeholders of the world
Naruhito TAKENOUCI (EH)	Fisheries management and business	Study on economics and management theories of the sustainable development in the fisheries and fishing village
HU Bai (EH)	Agricultural Economics and Farm Management	Farm household economy, agricultural and rural development, production and marketing of organic farm products
Kazuya MASUDA (KC)	Socio-Cultural Transformation of Rural Area	Studies on the social structure, culture, and resource use among rural community in Japan and Southeast Asia
Atsushi MATSUOKA (EH)	Resources and Environmental Management	Economical studies on management and preservation of agricultural land
Yukio MUTO (KG)	Agricultural Policy, Farm Management, Resource and Environmental Economics	Impacts of Agricultural Protection Policies in Japan, Management Strategies of Japanese farmers, Tools for Water Resource Management

2 Applied Bioresource Science Major

Applied Bioresource Science Department

a. Food Science

Masahiro OGAWA (KG)	Food Protein Chemistry	Structure-function analysis of food proteins and their functional development
Takehiro KASHIWAGI (KC)	Food Functional Chemistry	Chemicalbiology of food material / Isolation and identification of functional substance in food
Osamu KAWAMURA (KG)	Food Hygiene	Development and application of immunological methods for mycotoxins, and toxicology and human exposure of mycotoxins
Taro KISHIDA (EH)	Nutrition	Studies on nutritional and physiological effects of food components, especially non-nutrient
Shoichi GOHTANI (KG)	Food Physics	Rheological properties and texture of foods, and preparation of nano-emulsions for food system
Tomoko SHIMAMURA (KC)	Food Chemistry	Studies on reaction of food components, food functionality, and food analysis

Goro TAKATA (KG)	Applied Enzymology	Production of Rare Sugar from bio-resources using microbial and enzymatic reactions
Hirotooshi TAMURA (KG)	Food Chemistry	Molecular nutrition and flavor chemistry of Food ingredients
Kotatsu MARUYAMA (EH)	Nutritional epidemiology	Study on the association between dietary habit and human health.
Katsuji MORIOKA (KC)	Fisheries Chemistry	Studies on post - harvest science and technology of fish and fisheries products / Studies on more efficient utilization of fish
Kenji MORIMOTO (KG)	Applied Enzymology	Production of various rare sugars using microbial and enzymatic reactions
Lina YONEKURA (KG)	Food Chemistry	Bioavailability, metabolism and function of bioactive compounds
Akira WATANABE (KG)	Microbial Biochemistry	Studies on biological characteristics of basidiomycetous mushrooms

b. Bioresource Science for Manufacturing

Mitsuru AKITA (EH)	Applied Molecular Cell Biology	Protein transport and metabolite transport in plant organelles
Koichi AKIYAMA (EH)	Genetic engineering in fungi	Molecular biology and recombinant protein production in <i>Fusarium oxysporum</i>
Makoto ASHIUCHI (KC)	Bioengineering and Nanotechnology	Development of Multi-functional bionanomaterials and Their Applications
Yoshitaka ANO (EH)	Microbial Biotechnology	Biological chemistry and molecular biology of microbial functions and its application
Masato ABE (EH)	Bioorganic Chemistry	Synthesis of natural products and research for their mode of action including structure-activity relationship or development of biological probe molecule
Hideaki ICHIURA (KC)	Material Chemistry of Forest Resources	Material Chemistry for utilization of forest resources
Kazuya ICHIMURA (KG)	Plant Stress Signaling	Biotic and abiotic stress signal transduction in plants
Kazutaka ITOH (EH)	Forest Chemistry	Chemistry for utilization of forest resources
Yusuke EDASHIGE (EH)	Biomass Conversion	Utilization of Biomass Energy / Chemical Utilization of Plant Polysaccharides
Kouhei OHNISHI (KC)	Microbiology and Molecular Genetics	Molecular analysis of virulence factor secretion systems in plant and animal pathogenic bacteria
Shin-ichiro KATO (KC)	Microbial Genetic Engineering	Development and utilization of undiscovered genes
Hisashi KATO (KG)	Plant Biochemistry	Allelopathy and plant biochemistry
Miyuki KAWADA (EH)	Molecular Microbiology	Biochemistry and molecular biology of membrane transporters.
Yasuhiro KAWANAMI (KG)	Functional Molecular Chemistry	Organic chemistry of biofunctional molecules
Chul-Sa KIM (KC)	Chemical Ecology	Isolation and determination of semiochemicals between organisms
Yoshio KIMURA (KG)	Physiology of Microorganisms	Studies on environmental adaptation in bacteria
Masaharu KYO (KG)	Plant Cell Physiology	Physiological and molecular biological studies on adventitious embryogenesis
Haruhiko SAKURABA (KG)	Enzyme Engineering	Structure-function analysis of enzymes from extremophiles and development of their application

Masashi SATO (KG)	Bioactive Natural Products Chemistry	Bio-organic chemistry of natural bioactive substances
Noriyuki SUEYOSHI (KG)	Molecular and Cellular Biology	Signal transduction mediated by protein phosphorylation and dephosphorylation
Takuya SUGAHARA (EH)	Animal Cell Technology	Screening and application of biofunctional substances from foodstuffs
Hiroyuki SUGIMOTO (EH)	Physics of Wood and Engineered wood	Development of the novel wood and wood based materials
Masatoshi SUGIMORI (EH)	Wood Science and Technology	Wood Quality
Toshisada SUZUKI (KG)	Biomass Chemistry	Organic chemistry and bioactivity of wood components, and woody biomass utilization
Takayuki SEKITO (EH)	Genetic engineering of microorganisms	Molecular mechanism and regulation of intracellular transport
Naotaka TANAKA (KG)	Cell Biology	Functional analysis of the Golgi apparatus and its application to protein production
Mitsuaki TABUCHI (KG)	Applied Molecular Cell Biology	Studies on the regulation of vesicle trafficking and lipid metabolism in yeast and mammalian cells
Shinichi TEBAYASHI (KC)	Bioactive Chemistry	Organic chemical studies on bioactive chemicals from natural occurring: eg. isolation and identification of medical agents from folklore medical plants screening for pesticidal agents from natural occurring
Kosuke NISHI (EH)	Animal Cell Technology	Functional analysis of biomolecules and elucidation of their mode of action
Hisashi NISHIWAKI (EH)	Bioorganic Chemistry	Structure-activity relationship and mode of action of bioactive substances
Mika NOMURA (KG)	Molecular Plant Nutrition	Physiology and molecular biology in plant- microbe interaction
Kazuhiro FUKADA (KG)	Biophysical Chemistry	Physical chemistry on biological amphiphile, monosaccharide, and colloidal materials
Masayuki FUJITA (KG)	Plant Stress Responses	Biochemistry and molecular biology on stress responses and tolerances of higher plants
Toshio FURUMOTO (KG)	Plant Functional Chemistry	Bioorganic chemistry on natural products and their biosynthesis in plants
Hisashi MURAMATSU (KC)	Applied Enzymology	Analysis and Application of Microbial Enzyme
Ryo C. YANAGITA (KG)	Bioorganic chemistry	Development of analogues of natural products and analysis of their mechanisms of action
Satoshi YAMAUCHI (EH)	Chemistry and Utilization of Bioresources	Synthetic Organic Chemistry for research about function and effective utilization of bioresources
Kaori YONEYAMA (EH)	Plant Biochemistry	Studies on biosynthetic pathway and its regulation mechanism of plant hormones
Taisuke WAKAMATSU (KC)	Biochemistry	Screening, functional and structural analysis, and application of novel useful proteins

3 Life Environment Conservation Science Major

Life Environment Conservation Science Department

a. Land Conservation and Irrigation Engineering

Hiroki OUE (EH)	Hydrometeorology for Environmental Science	Micrometeorology of the plant canopy under changing environment, hydrological processes in forest and farmland watersheds, irrigation and drainage and integrated agricultural water use management
Noriyuki KOBAYASHI (EH)	Geotechnical and Geoenvironmental Engineering	Application of rehabilitation engineering for Hydraulic Structures
Katsuo SASAHARA (KC)	Erosion and Sediment Control Landslide Engineering	Sediment and Water discharge from mountainous slope, Early warning system against landslide Mechanism of deformation of unsaturated soil
Shushi SATO (KC)	Water Use and Environmental Engineering	The overall engineering research for achieving the management of water environment and infrastructure in river basin
Emi TAKEYAMA (EH)	Rural Landscape Planning	Design and planning of agricultural landscape for sustainable rural development
Hao ZHANG (KC)	Hydraulics and Sediment Transport	Research on water/sediment related disasters and environment problems
Tadashi HARA (KC)	Geotechnical and earthquake proof engineering	Study on liquefaction characteristics of soft ground
Shinsuke HARUTA (EH)	Rural Resources Management for Environmental Preservation	Improvement and Management of Water Quality and Resources in Rural Area
Taku FUJIWARA (KC)	Water Environmental Engineering	Analysis of water pollution mechanism and development of wastewater treatment technology
Shinsuke MATSUMOTO (KC)	Environmental Facility Engineering	Development of construction material and structural analysis of agricultural facility
Masayuki MATSUOKA (KC)	Geographic Information Science	Geospatial analysis of the environment using remote sensing and geographic information system
Naoyuki YAMASHITA (EH)	Water Environmental Engineering	Study on securing of sanitary safety water environment

b. Environmental Science

Kazuya AKIMITSU (KG)	Molecular Plant Pathology	Molecular biology of plant microbe interactions
Masao ADACHI (KC)	Aquatic Environmental Science	Biology, physiology and ecology of harmful algal blooms
Hiroshi ISHIBASHI (EH)	Ecotoxicology/Molecular toxicology	Studies on ecotoxicological effects of environmental contaminants in animals Studies on disruption mechanism of nuclear receptor signaling pathway by environmental contaminants
Kazuhiko ICHIMI (KG)	Coastal Marine Science	Biological and Chemical Processes in Coastal Ecosystems
Katsura ITO (KC)	Insect Ecology	Ecology of insects and mites
Fuminori ITO (KG)	Insect Ecology	Behavior and ecology of social insects
Kozo IWASAKI (KC)	Plant Nutrition	Plant nutritional physiology and nutrient dynamics in rhizosphere soils
Ayato KAWASHIMA (EH)	Environmental Science for Industry	Development of effective utilization technology for biomass and treatment technology for hazardous pollutants
Yumei KANG (KC)	Soil Environmental Science	Rehabilitation of contaminated soil, water and grassland ecosystem

Akinori KIBA (KC)	Phytopathology	Analysis of plant immunity and disease development
Kazuhiko KONISHI (EH)	Insect taxonomy	Taxonomy of hymenopterous parasitoids based on morphological characters
Tsuyoshi KOBAYASHI (KG)	Plant Ecology / Ecophysiology, Environmental Sciences	Terrestrial plant ecology (ecophysiology of higher plants, plant population dynamics and community structure, biodiversity and matter cycling in the ecosystems)
Kenji GOMI (KG)	Plant Pathology	Signal transduction on plant-microbe interaction
Hikaru SAJI (EH)	Environmental Adaptation of Plants	Responses of plants to ozone and other environmental factors / Environmental effects of genetically modified plants
Satoru SUZUKI (EH)	Marine Molecular Ecology	Organic matter decomposition and antibiotic resistance in aquatic microbes
Shin TAKAHASHI (EH)	Environmental Analytical Chemistry Environmental Chemistry, Ecotoxicology, Resources Recycling Engineering	Studies on development of analytical methods, elucidation of emission sources and environmental behaviors, and assessment of ecological effects for persistent bioaccumulative and toxic substances
Ichiro TAKEUCHI (EH)	Ecosystem Conservation / Marine Ecology	Studies on structure, mechanism and conservation methods of shallow water ecosystem, with special reference to species diversity of amphipod crustaceans
Norihisa TATARAZAKO (EH)	Ecotoxicology/Environmental Risk	Study on biological impact of chemical substances and wastewater/Study on evaluation and management of the environmental risk
Ayu TOYOTA (KG)	Soil Ecology	The role of soil invertebrate animals in ecosystem functioning
Yasufumi HIKICHI (KC)	Plant Pathology	Analysis on pathogenicity mechanisms of plant pathogens and responses of host plants
Naoto MATSUE (EH)	Environmental Conservation	Removal of pollutants from soils and waters, especially from a glass of drinking water
Shinji MATSUMURA (KG)	Agricultural Disaster Science	Studies on natural disaster in agricultural area
Hazuki MIZUKAWA (EH)	Environmental Chemistry and Environmental Toxicology	Environmental chemical analysis and toxicology on persistent pollutants / Species difference of metabolic capacities and toxicological risks for human, wildlife and pet animals
Takashi YAENO (EH)	Plant Pathology	Molecular Plant-Microbe interactions
Haruo YAMAGUCHI (KC)	Aquatic microbial physiology and ecology	Physiology and ecology of microalgae including harmful species
Hitomi YAMAGUCHI (KG)	Coastal Biogeochemical Oceanography	Material cycling and energy flow in coastal ecosystems
Hiroyuki YOSHITOMI (EH)	Entomology	Systematics and taxonomy of Insects conservation of biodiversity

Outline of The United Graduate School
of Agricultural Sciences, Kyoto University

**Outline of The United Graduate School
of Agricultural Sciences, Ehime University**

Educational Principles

The United Graduate School of Agricultural Sciences, Ehime University is a consortium linking the strengths of the graduate schools of agriculture at Ehime and Kagawa Universities, and Agricultural Science, Graduate School of Integrated Arts and Sciences, Kochi University with the aim of producing exceptional people who will be leaders in the 21st century. Our educational goal is to instill a high standard of scholarship, skills and judgement based on a deep understanding of people, society and nature.

Through farsighted, original research, we hope to train talented, world-class researchers who will play a central role in the regional development of their countries, and we are actively recruiting talented students from all over the world. In this way, we hope to develop a sustainable society and contribute to world peace and harmonious balance between people and nature.

Description

1. Bioresource Production Science Major

In the Shikoku region, agricultural and livestock industries have developed by taking advantage of the complicated geographical features on Shikoku Island. The industries cover a wide range such as the horticultural production of vegetables and ornamental plants in open fields as well as under structure; the production of citrus fruits; aquaculture fisheries in the inland sea and coastal areas; forestry; and animal husbandry. This course is intended to enhance the level of fundamental research and develop applied technology for the production and management of plant and animal resources.

Bioresource Production Science Department

To achieve the educational goals of this course, study and research is developed for each of the four fields of study listed below.

(1) Plant Resource Production

This chair is intended to train specialists who would have full knowledge about rationalizing qualitative and quantitative improvement of the production of field crops, fruits and vegetables, ornamental plants and forestry and forestry products as well as plant idioplasm.

(2) Plant and Animal Production under Structure

This chair is concerned with the fields of study for understanding basic problems about the improvement of productivity by creating artificial environments such as greenhouses, and the technological examination of agricultural facilities, along with environmental and behavioral characteristics of plants and animals.

(3) Aquaculture and Livestock Production

This chair provides instruction and research programs concerning the culture, propagation (reproduction), feeding, pathology and environment of aquatic life and domestic animals from the integrated viewpoint of biology, chemistry and physics.

(4) Bioresource Economics

The research and instruction field of this chair is the following: farm, forest, and fishing ground management, including business analysis and planning of farm, forest, and fishing ground operation, and marketing of fruits, vegetables, livestock, timber, and fishery products; resource economics, including effective use of biotic resources as production factors, energies and green resources; and social economic field, including policies and strategies closely related to farm, forest, and fishing ground management, and domestic and international marketing of agricultural, forest and fishery products.

Deep Seawater Science (Joint-Department)

Basic education and research in elucidating the chemical, physical, biological and microbiological characteristics of deep seawater for the efficient use and applied technology in fisheries and marine food production.

2. Applied Bioresource Science Major

The processing and storage of agricultural produce, or more specifically its effective use, is a growing sector important for the national economy and is also a means of meeting diverse social needs for agricultural products. There is an increasing need for basic research and education in the development of new biochemical technology. This course aims to apply that basic research and education.

Applied Bioresource Science Department

To achieve the educational goals of this course, study and research is developed for each of the two fields of study listed below.

(1) Food Science

This chair is concerned with the field of study for understanding the utilization process of food from its production to ingestion. Chemistry, physics, nutrition, hygienics, manufacturing of agricultural products and aquatic products, and applied microbiology of food as well as applied biochemistry including morphology, structure, and functions of tissue contents and cell organelles are studied.

(2) Bioresource Science for Manufacturing

This chair gives the student various types of instruction and research programs concerning the fields of chemistry, biochemistry and biotechnology as a base of production of plant and animal resources as well as application of knowledge about the use of economic resources from the viewpoint of chemistry, physics, physiology and biochemistry.

3. Life Environment Conservation Science Major

The increasing world population and consumption of natural resources has reached an unprecedented level, to the extent that the limits of global resources, and human existence and activities are now recognized. Conservation and efficient use of the environment, the base for bioresource production and human existence, are major issues for agriculture. This course provides education and research based on engineering and ecological methods.

Life Environment Conservation Science Department

To order to achieve the educational goals of this course, study and research is developed for each of the two fields of study listed below.

(1) Land Conservation and Irrigation Engineering

Using physical and technological methods, students study the consolidation, maintenance and improvement of various geographical features such as forests, cultivated land, shores and coastal waters, along with the rationalization of water use, and maintenance and development of facilities related to water use.

(2) Environmental Science

This chair provides instruction and research programs concerning the basic study and applied technology of the structure and function of various ecosystems ranging from the terrestrial land to the seas, along with environmental changes caused by human activities, and conservation and management of life environments.

Education and Research

Advisory System

UGAS-EU consists of three majors and four departments, with academic staff expertise that extends beyond that of any one of the constituent universities. Three supervisors are assigned to each student: a supervisor and two co-supervisors. Students are located at the same university as their supervisor and one of the co-supervisors, which provides an efficient and effective educational system.

Instruction

Applicants can choose a supervisor by referring to the 'Fields of Instruction and Supervising Professors' pages. Once accepted by a supervisor, applicants take an examination. After acceptance, students are assigned two co-supervisors. UGAS-EU students receive direct professional guidance and instruction for their doctoral thesis from the supervisor. Students also receive further instruction from their co-supervisors. Upon entering UGAS-EU, the supervisor will review the student's research in close cooperation with the two co-supervisors and the student.

Education

The primary goal of UGAS-EU is to train top-level researchers with a broad knowledge of agricultural science who can continue their research activities on their own after graduating.

The Student Education Program was established in April 2006. This program entails research supervision by several faculty members, seminars and a mid-term review of both the dissertation and research progress. A new curriculum and a course credit system were introduced in April 2009 to enhance graduate school education.

We also offer competitive programs that provide funding for presenting at international conferences.

UGAS-EU eagerly welcomes students from foreign countries. We feel Japan and UGAS-EU should play a role in the internationalization of education and in protecting environmental resources. To further this goal, we have a Special Three-year Doctoral Program for International Students in Tropical and Subtropical Agriculture and Related Sciences.

In October 2002, Ehime, Kagawa and Kochi universities started a special master's program in agriculture for international students from Asia, Africa and the Pacific Rim that leads into our special doctoral course for Asian, African and Pacific Rim students.

Research

The three constituent universities each have a history of providing a base for bioresource production through academic research, thus promoting the growth of the Shikoku Island region. Therefore, the combined resources of these universities should have a greater impact in the fields of agriculture, forestry and fisheries. This structure supports a wider range of research from production technology, environment, and facilities; product processing, use, and distribution; and human living environments.

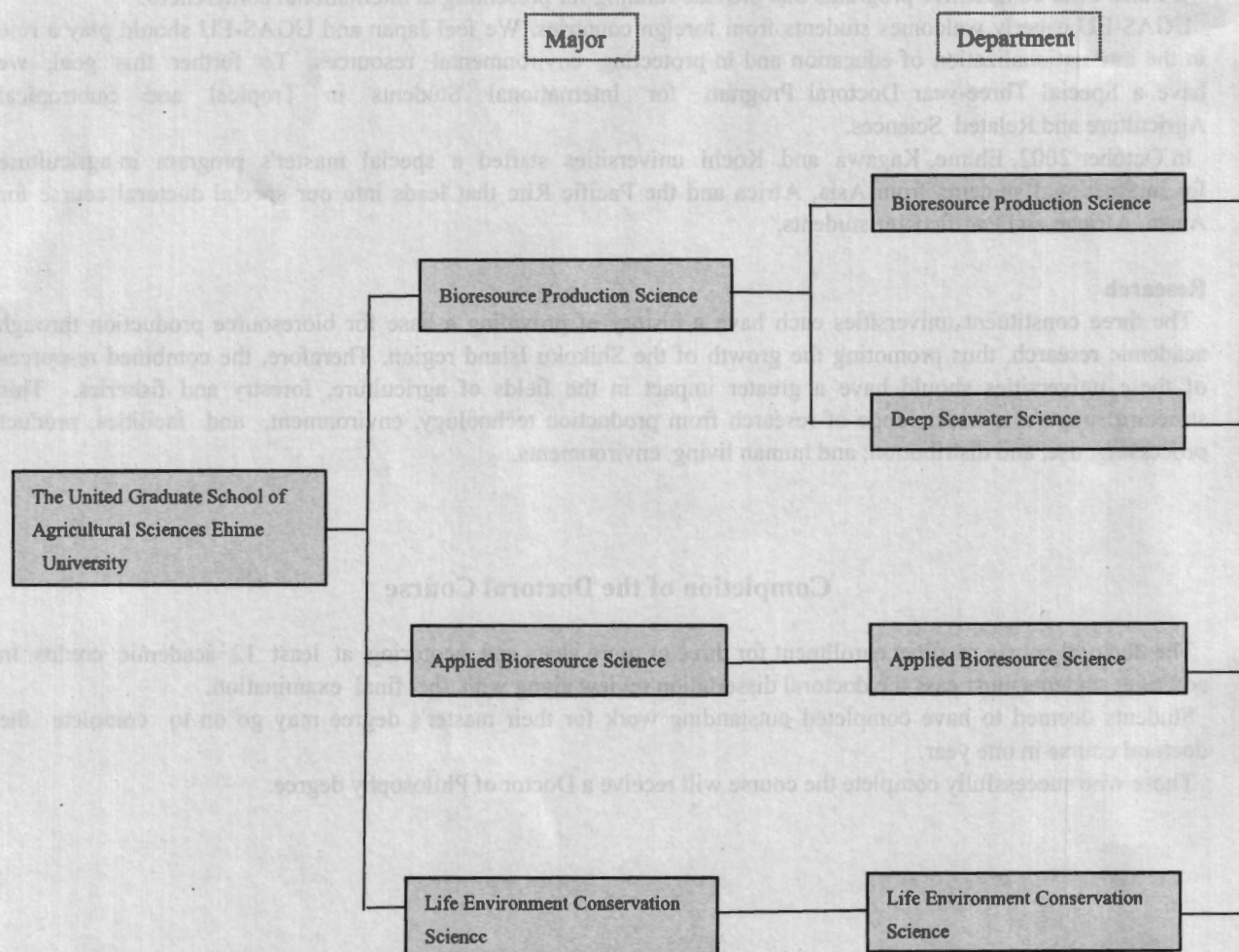
Completion of the Doctoral Course

The doctoral course requires enrollment for three or more years and acquiring at least 12 academic credits. In addition, students must pass the doctoral dissertation review along with the final examination.

Students deemed to have completed outstanding work for their master's degree may go on to complete the doctoral course in one year.

Those who successfully complete the course will receive a Doctor of Philosophy degree.

Organization



UGAS-EU is based on the equal status of Kagawa, Kochi and Ehime universities and operates with their close cooperation. Although UGAS-EU draws from the facilities and staff of the master's course of each university, it is an independent institution that operates separately under its own management and regulations.

Three majors are offered by UGAS-EU: Bioresource Production Science, Applied Bioresource Science and Life Environment Conservation Science. There are four departments.

