

# Faculty of Integrated Science and Engineering for Environments

The Faculty of Integrated Science and Engineering for Environments consists of three departments and eight courses. Students study the basics and applications of science and engineering, acquire specialized knowledge in science and technology, and deepen their understanding of environmental science and technology aimed at realizing a green society. Students are assigned to a course from the second semester of their second year and study highly specialized subjects in small groups. Through interdisciplinary education, we aim to develop talented individuals who will play an active role in the modern society and contribute to the realization of a green society by utilizing their own expertise and acquiring the ability to solve problems in collaboration with others.

## Structure of Faculty (3 departments)

### Department of Applied Chemistry and Bioscience

Students study chemistry and biology and techniques related to these with the aim of protecting human health, conserving the environment, and developing environmentally friendly materials and processes that will lead to a green society.

#### ● Course of Bioscience

Students learn how to contribute to health and the environment with advanced biotechnology.

#### ● Course of Organic and Polymer Chemistry

Students learn about the application of precise organic synthesis technology to pharmaceuticals, medical care, and resource recycling.

#### ● Course of Applied Chemistry

Students learn advanced chemical process technologies that will contribute to the realization of a carbon-free society.

### Department of Mathematical and Physical Science for Environments

Students acquire in-depth specialist knowledge in fields such as mathematical sciences, geo-environmental studies, materials science, and electronics, as well as the ability to help contribute to the harmony between conservation of the natural environment and a green society based on broad-based interdisciplinary knowledge.

#### ● Course of Mathematical and Environmental Science

Students explore natural sciences (mathematics, theoretical physics, earth sciences) and acquire a collaborative mindset in these fields.

#### ● Course of Functional Devices and Materials Sciences

Students learn about the creation of materials with new functionality and the practical implementation of electronics.

### Department of Engineering for Social Systems

The aim of the department is to build a sustainable global environment and social system through the development of human talent that values practical learning and

advanced technologies that meet the needs of today's society.

#### ● Course of Mobility Engineering

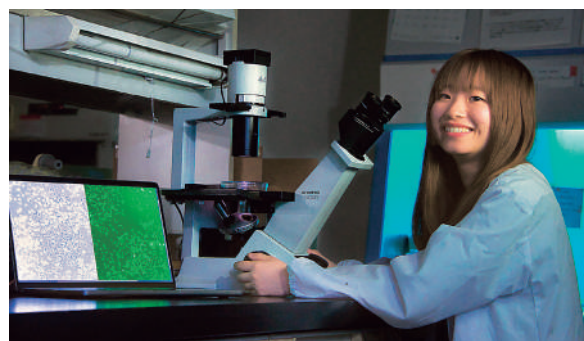
Students learn about the development of new forms of mobility, including materials design, such as next-generation aircraft, trains, automobiles, and other types of vehicles.

#### ● Course of Electrical Systems Engineering

Students learn about the electrification of mobility, the introduction of renewable energy, energy storage devices, and other aspects of building sustainable energy systems.

#### ● Course of Civil and Environmental Engineering

Students learn about the building the foundations for sustainable local communities, including improvement of social infrastructure such as roads and bridges and of transportation systems.



Department of Applied Chemistry and Bioscience  
Course of Bioscience



Department of Engineering for Social Systems  
Course of Civil and Environmental Engineering

#### ■ Correspondence education program

The Faculty of Integrated Science and Engineering for Environments at Akita University offers the only "social correspondence education program" among national universities. Since its founding in 1948, it has produced more than 2,100 graduates based on its rich background of tradition and history.

We offer general science and technology courses enabling the development of sophisticated knowledge of in these subjects, as well as courses teaching the basics and specializations of resources, materials, and electrical and electronic engineering.