

Faculty of Engineering Science

The Faculty of Engineering Science is striving to train human resources with expertise backed by “reason” and high-level of ethics, and can look at interdisciplinary fields, and who can contribute to Japan as a whole, as well as regionally with an integrated strength. In the first and second years students receive a thorough education in engineering, and in the third and fourth years students take that knowledge and gain a fuller understanding of what it means as they use it in while playing an active role in their area of expertise. During their undergraduate education students can discover questions on their own, have a broad perspective regarding issues in unknown fields, and gain the ability to solve them with flexibility.

■ Faculty Organization (4 Departments)

[Department of Life Science]

Training researchers and engineers to tackle various problems in the life sciences field.

● Life Sciences Course

Students learn to clarify various biological phenomena on the molecular level that makes up living bodies, on an individual cell or individual body level, and at a group organism level.

[Department of Materials Science]

Training researchers and engineers who will deal with leading-edge, functional materials and chemical processes.

● Applied Chemistry Course

Students will study a broad spectrum of specialized chemical fields from chemical engineering that deals with organic and inorganic materials and energy, to bioprocesses.

● Material Science and Engineering Course

A wide range of fields are studied starting with the fundamental sciences focusing on solid-state physics, solid-state chemistry, metallic materials science and engineering, ceramic materials.



[Department of Mathematical Science and Electrical-Electronic-Computer Engineering]

Training multi-faceted human resources to lead in fields from mathematics and physics to electrical and electronic telecommunications.

● Mathematical Science Course

Students study mathematical and computer sciences with a focus on algebra, geometry, mathematical analysis, discrete mathematics, quantum mechanics and electromagnetics.

● Electrical and Electronic Engineering Course

Students learn about the fundamental technology that supports electric, electronic, information, and communications engineering, focusing on electric power engineering, semiconductor device engineering, measurement electronics, and electric mechanical science.

● Human-Centered Computing Course

Students will learn advanced applied technology that has a foundation in computer science, with a focus on human computer interaction, welfare communication engineering, image analysis, and information communications and networks.

[Department of Systems Design Engineering]

Training practical engineers to be able to create new things.

● Mechanical Engineering Course

Students study the mechanical engineering that makes up the foundation of every industry, with a focus on material mechanics, fluid dynamics, thermodynamics, machine mechanics, control engineering, nanotechnology, medical engineering, biomechanics, and robotics.

● Creative Manufacturing Engineering Course

Students learn about a wide range of engineering disciplines with a focus on design engineering, creative production science, electrical and electronic circuits, system control engineering, rocketry, and a practical research project.

● Civil and Environmental Engineering Course

Students learn the technology to create and preserve a safe, secure and comfortable local environment with a focus on structural design studies, construction material science, ground disaster prevention engineering, and environmental hydraulics.

■ Distance Learning

Akita University Faculty of Engineering is the only national university that offers “public distance learning courses”. Since the first class was held in 1948, over 1700 society graduates have been produced against the background of tradition and history.

In order to gain general background knowledge in scientific technology, a general scientific technology course and courses to study the basics and specifics in resources, materials or electronics and electronics are offered.