HIROSAKI
UNIVERSITY

Hirosaki University Faculty of Agriculture and Life Science

Overview of the Faculty of Agriculture and Life Science

At the Faculty of Agriculture and Life Science at Hirosaki University, students are endowed with opportunities to study environmentally-conscious agriculture and biotechnologies that can facilitate the development and use of biological resources.

Our objective is to prepare students with both fundamental and specialized life sciences academic skills, and help students acquire the interdisciplinary and comprehensive abilities necessary for understanding life systems and creating next-generation biology-related industries.

We also aim to develop global-minded individuals who are able to play important roles in the development of rich local environments, and nurture the qualities and competence to solve problems individually.

Target at Graduation

- Mastery of fundamental and specialized knowledge in agricultural and life sciences
- Development of problem seeking/solving skills as an expert or researcher
- Development of the rich human qualities necessary for being an active, creative, independent member of local and international communities

Policies on Curriculum Organization

First-year students are expected to broadly acquire academic and cultural basics through the required education and fundamental courses. First-year students will also take specialized fundamental courses during their second semester in order to develop the foundation for their respective academic disciplines. Second- and third-year students will take specialized courses, while fourth-year students, based on their fundamental and specialized knowledge and skills acquired through previous lectures, laboratories, exercises, and fieldwork, will conduct graduation research that addresses a specific research question.

Biology

Basic Biology

Understanding how the common and diversified rules in living organisms evolve.

This program will help students deepen their understanding of life through the study of metabolics, environmental responses, reproduction, heredity traits, births, behaviors, and the evolution of living organisms. Students will research the different phenomena that occur in animals, plants, fungi, algae, and bacteria at the cellular, individual, and collective levels.

Ecology, Evolution, and Environmental Biology

Considering biological evolution and conservation from the perspectives of ecological and environmental sciences.

Through fieldwork, students will learn how humans and other creatures live together harmoniously. Students will also study how to preserve the environments of living creatures as well as understand the diversity of animals, their adaptation strategies, and their evolution mechanisms.

Biochemistry and Molecular Biology

Basic Life Science

In this program, students who are curious about the biological functions of living organisms (from microbes to mammals) can learn about such functions at the cellular, genetic, molecular, and atomic levels. In general, there are various functions of a cell (the fundamental unit of a body) and many discoveries have been made regarding biological phenomena and mechanisms. However, we still have a limited understanding of their processes. Therefore, this program will provide students with the state-of-the-art knowledge and technology necessary for revealing how the cellular mechanisms are highly regulated and properly maintained.

Applied Life Science

This program focuses on the development of new biotechnologies through the exploitation and investigation of useful biological functions. Natural bioprocesses have provided us with benefits such as food, medicine, materials, and energies. In the applied life science program, students who are interested in revealing cellular mechanisms as well as their uses can learn about the application of biological products and functions. In addition, they can acquire essential knowledge for understanding biochemical reactions and cellular mechanisms.

Applied Biology and Food Sciences

This department is designed to study life sciences together with classical and innovative technologies for food production under the following three programs:

Biotechnology

Development of food resources using advanced biotechnology.
RESEARCH AREA: Plant Breeding, Plant Genomics, Environmental Plant Science, Microbial Genetics, etc.

Food Science

Research and development of foods with more safety and health-promoting benefits.
RESEARCH AREA: Food Science, Food Functionality and Food Safety, Functional Food Ingredient Analysis, Molecular Nutrition, Food Safety and Preservation, Food Physical Chemistry, etc.

Plant Protection and Environment

Research for creating an environment that sustains biological resources through cross-interactions between crops and various insects and microorganisms.
RESEARCH AREA: Agrology, Plant Pathology, Insect Physiology, etc.

International Agriculture and Horticulture

Agriculture and Horticulture

This program focuses on creating new value for the field of Agriculture and Horticulture.
This purpose of this program is to provide students with strong, multifaceted, comprehensive, and practical knowledge of a wide variety of food productions, ranging from fruits, farm-produced food, vegetables, herbs, and farm animals to farming machines and equipment.
Students also focus on both the theory and practicality of agriculture and food, which are two aspects that are greatly connected to the future of our world and humanity.

Agricultural Economics

A solution to the problem of agriculture and food can move regions and the world.
This program focuses on various issues related to the management, economics, and marketing of food and agriculture from the viewpoints of natural science and social science.
Students also acquire theoretical and practical knowledge about how to improve farming, agricultural, and livestock product marketing. In addition, from the economical problems of agriculture and food, students determine the best approach toward agricultural and regional vitalization in the future.

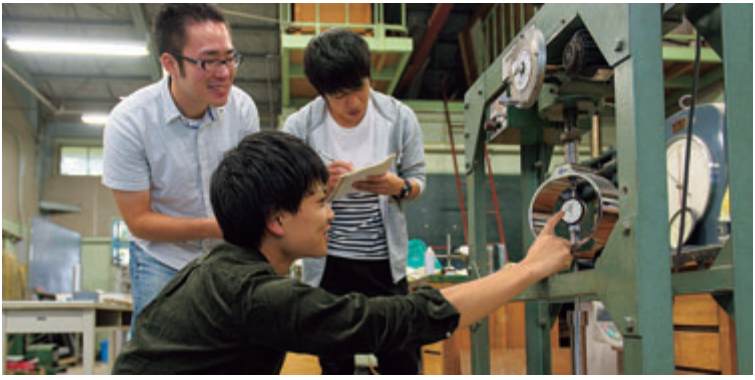
Agricultural and Environmental Engineering

Agricultural Civil Engineering

This program teaches students about practical, agricultural civil engineering. Since this program has received authorization from the Japan Accreditation Board for Engineering Education (JABEE), students will, upon successful completion of this program, receive a qualification of engineer training, which will make the process of becoming a fully qualified engineer much easier.

Rural Environment Studies

Using agricultural civil engineering as a base, this program provides students with the skills to influence the future of various areas such as the environments, societies, and economies of farming villages and mountainous regions. Before participating in this program, it is advisable that students have completed a wide variety of programs such as Agricultural Civil Engineering, Environmental Studies, and Economics.



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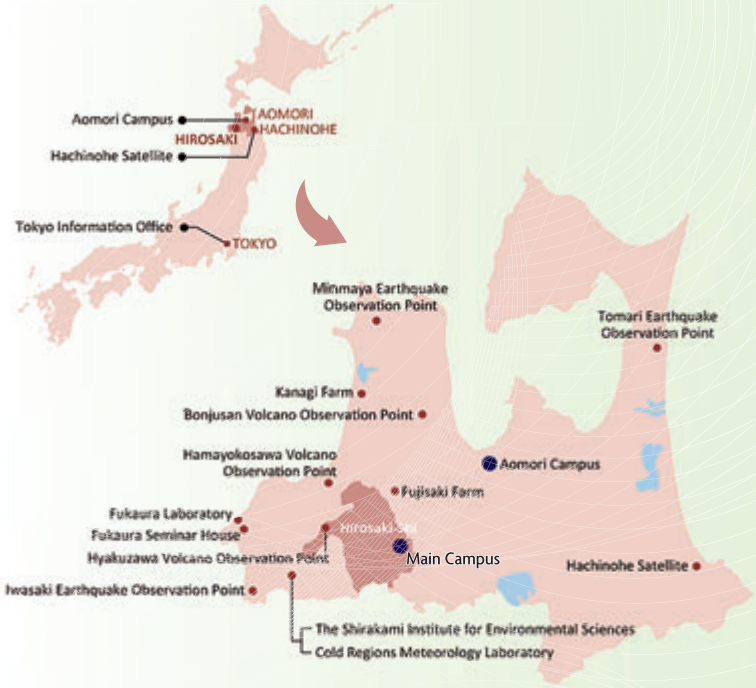

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