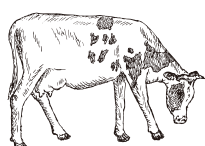
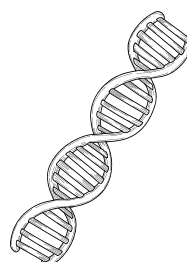
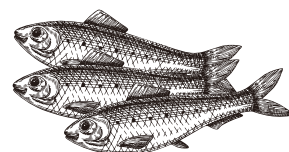
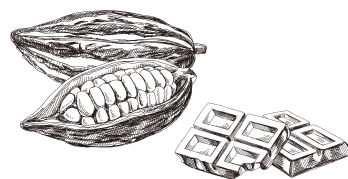
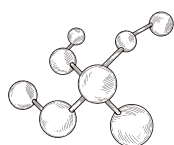




HIROSHIMA UNIVERSITY

School of Applied Biological Science

何 する の ?



From cells to society, through life sciences

Life as science. Life in practice.

The School of Applied Biological Science at Hiroshima University explores biological production – the practical application of life science.

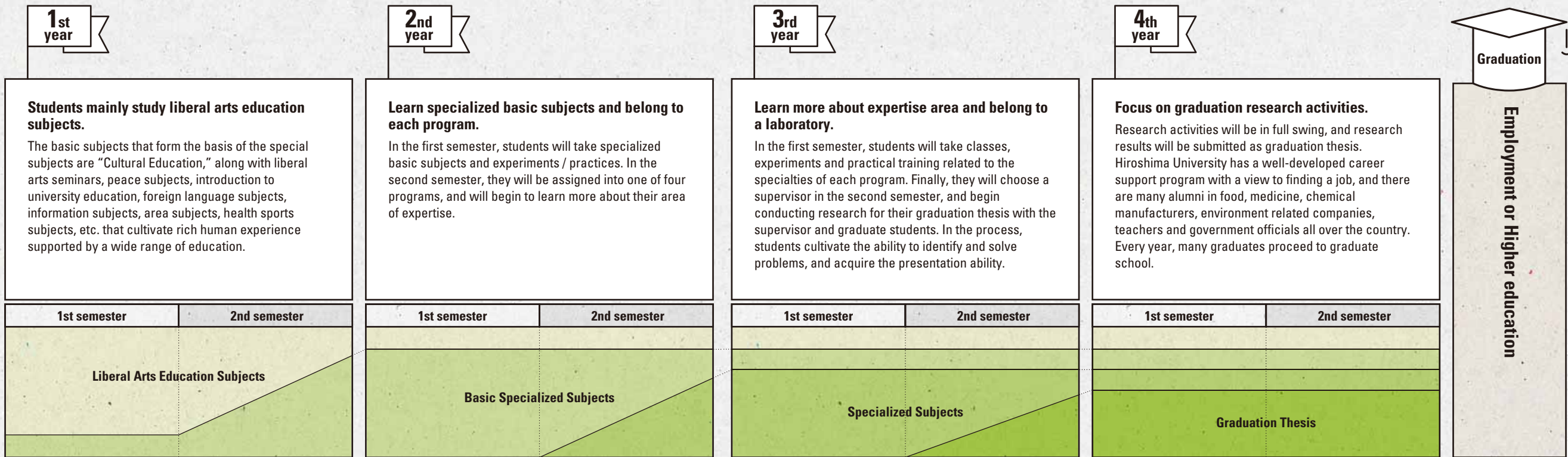
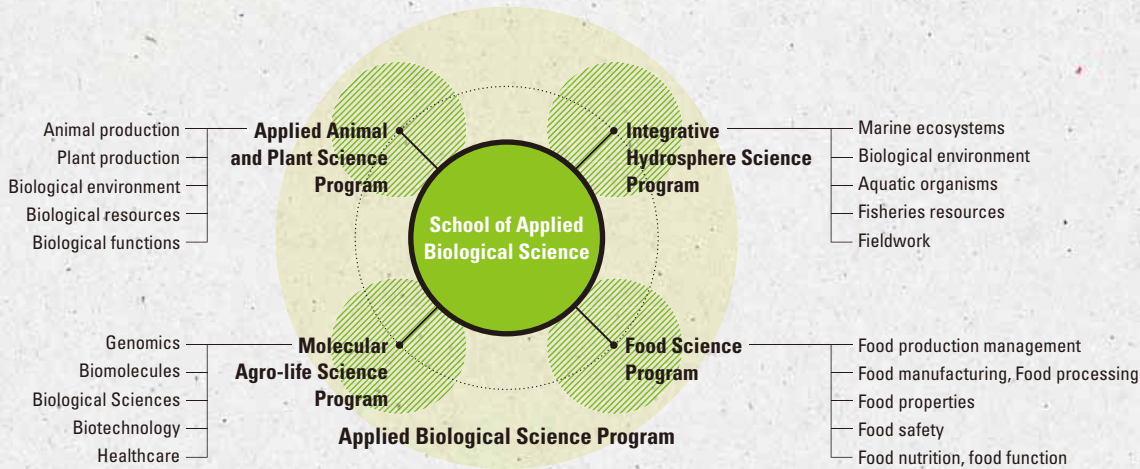
It combines the scientific study of life with the applied perspective of agricultural science, putting biological knowledge into practice in the real world.

Educational Program

To foster individuals who can contribute to society from a broad perspective.

The School of Applied Biological Science aims to equip students with a broad range of knowledge and wisdom spanning from the natural sciences to the social sciences related to biological production.

1. Acquiring fundamental knowledge related to food production, bioresources, the biological environment, and biotechnology
2. Experiential learning in the field sciences
3. Understanding bioethics and the ethics of science and technology
4. Developing communication proficiency as well as information processing skills



The International Applied Biological Science Program assigns students at the time of enrollment based on their preferences at admission, and a supervising advisor is determined in the second semester of the second year.

Obtainable Licenses and Qualifications

Food hygiene supervisor



Food hygiene supervisors are mainly responsible for conducting on-site inspections of food business facilities, as well as supervising, guiding, and improving the practices of food manufacturers and restaurants.

Food hygiene manager



Food hygiene managers are mainly responsible for managing food hygiene at facilities that manufacture or process food and food additives.

Curator

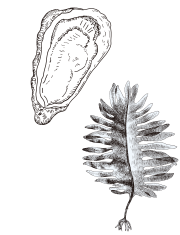


Curators are museum professionals responsible for conducting research on exhibition methods, animal care, and breeding at institutions such as zoos and aquariums, as defined by the Museum Act.

Hazardous Materials Handler (Class A)



The Class A dangerous goods handler is a nationally certified qualification that allows the holder to handle all hazardous materials designated under the Fire Service Act. The School of Applied Biological Science is recognized as a "department related to chemistry," which qualifies students to take the Type-A certification exam.



Integrative Hydrosphere Science Program

Toward the development of human resources who can support the fisheries industry in Japan and the world



The hydrosphere, including seas and rivers, is inhabited by many valuable water creatures which provide great benefits to humans. To sustainably utilize such benefits, it is indispensable to broadly understand water creatures and the environment surrounding them. At the same time, an attitude of pursuing studies in keeping with real-world problems while listening directly to the voices of fishermen and researchers is also important.

This program provides students with lecture classes, and opportunities to carry out experiments and fieldwork, so that they can (1) study basic knowledge on the aquatic environment and material cycles in aquatic ecosystems, (2) systematically learn basic knowledge and research methods necessary for proliferation and farming of marine resources and environmental conservation, and (3) acquire capabilities to consider solutions to issues in production and research sites of biological resources in the hydrosphere from an international point of view, thereby aiming to foster human resources who can respond to diversified social needs.

Program Highlights

POINT
01

Well-equipped Field Training Facilities

The training ship Toyoshio-maru is the only university-affiliated training vessel in the Chugoku-Shikoku region, used for practical training and research survey voyages. The Fisheries Research Station, located directly on the waterfront also has accommodation facilities, allowing students to settle in and conduct field training thoroughly. Both the training ship and the Fisheries Research Station are equipped with state-of-the-art instruments, enabling students to learn cutting-edge research in a hands-on way.



POINT
02

Study the Hydrosphere Environment and Biological Production Systematically!

Students acquire knowledge of the organisms, environment, and industries of the hydrosphere, and a rich array of courses is offered for comprehensive study of the management and use of fisheries resources, from basic knowledge to advanced applications. This is a made-to-order specialized education curriculum in which students choose courses suited to their own interests. Of course, students can also incorporate courses from other educational programs as electives to broaden their possibilities.



POINT
03

Strengths in Human Resource Development

Students develop the knowledge and experience to understand the theory necessary for balancing the fishing industry with the conservation of the hydrosphere environment, and to analyze and evaluate the various characteristics of aquatic organisms. National and local governments have specialized technical positions for students who have systematically studied fisheries and the hydrosphere environment at university. This program has produced many graduates who have passed the recruitment examinations for these specialized technical positions and are active as public servants.



Student Voice



KOMURA Ayano
Fourth-year student, graduated March 2026

The Integrative Hydrosphere Science Program is often assumed to be a program where people who love fishing study fish, but you can actually research a wide range of aquatic environment topics—seaweed, marine environmental issues, and more. Beyond research, another appeal is the abundance of opportunities to learn through hands-on experience, such as shipboard training and fieldwork at the Fisheries Research Station.



FUJIWARA Takahiro
Fourth-year student, graduated March 2026

Through hands-on experience such as shipboard training and fieldwork aboard the Toyoshio-maru, you can master the profound knowledge of marine environments and ecosystems learned in class as real "experience" rather than mere book learning. I am convinced that the Integrative Hydrosphere Science Program is a wonderful environment where people interested in fish and the marine environment can "turn what they love into learning."

Course Schedule (3rd-year, 1st Semester / Term 2) Specialized Subjects

	MON.	TUE.	WED.	THU.	FRI.
1 - 2	Reading of Foreign Literature in Integrative Hydrospheric Science	Hydrospheric Environmental Science	Hydrospheric Primary Production	Introduction to Hydrospheric Biodiversity	
3 - 4					
5 - 6			Basic Economics		Aquatic Biogeochemical Cycles
7 - 8					
9-10	Intensive/Other: Practical Work in Hydrospheric Field Science, Laboratory Work in Hydrospheric Biology, Field Work on Training Vessel, Training for Marine Food Processing				

Course Schedule (2nd-year, 2nd Semester / Term 3) Specialized Subjects

	MON.	TUE.	WED.	THU.	FRI.				
1 - 2	Mind and Society	Aquaculture	Practicum in Sports	Hydrospheric Ecology	Hydrospheric Zoology				
3 - 4									
5 - 6	Intensive/Other: Laboratory Work in Hydrospheric Biolog								
7 - 8									
9-10									

Faculty Members and Research Fields



UMINO Tetsuya Prof.
Ecological research for the sustainable use of aquatic organisms



TOMIYAMA Takeshi Prof.
Production and ecology of fish and shellfish



KATO Aki Assoc. Prof.
Systematic classification and physiological-ecological research on the proliferation, aquaculture, and conservation of seaweeds



TOYOTA Kenji Assoc. Prof.
Physiological-ecological research focusing on sexual traits of aquatic invertebrates



YOSHIDA Masayuki Assoc. Prof.
Research on the biological basis of the mind



KAWAI Kentaro Asst. Prof.
Research on the spawning of coastal fish and the survival of eggs, larvae, and juveniles



KOIKE Kazuhiko Prof.
Ecology, evolution, and utilization of microalgae



WADA Shigeki Prof.
Interactions between marine organisms and the environment



KUNIYOSHI Hisato Assoc. Prof.
Research on larval metamorphosis in jellyfish



NAKAGUCHI Kazumitsu Assoc. Prof.
Operation and management of ships



WAKABAYASHI Kaori Assoc. Prof.
Development of fish and shellfish aquaculture technologies in harmony with nature



SAKAI Yoichi Prof.
Research on reproduction, foraging, and interspecific relationships of fish in the Seto Inland Sea and coral reefs



ASAOKA Satoshi Assoc. Prof.
Research on the assessment and remediation of aquatic environments using analytical chemistry as a tool



SAITOU Hidetoshi Assoc. Prof.
Research on the ecology of organisms inhabiting tidal flats and oyster rafts



HASHIMOTO Toshiya Assoc. Prof.
Elucidation of environmental problems in marine areas using field observations and numerical models



KATO Mikio Asst. Prof.
Operation and management of ships



Applied Animal and Plant Science Program

To create food and rich life by utilizing animals and plants effectively



To obtain food and other products that are excellent in quality and safety from animals and plants, it is necessary to thoroughly understand vital functions of animals and plants, and systematically acquire skills concerning production and use. By combining them, it becomes possible to gain insight into a broad range of fields relating to animal and plant production and identify problems and work out solutions. This program provides students with lecture classes, and opportunities to carry out experiments and field practices so that they can acquire knowledge and skills for contributing to producing fields of food and biological resources from animals and plants and capabilities to solve problems, and work on a global scale by learning (1) animal physiology and structure, (2) improvement of genetic capacity and artificial control of reproduction of animals, (3) feed for animals and their breeding environment, (4) bioethics and animal welfare and (5) plant physiology and the structure and functions of the Earth that supports plant production.

Program Highlights

POINT 01

The only field training facility not only in the Chugoku–Shikoku region, but in all of Japan!

The Farm is the only dairy education and research facility in the Chugoku–Shikoku region. Covering an area of 351,000m², it houses dairy cattle, goats, and other animals, providing a unique setting for field-based education and research. The Farm features a next-generation dairy barn equipped with an automatic milking system and an advanced barn environmental control system—the only facility of its kind among Japanese universities. Students and researchers can gain hands-on experience with cutting-edge technologies and research aimed at addressing global warming and improving labor efficiency in modern dairy farming.



POINT 02

Gain a Comprehensive Understanding of Applied Animal and Plant Sciences!

There are approximately 60 universities in Japan with faculties of agriculture. Among them, only about half offer programs in applied animal and plant sciences, and fewer than one-third provide a comprehensive and systematic curriculum in this field. In the Chugoku–Shikoku region, only two universities offer such opportunities. Against this backdrop, the Applied Animal and Plants Science Program at Hiroshima University is a distinctive and highly valuable program. It provides students with the opportunity to study education and research that extend beyond Japan to address global food production challenges. Although it may not be widely known, it is one of the few programs in Japan where students can systematically learn the science and technology that support the future of food production.



POINT 03

What Are the Advantages of a Comprehensive and Systematic Education?

The national government and local governments offer specialized technical positions in fields such as livestock production and agricultural technology for students who have systematically studied applied animal and plant sciences at university. Each year, students in this program take competitive examinations for these professional positions, and many graduates go on to serve as national and local government officials. In these roles, they apply the knowledge and expertise gained through their comprehensive education to support and advance the agricultural sector.



Student Voice



Because the program offers many fieldwork opportunities, students can interact directly with animals and plants while learning about ways to improve food production, which is essential to human life. Through these hands-on experiences, they gain insights and practical knowledge that cannot be acquired simply by listening to lectures in a classroom. I believe this program is an ideal place for learning while having fun—not only for those who love animals and plants, but also for anyone who enjoys being active and learning through experience.



Through engaging lectures by faculty members and hands-on laboratory and field training at farms and experimental fields, I was able to gain a solid understanding of a wide range of topics related to the production and utilization of animals and plants, which are essential to our daily lives. As a result, my long-standing interest in living organisms became stronger and more focused. Another attractive aspect of the program is the opportunity to study alongside classmates who are passionate about their interests while receiving support from faculty members and senior students. This environment allows me to learn a great deal and pursue my research every day with enthusiasm and confidence.

Course Schedule (2nd Year, 2nd Semester / Term 3) Specialized Subjects

	MON.	TUE.	WED.	THU.	FRI.
1 - 2		Food Hygiene	Animal Functional Anatomy	Plant Nutritional Physiology	Introduction to Applied Animal and Plant Science
3 - 4					
5 - 6	Intensive/Other: Laboratory and Field Works in Applied Animal and Plant Science Laboratory and Field Works in Animal Production				
7 - 8					
9-10					

Course Schedule (2nd-year, 1st Semester / Term 1, Term 2) Specialized Subjects

	MON.	TUE.	WED.	THU.	FRI.
1 - 2	Earth Science	Introduction to Physiology	Environmental Sciences for Bioproduction	Statistics in Biology	Introduction to Physiology
3 - 4			Sports Theory and Exercise	Mental Health	
5 - 6	Intensive/Other: Laboratory Work in General Biology Laboratory Work in General Chemistry Laboratory Work in General Physics				
7 - 8					
9-10					

Faculty Members and Research Fields



ISOBE Naoki Prof.
Immunological and endocrine functions supporting the production of safe milk



SUGINO Toshihisa Prof.
Studies on the nutritional, metabolic, and endocrine regulation of dairy cattle and their application to productivity prediction and smart dairy farming



UMEHARA Takashi Assoc. Prof.
Research on male and female reproductive mechanisms and the development of reproductive technologies based on these mechanisms



SUZUKI Naoki Assoc. Prof.
Research on the control of mastitis and the development of early diagnostic technologies



NII Takahiro Assoc. Prof.
Research on mucosal defense mechanisms against infection in the digestive and reproductive tracts of birds



NAMPEI Mami Asst. Prof.
Molecular physiological studies on the mechanisms of salt tolerance in plants



UEDA Akihiro Prof.
Exploration of beneficial microorganisms that enhance plant growth and improve plant tolerance to environmental stress



TOMINAGA Rumi Prof.
Studies on plant root hair formation and soil environmental factors



KAWAKAMI Siniti Assoc. Prof.
Environmental physiological elucidation of livestock biological functions



NAGAOKA Toshinori Assoc. Prof.
Research on the efficient application of organic materials and soil nutrient dynamics in crop production



INABU Yudai Asst. Prof.
Development of novel livestock management practices based on physiological and endocrinological insights



OBITSU Taketo Prof.
Research on feed and nutrition for environmentally sustainable livestock production



YONEZAWA Takahiro Prof.
Genomic studies on the origins, dispersal, and hybridization history of Japanese native chickens and other livestock



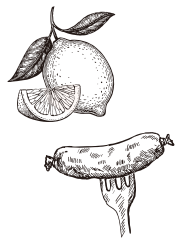
KUROKAWA Yuuzou Assoc. Prof.
Social network analysis of dairy cows in the farm



NAKAMURA Yoshiaki Assoc. Prof.
Preservation of animal genetic resources and development of human infertility treatments using germline stem cells



SEO Aira Asst. Prof.
Field research aimed at improving the welfare of livestock and companion animals



Toward the creation of healthy and rich food

Food Science Program



This program aims to develop human resources who can contribute to creating healthy and rich food. To this end, it provides students with specialist lecture classes, and opportunities to carry out experiments, receive practical training for food production and to visit food factories so that they can obtain basic knowledge and skills ranging from sustainable food production and distribution management to development and manufacturing of safe, highly functional and high-quality food, and applied skills for solving various problems in the food industry. Specific subjects that students learn include: (1) production management and distribution of food, (2) manufacturing and processing of food, (3) physical properties and flavor of food, (4) food safety, (5) nutrition and functionality of food, and (6) effective use of food resources.

Program Highlights

POINT 01 Extensive Hands-on Learning Opportunities

Students gain practical experience throughout the program. At the Food Processing Training Facility, they learn food manufacturing techniques using livestock and marine resources as raw materials. The facility is also equipped with advanced analytical instruments for evaluating food quality, safety, and functionality. Beyond the classroom, students participate in educational visits to food manufacturing plants and experiential learning activities in agricultural production settings, providing valuable insight into the real-world food industry.



POINT 02 An Integrated Approach to Food Science

Many universities offer education in individual areas of food science, such as food production, distribution, nutrition, safety, sensory properties, and functionality. Hiroshima University takes a unique integrated approach, allowing students to study the entire food system—from primary production and distribution to food processing, consumption, and the resulting health benefits. This comprehensive perspective enables students to understand food science as an interconnected discipline and prepares them to address complex challenges facing modern food systems.



POINT 03 Diverse Career Opportunities

The food sector offers a wide range of professional careers in food manufacturing, biotechnology, pharmaceuticals, chemical industries, government agencies, and research institutions. Graduates of the Food Science Program acquire broad and advanced expertise in food science and technology, enabling them to contribute to society as highly skilled professionals in diverse fields related to food, health, and sustainability.



Student Voice



Research on foodborne pathogens for safer food exploring the fascinating and hidden world of microorganisms
NAGASHIMA Chiharu
Fourth-year student, graduated March 2026

I entered the program because of my interest in food. As I explored a wide range of subjects, however, I discovered that food is closely connected to many fields, including agriculture, environmental sustainability, and global issues. Currently, I am studying food safety in a laboratory that focuses on microorganisms, where I have gained a deeper appreciation of the importance of ensuring a safe food supply. One of the greatest strengths of the Food Science Program is its breadth. Through diverse coursework and practical experiences, students can identify the area that best matches their interests. I encourage prospective students to broaden their perspective beyond food itself and use their time here to build a strong foundation for their future careers.



Unlocking the diverse potential of lactic acid bacteria developing functional foods to promote health and well-being
MIYASHITA Kazuhisa
Fourth-year student, graduated March 2026

My research focuses on the immunomodulatory effects of lactic acid bacteria, their novel physiological functions, and the mechanisms behind these activities. I hope that our findings will contribute to disease prevention, health promotion, and the development of functional foods. What I particularly enjoy about the Food Science Program is the balance between academic study and practical learning. In addition to lectures, students have many opportunities to conduct experiments and participate in food production training, where we can actually make and evaluate food products ourselves. These experiences make learning both enjoyable and highly rewarding.

Course Schedule (1st-year, 2nd Semester / Term 3) Specialized Subjects

	MON.	TUE.	WED.	THU.	FRI.
1 - 2	Species Biology	Seminar in Field Science	Experimental Methods and Laboratory Work in Biology	Seminar in Field Science	
3 - 4		Basic French		Basic French	
5 - 6	Forests in the Environment		Cell Science	Organic Chemistry	
7 - 8		Communication			Communication
9-10	Physics for Applied Biological Science			Physics for Applied Biological Science	

Course Schedule (3rd-year, 1st Semester / Term 1, Term 2) Specialized Subjects

	MON.	TUE.	WED.	THU.	FRI.
1 - 2		Food Function	Food Physical Property Science / Nutrition	Food System / Reading of Foreign Literature in Food Science	Food Microbiology / Bioresource Utilization Science
3 - 4					
5 - 6	Intensive/Other: Laboratory Work in Food Chemistry, Laboratory Work in Marine Bioresources Chemistry, Laboratory work in Nutritional Biochemistry, Training for Marine Food Processing, Food Production Management, Food Information Management				
7 - 8					
9-10					

Faculty Members and Research Fields



UENO Satoru Prof.
Elucidation of the crystallization behavior and phase transition in food lipids



SUZUKI Takuya Prof.
Regulation of intestinal homeostasis by dietary factors and nutrients.



NISHIMURA Shinichi Prof.
Chemical biology of bioactive substances from microbes



YANAKA Noriyuki Prof.
Research on the molecular mechanisms underlying obesity and lifestyle-related diseases and the preventive effects of food factors



HIRAYAMA Makoto Assoc. Prof.
Functional Analysis and Utilization of Bioactive Compounds Derived from Marine Organisms



KAWAI Kiyoshi Prof.
Food processing and quality control (e.g., preservation, texture, and in vitro digestibility)



CHOMEI Yosuke Prof.
Studies on Regional Society, Resource Utilization, and Food Culture in Food Production



HAGURA Yoshio Prof.
Development of Innovative Food Processing and Measurement Technologies Based on the Mechanical and Electrical Properties of Foods



KOIZUMI Haruhiko Assoc. Prof.
Crystal growth-guided study of crystalline fat-based foods, including plant-wax-based oleogels and chocolate.



YAMAMOTO Yoshinari Asst. Prof.
Studies on the identification and application of the immunomodulatory effects of food and microorganisms



SHIMAMOTO Tadashi Prof.
Analysis of the function of mobile genetic elements and pathogenicity-related genes in foodborne pathogenic bacteria



NAKAYAMA Tatsuya Prof.
Studies on the mechanisms of pathogenesis and antibiotic resistance acquisition in foodborne microorganisms.



HOSONO Kenji Prof.
The Formation and Development of Fruit and Vegetable Production Areas and Strategies for Their Maintenance in the Face of Environmental Change



Thanutchaporn KUMRUNGSEE Assoc. Prof.
Gut-brain axis and nutrient sensing in feeding regulation



Molecular Agro-life Science Program

To elucidate biotic functions and create state-of-the-art biotechnology



This program aims to clarify sophisticated functions of various living creatures, including microorganisms, plants and animals, using state-of-the-art technologies at the molecular or cellular level of genes and proteins, and apply biotic functions for solving food, medical and environmental problems.

In this program, students can learn necessary knowledge and skills for clarifying biotic functions and significance in nature and developing leading-edge biotechnology, and obtain capabilities to apply such knowledge and skills by (1) elucidating diversified life phenomena of microorganisms, plants and animals, (2) conducting basic studies for development of valuable enzymes, valuable antibodies and anticancer drugs by applying biotic functions, (3) creating valuable transgenic plants and animals using gene recombination technologies and cellular engineering and (4) learning about chemical substances produced by microorganisms, plants and animals.

Program Highlights

POINT
01

Become a Specialist in Life Science

Students systematically learn molecular and cellular biology from basic to advanced levels, which underpins all life phenomena. The program fosters deep knowledge and insight into nature and humanity, preparing students to become specialists in life science.

POINT
02

Explore Your Interests

Through lectures by expert faculty, students gain a strong foundation in molecular and cellular biology and immunology. By exploring a wide range of research on proteins and genes across plants, animals, and microorganisms, students can choose a laboratory that matches their interests.

POINT
03

Innovate Society through Life Science

Graduates apply their knowledge and skills in industries related to healthcare, environment, and food. Many alumni work in research and development positions in chemical, pharmaceutical, and food companies, contributing to solving real-world challenges.



Student Voice



Research to elucidate the functions of proteins in invisible microorganisms using molecular biological approaches

KUROSE Kaito
Fourth-year student

I am currently conducting research on the functional analysis of proteins involved in the nitrogen cycle in bacteria. Even phenomena occurring within microorganisms, which are invisible to the naked eye, can be elucidated through various molecular biological experiments and data analysis. This is one of the most attractive aspects of this program.



Exploring sustainable food production inspired by the mechanisms of plant life

SAKAMOTO Mayu
Fourth-year student, graduated March 2026

In our laboratory, we focus on plant photosynthesis to improve crop productivity. I am developing wearable sensors for plants for next-generation smart agriculture. These sensors enable the visualization of photosynthesis and transpiration, helping to optimize both cultivation management and growing environments. Receiving feedback and expectations from actual farmers gives me a strong sense of motivation.

Course Schedule (2nd-year, 2nd Semester / Term 3)

	MON.	TUE.	WED.	THU.	FRI.
1 - 2		Genome Science	Animal Functional Anatomy	Bio-organic Chemistry	Genome Science
3 - 4					
5 - 6	Intensive/Other: Laboratory Work in Molecular Agro-life Science				
7 - 8					
9-10		Reading of Foreign Literature in Molecular Agro-Life Science			Reading of Foreign Literature in Molecular Agro-Life Science

Course Schedule (3rd-year, 1st Semester / Term 1)

	MON.	TUE.	WED.	THU.	FRI.			
1 - 2	Reproductive Biology		Plant Molecular Biology	Hydrospheric Ecology	Food Microbiology			
3 - 4								
5 - 6	Intensive/Other Topics in Applied Animal and Plant Science, Problem Based Learning for Molecular Agro-Life Science							
7 - 8								
9-10								

Faculty Members and Research Fields



SHIMADA Masayuki Prof.
The study of mammalian oocyte meiosis, in vitro fertilization, and the developmental mechanisms of the early embryo



FUNATO Kouichi Prof.
Genetic studies of lipid dynamics, functions, and industrial applications of yeast



OOMURA Hisashi Assoc. Prof.
Chemical ecology of plants and insects, and agricultural application of semiochemicals



IKUTANI Masashi Assoc. Prof.
Analysis of cellular dynamics involved in allergies



FUJII Sotaro Asst. Prof.
Industrial application of extremophiles



NAKAE Susumu Prof.
Elucidation of the mechanisms underlying the development of allergic diseases using genetically modified mice



HORIUCHI Hiroyuki Prof.
Basic and applied research on avian pluripotent stem cells and the establishment and application of avian genome editing technology



OKINAKA Yasushi Assoc. Prof.
Study the mechanisms by which pathogenic microorganisms cause diseases in fish



TOMINAGA Jun Assoc. Prof.
Understanding photosynthetic limitations and their application



MATSUZAKI Mei Asst. Prof.
Elucidation of the mechanisms regulating reproductive process in poultry Development and application of genome editing technologies for poultry



NISHIBORI Masahide Prof.
Animal genome analysis, focusing on the molecular evolution of birds and mammals, and the exploration of useful genes



TRAN Dang Xuan Prof.
Research focused on sustainable agriculture, functional rice science, and bioactive natural compounds, particularly rice breeding, low-carbon cultivation systems, and exploration of beneficial natural compounds



TANAKA Wakana Assoc. Prof.
Research on the molecular and genetic mechanisms underlying plant development



FUJIKAWA Yukichi Assoc. Prof or Lecturer
Molecular biology research on plant growth and the production of functional compounds



Interdisciplinary education in English for fostering human resources who can work on a global scale

International Applied Biological Science Program



In this program, students learn liberal arts education subjects in English and foreign languages that are common to all schools, and thereby not only lay the foundation for all fields of learning provided by the School of Applied Biological Science, but also acquire language skills that enable them to work on a global scale.

From the second semester in the second year, students learn subjects in extensive fields of learning provided by the School of Applied Biological Science. More specifically, each student takes lecture classes and experiment exercises of major subjects in the Integrative Hydrosphere Science Program, the Applied Animal and Plant Science Program, the Food Science Program and the Molecular Agro-life Science Program, as a curriculum tailored for a major field of each student's choice (packaged major subjects by field), and thereby obtains broad knowledge and skills necessary for the applied biological science and work on their graduation thesis while consulting with an advisor in a specific major field. In the course of this process, students acquire an ability to identify problems, work out solutions, and express the results in English.

Furthermore, students acquire an ability to work on a global scale by taking special lecture classes for exchange students from overseas cooperating schools, lecture classes, practical training and project studies that are provided at overseas cooperating schools (packaged subjects studied at overseas cooperating schools).

Program Highlights

POINT
01

A comprehensive curriculum that equips students with the skills to thrive globally!

Through liberal arts courses taught in English and specialized subjects for exchange students, students conduct their graduation thesis and presentations in English. By combining practical language training with studies in applied biological sciences, they cultivate the skills needed to thrive on the global stage.



POINT
02

Foster a global mindset through international study!

Through a one-semester study abroad program (approximately five months) at one of our overseas partner universities, students experience a fulfilling life abroad. By taking specialized subjects taught in English offered by partner institutions and conducting an independently designed "International Research Project," students develop a high level of global competence through firsthand international experiences.



POINT
03

Strong Career Development Support

In recent years, many Japanese companies have been expanding their operations overseas, creating strong demand for individuals with practical English skills and a high level of global competence. Among the graduates of this program are alumni who tackle international challenges and actively build their careers abroad.



Student Voice



I was fascinated by my experiences studying abroad and participating in agricultural volunteer work overseas, which led me to join this program to further develop my skills. Although I sometimes struggle with technical terms in my many English-taught classes, I truly enjoy my daily life through interactions with international students I have met in classes and events. Recently, I have become particularly interested in Japan's unique "roadside stations" and am now using them as a topic for my research, inspired by the fact that such facilities do not exist overseas.

Course Schedule (2nd-year, 2nd Semester / Term 3, Term 4) Specialized Subjects

	MON.	TUE.	WED.	THU.	FRI.
1 - 2		Physiology of Field Crop Production	Molecular Agro-life Science	Molecular-level Understanding of Functionality of Foods	Food Production Management
3 - 4					
5 - 6		Modern Food Science	Global Environmental Issues and Managements		Resource Management
7 - 8					
9-10	Intensive/Other: Science and Technology for Food Development, Regional Agropolitics		Special lecture for collaboration with mountainous and island areas.		



Faculty Facilities

The School of Applied Biological Science conducts its education in close collaboration with affiliated facilities, including the training and research vessel TOYOSHIO MARU, the Dairy Ecosystem Research & Development Center, and the Seto Inland Sea Carbon-neutral Research Center.



1 Experimental Field

The facility includes experimental fields, glasshouses, net houses, greenhouses, and growth cabinets that allow precise control of temperature and humidity.



2 Conservation and Breeding Facility for Native Japanese Chickens



It is Japan's largest research center dedicated to native Japanese chicken breeds, serving as a facility for breeding and propagating these breeds, including the nationally designated Special Natural Monument, the Tosa Long-tailed Chicken.



Farm

The farm raises dairy cattle, beef cattle, sheep, goats and chickens for educational and research purposes. It is the only dairy education facility in the Chugoku and Shikoku regions and the only university in Japan with a smart barn equipped with an automatic milking robot and other advanced technology. This smart barn implements naming rights to enhance the educational and research environment. Furthermore, it is certified as a Joint Educational Development Center, serving as a hub for dairy education.



3 Training Factory for Food Processing

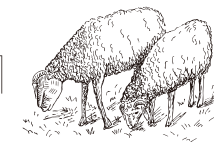
This factory is used to conduct fundamental education and research activities for ensuring food safety and security, developing new functions for food, and developing functional materials derived from biological resources, in addition to providing high-level practical training in food production.



4 Livestock Environmental Control Laboratory



This facility aims to develop cutting-edge technologies for efficiently and sustainably producing safe food animals by discovering new functions in food resource animals.



Training and Research Vessel TOYOSHIO MARU

Completed in 2006, the fourth-generation "TOYOSHIO MARU" is an eco-friendly vessel featuring a fully electric propulsion system. As the only university training ship in the Chugoku and Shikoku regions, it is used for joint research with other universities, as well as for onboard training and research cruises.

Overview of the 4th Generation TOYOSHIO MARU

Overall Length: 40.5 m
Register depth: 3.7 m
Service speed: 10 knots (approx. 18.5 km/h)
Complement: 32 persons

Breadth: 8.5 m
Gross register tonnage: 256 t
Officers and crew members: 12 persons
Cruising range: 2,900 mile (approx. 5,370 km)



Fisheries Research Station

This fisheries research station is located in coastal waters blessed with one of the largest tidal flats and seagrass beds in the Seto Inland Sea, and supports field-based education, research, and community engagement aimed at creating a rich and sustainable satoumi.



Explore the School of Applied Biological Science



Research Building B

1~5F



Biology Teaching Laboratory

Students engage in chemistry and biology experiments using a variety of animals and microorganisms.



Seminar Room

It is used for laboratory seminars, presentations, and various academic activities.



Hatching Room

It is equipped to support research on chickens and eggs.

Laboratory Animal Room

It is used to keep small animals such as mice.

Research Laboratories

Advanced instruments are equipped.



Research Building A

1~8F



Plant Culture Room

It is used for precise plant experiments.



Research Laboratories

Advanced instruments support distinctive research.



Faculty Staff Office

Laboratory Animal Room

Small animals such as mice are kept for testing functional nutritional substances.



Student Room

The bright, open student room is available for flexible use.



Seminar Room

It is used for laboratory seminars, presentations, and various academic activities.



Faculty Staff Office



Lounge



Student Room

Research Building C

1~3F

HUB-like building for the School of Applied Biological Science.
It houses facilities such as the Student Services Office, Terrace, Community Room, and Lecture Rooms.



Lecture Room

Bright lecture rooms equipped to support remote classes.



Community Room 2F

This is a multipurpose space that can be used as a gathering place for students. It is also equipped with an automated certificate issuing machine where documents such as certificates of enrollment and student discount certificates for JR can be issued.



Student Services Office 2F

This office provides support for academic procedures and information to help students enjoy a fulfilling student life.



Terrace 2F

It is an open outdoor area where people can enjoy meals or use it as a place to relax.



Many graduates of the School of Applied Biological Science proceed to graduate school,
and employments cover a wide range of companies.

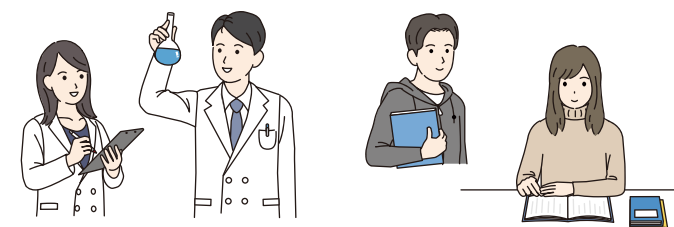
Employment Status for undergraduates

Graduates in AY2025: 93 undergraduates

Advancement to Master course 66 graduates

Employed 25 graduates

Others 2 graduates



Main Employers

Food & Biotechnology

- NH Foods Ltd.(Nippon Ham Group)
- Nichirei Foods Inc.
- EBARA Foods Industry, Inc.

Information Technology & Data

- OBIC Co., Ltd.
- ITEC Hankyu Hanshin Co., Ltd.

Manufacturing, Energy & Infrastructure

- Panasonic Electric Works Co., Ltd.
- Kanden Energy Solution Co., Inc.

Transportation & Major Corporations

- All Nippon Airways (ANA)

Government & Public Organizations

- Ministry of Agriculture, Forestry and Fisheries
- Ministry of Health, Labour and Welfare
- Hiroshima Prefecture
- Okayama Prefecture
- National Mutual Insurance Federation of Agricultural Cooperatives (JA Kyosai)

Employment Status for students completing master's program.

Graduates in AY2025 : 77 graduates, excluding international students

Employed 6 graduates

Advancement to Doctoral course 9 graduates

Others 2 graduates

Main Employers

Food & Life Science

- Kao Corporation
- Nichirei Corporation
- UCC Ueshima Coffee Co., Ltd.
- SB Foods Inc.

Agriculture, Feed & Bio-related Industry

- Nisshin Marubeni Feed Co., Ltd.
- National Federation of Agricultural Cooperative Associations
- Nippon Chunky Co., Ltd.

Chemical, Materials & Energy

- Kaneka Corporation
- Idemitsu Kosan Co., Ltd.
- Sumitomo Rubber Industries, Ltd.
- Mitsubishi Corporation Life Sciences Limited

Technology, Analysis & Business

- Shimadzu Techno-Research, Inc.
- Mitsubishi Chemical Logistics Corporation
- Canon Marketing Japan Inc.
- Marine Ecology Research Institute

Government & Public Organizations

- Kagawa Prefectural
- Ehime Prefecture
- Hyogo Prefecture

*It also includes students who enrolled after transferring from other universities.





<https://www.hiroshima-u.ac.jp/en/seisei>

School of Applied Biological Science, Hiroshima University
広島大学 生物生産学部