National Institute of Technology (KOSEN), Nagano College

Department of Engineering
Department of Mechanical Engineering
Department of Electrical and Electronic Engineering
Department of Electronic Control Engineering
Department of Electronics and Computer Science
Department of Civil Engineering
Advanced Program

COLLEGE CATALOG

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Message from the President

Hisakazu Ezaki

National Institute of Technology (KOSEN), Nagano College was established in 1963 and have produced many excellent engineers who have supported the development of science and technology in Japan. Today, kosen educational system is highly regarded for its role in industry.

From the 2022 academic year, the previous five departments have merged into the Faculty of Engineering, which consists of three departments: Informatics and Electronics, Mechanics and Robotics, and Civil Engineering. In addition, by organizing Liberal Arts Education Academy, general education allowed for further intellectual exploration. Another feature of the reform is the introduction of a minor to develop human resources capable of responding to recent changes in industrial structure and technology, as well as to the needs of an increasingly diverse world. We also promote overseas training and internships to develop human resources with a global mindset.

Recently, half of the students have found employment in the private or public sector after graduation. Students who wish to acquire more advanced scientific skills can enroll in special courses or transfer to the third year of university. Based on the educational philosophy “A Good Engineer must first be a Good Person,” we aim to foster practical and creative engineers who can tenaciously face the complex and difficult challenges of a globalized society and open the way to a bright future.

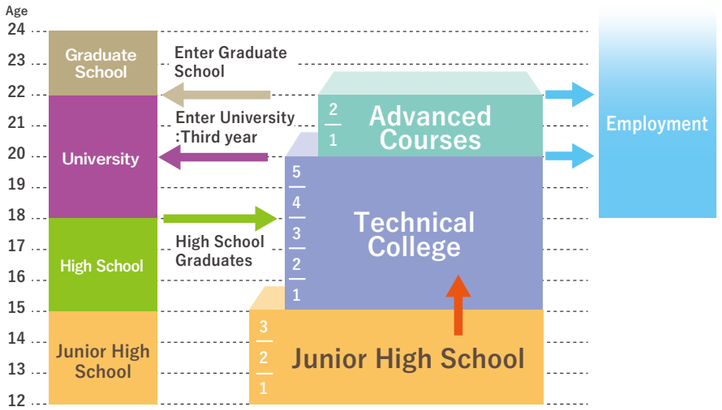
School Emblem

The school emblem consists of the two letters "kousen" (technical college) surrounded by the young leaves and buds of a linden tree, with a mountain shape at the top.

Logo

The "N" of National Institute of Technology, Nagano College is depicted as the powerful current of the Chikuma River in Nagano Prefecture, and the educational philosophy of "knowledge, virtue, and body" is expressed using the red of the sun illuminating the future, the light blue of melting snow, and the green color of the mountains.

Future Options



National Colleges of Technology accepts graduates from junior high schools and provides five-year integrated education in order to foster engineers who are required in the global society.

Graduates receive an “Associate of Science” degree and are eligible to enter advanced two-year courses or transfer to a university as juniors, depending on their major. Students in advanced courses are awarded the degree of “Bachelor of Engineering” by the Quality Assurance Agency for Higher Education.

JABEE Accredited Program

JABEE (Japan Accreditation Board for Engineering Education) is an accreditation body that impartially evaluates the engineering education programs offered by higher education institutions to ensure that they meet the required standards of society. Once a program is assessed by JABEE and certified as meeting these standards, it is recognized as fulfilling the international standard. In 2005, the school underwent a JABEE examination for an engineer education program called “Industrial Systems Engineering” and was accredited in the field related to engineering (fusion, complex, and new fields), and is providing education under this program.


認 定 証

長野工業高等専門学校
準学科
プログラム名：産業システム工学
工学（融合複合・新領域）関連分野

標書の技術者教育プログラムは事業の結果
JABEE認定基準に適合していることを認定
します

認定開始年度：2005年度

2006年5月8日
日本技術者教育認定機構
会長 大橋 秀雄

Concept of the “Industrial Systems Engineering” Program

The goal of this program is to provide students with basic knowledge and skills in the specialized fields of mechanical, electrical and electronic, electronic control, electronic information, and environmental and urban engineering. Furthermore, it aims to foster engineers who can demonstrate a higher level of expertise by acquiring practical skills through off-campus training in addition to advanced specialized education in the complex field of production environmental systems and electrical information systems.

Educational Philosophy

A Good Engineer must first be a Good Person.

Educational and Administrative Policy

1. Based on the educational philosophy, we aim to be an institution of higher education that fosters practical engineers with rich humanity, originality, and creativity. In addition, we establish an educational system to foster engineers who can respond to advances in science and technology, social issues, and globalization.

2. We shall cooperate with the local community and operate the school in close contact with the community. We shall also foster students who are highly regarded and beloved by the communities, as well as who will fulfill our mission as an institution of higher education demanded by society.

Ideal Image of Human Resources

1. Practical engineers who have basic knowledge of engineering, possess a sense of ethics, discover problems on their own, and can solve problems by using their technical knowledge and skills.

2. People who are broadly educated, show interest in social, environmental and other issues, and actively participate in society with their leadership.

3. People who respect cultural diversity can play an active role in exchanges with other countries and contribute to the international community.

List of Agreements with Overseas Educational Institutions

Country	Name of educational institutions
Taiwan	National Taipei University of Technology
Taiwan	Natonal United University
Thailand	Thai-Nichi Institute of Technology
Thailand	Science-Based Technology Vocational College(Chonburi)
Thailand	Suranaree Technical College
Thailand	Princess Chulabhorn Science High School Phitsanulok
Indonesia	Syiah Kuala University
Vietnam	The University of Da Nang, University of Science and Technology
Canada	Northern Alberta Institute of Technology

The Department of Engineering has three courses: Informatics and Electronics, Mechanics and Robotics, and Civil Engineering. Students select their major when they advance to the second year.

We have established a curriculum that allows students to acquire a broad range of knowledge across disciplines, and to develop human resources who are both specialists and generalists.

I E Informatics and Electronics

Informatics and Electronics course aims to train engineers in the field of information electronics. Students will study a wide range of information fields such as software and information security, as well as electrical energy, information networks, and electronics technology.

M R Mechanics and Robotics

Mechanics and Robotics course, students study mechanical engineering, control engineering, and other subjects that are necessary for developing and designing mechanical systems such as automobiles and robots.
This course nurtures practical engineers through hands-on experiments and practical training from basic to advanced levels.

C E Civil Engineering

Civil Engineering course aims to develop engineers who can develop social infrastructure for a safe and cultured lifestyle and can work on environment-conscious urban development. Students will acquire a wide range of knowledge and insight, including local disaster prevention and environmental issues in response to natural disasters.

Faculty of Liberal Arts

Faculty of Liberal Arts offers practical education across all grades.
In the first year, students take the ZUKUDASE seminar, in which they explore topics of interest in a small-group seminar format; in the second year, there are small-group English conversation classes with native English-speaking teachers and overseas training. In the upper grades, students develop a global mindset through English presentation classes. In 'Nagano Studies', students can also attend lectures on the history and culture of Nagano Prefecture and take part in winter sports practice.

Department of Mechanical Engineering

The Department of Mechanical Engineering aims to cultivate students' abilities to develop and design various products, such as automobiles and robots, and develop manufacturing systems. Therefore, the department places great importance on basic theories of mechanical engineering that concern manufacturing. All basic theories are applied to the curriculum and practices so that they can be understood through practical experiments.

Department of Electrical and Electronic Engineering

The faculty puts great emphasis on mastering basic theories of Electric Power Engineering, Electronic Engineering, and Information Technology Engineering in order to prepare students to handle future developments in the fields of Electrical and Electronic Engineering. A high priority is placed on laboratory work, which students are required to participate throughout their years of study.

Department of Electronic Control Engineering

The Department of Electronics and Control Engineering was established in 1992, after becoming independent from the Department of Mechanical Engineering. Its goal is to educate students who will become engineers and who are able to utilize technology that requires knowledge in a wide range of fields such as mechanical engineering, electronics, information processing and control engineering.

Department of Electronics and Computer Science

The Department of Electronics and Computer Science, its purpose is to train students to become engineers possessing hardware skills related to electronic engineering, software skills related to computer science, and overall skills related to electronics and computer science.

Department of Civil Engineering

In the Department of Civil Engineering, students study basic subjects such as structure, hydraulics, soil mechanics, and urban planning. Students aim to become engineers who can develop social infrastructures and environment-friendly urban planning.

Advanced Program

The advanced program are two-year educational programs that deepen the five-year basic education at kosen. A Bachelor's degree in Engineering is given to students who complete the Advanced Engineering Program and pass the examination given by the National Institution for Academic Degrees and University Evaluation. The degree is equivalent to graduating from a university. After graduation, students continue research and development in companies, or transfer to graduate school of national or private universities to receive further education. After completing the advanced course, students may go on to work in the research, development, or technical departments of companies, or to graduate school at public universities.

Advanced Program in the Production and Environment System

The advanced program of production and environment system provides expertise and technique relevant to machine, electronic control, production system, and civil engineering and urban planning. We aim to educate practical and creative engineers who are able to conduct research and development in the fields of intelligent mechanical equipment, manufacturing systems, and the development of infrastructure.

Advanced program in the Electric and Information System

The advanced program of electric and information system provides expertise and techniques relevant to electronics, information, and electric power. We aim to nurture practical and creative engineers who are able to conduct research and development in the fields of electronic communication systems, and computer and information systems.

Off-campus Practical Training

National Institute of Technology, Nagano College's advanced courses offer 14 weeks of off-campus practical training as compulsory subject, which is rarely seen among universities and colleges of technology in Japan. In the second semester of the first year, students in the advanced courses engage in practical training, mainly at companies and government offices in Nagano Prefecture. In off-campus practical training, students learn and experience technical content over a long period, which helps them develop practical skills and learn things that are difficult to learn in a technical college setting, such as the reality of working in a company and the sense of responsibility that one should have as a member of an organization.

This 14-week off-campus practical training program has been highly regarded and was selected as the "Contemporary Educational Needs Support Program (Gendai GP)" by the Ministry of Education, Culture, Sports, Science and Technology in 2004 and 2005.

Facilities

❶ Library

The library is a comprehensive media center for education, research, learning, and preparation for higher education and employment. 2010 saw an earthquake-resistant renovation to make the space more comfortable. It is also open to the public.

- Facilities and Equipment
  Reading room area: 580 ㎡ , 102 reading seats, 4 PCs, group work room, 1 AV booth (1 Blu-ray, 1 VHS player)
- Books, Materials, etc.
  The library has a collection of more than 80,000 books. Books and other materials can be searched through the online catalog (OPAC).

❷ Regional Collaboration Technology Center

The Regional Collaboration Technology Center was established in April 2000 to promote joint projects with local companies. It collaborates with various institutions to support joint projects with companies, joint research, and entrepreneurial projects.

❸ Information Education Center

The Information Education Center was established in February 1974 as the Computer Center for the purpose of fostering engineers who can play an active role in the information society. In addition to being used for students' information and educational activities, it also plays a role in promoting the university's information infrastructure and manages and operates the school's internal network.

❹ Technical Education Center

The Technical Education Center was established in 1998 as an intramural joint-use facility to enhance and develop manufacturing education and research activities and to contribute to the local community.

❺ Welfare Facility and Student Counseling Center

The first floor houses the school cafeteria and store, while the second floor houses the infirmary, the student counseling room, and a common room for extracurricular activities. At the Student Counseling Room, professional staffs (counselors, school social workers, nurses, faculty and staff) provide total support for a fulfilling student life by offering consultation on various obstacles, worries, and concerns that arise in student life.

❻ Student Dormitories

Dormitories are available on campus for students who have difficulty commuting from home. There are men's dorms, women's dorms, coed dorms (on separate floors), and international dorms. Each building has a common lounge, and each floor has a mini-kitchen with a microwave oven and induction cooker. There is also a cafeteria and bathrooms for the exclusive use of dorm residents.

Yufu-ryo (men's dormitory)

Seifu-ryo (women's dormitory)

Ōfu-ryo (international dormitory)

● International Exchange Center

The International Center was established in April 2014 to foster an international mindset among students, faculty, and staff through exchanges with educational institutions around the world. The Center aims to nurture internationally minded individuals who are aware of cultural diversity and have an interest in exchanges with other countries.

● Thailand Collaboration Center

The Thailand Collaboration Center was established in July 2009, with our colledge serving as the secretariat for the "Overseas Development of Japanese Technical College Education Model Project." The Center provides educational support to students and faculty members of premium courses (5-year) established at two technical colleges in Thailand (Suranaree Technical College and Science-Based Technology Vocational College (Chonburi)).

● Global Engineering Training Center

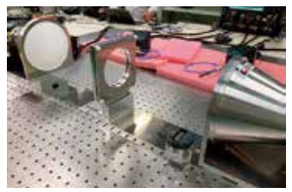
The Global Engineering Training Center was established in April 2020 to globalize the campus and improve students' communication skills. The base of activities is the Global Lounge.

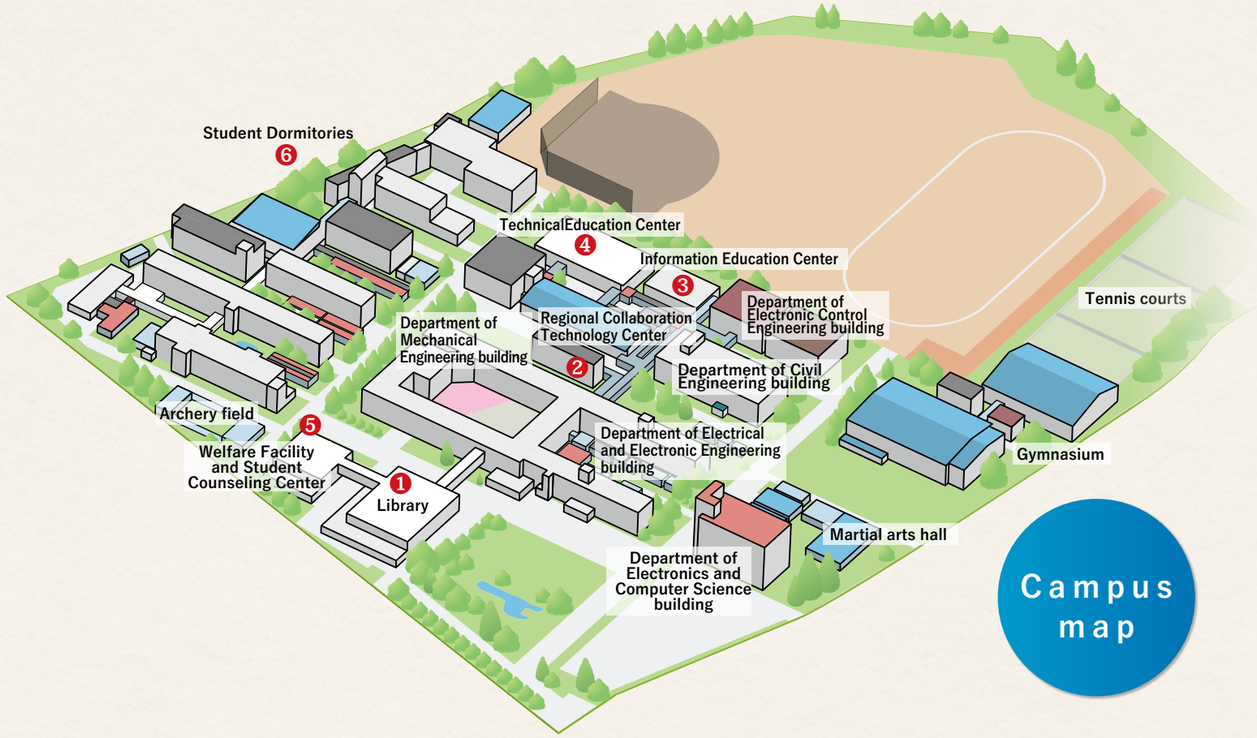
● Social Innovation Support Center

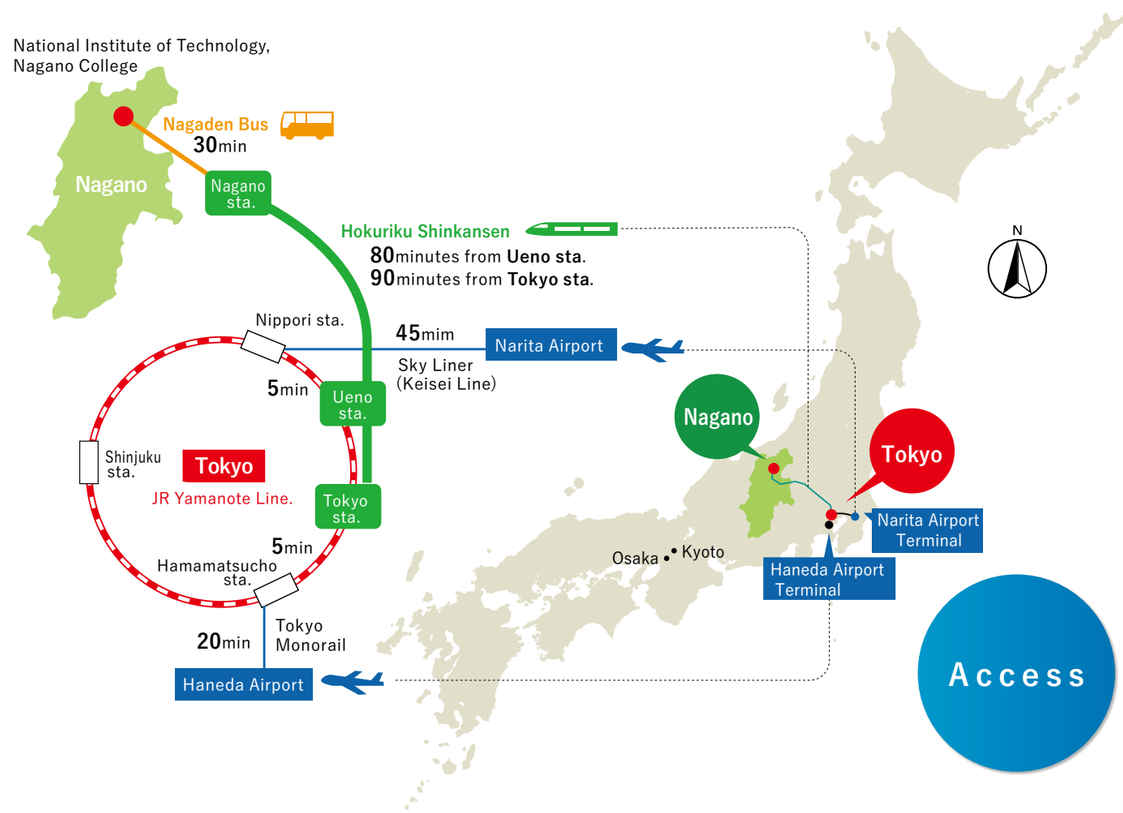
The Social Innovation Support Center is an organization that supports student activities aimed at fostering an entrepreneurial mindset and solving social issues. In addition to supporting activities, the center is equipped with laboratories for prototyping and evaluation. The labs are scheduled to be established sequentially from FY2023.

● High-Speed Signal Transmission Evaluation Center

The High-Speed Signal Transmission Evaluation Center is equipped with signal transmission evaluation equipment up to 100 GHz, which is required in the "Beyond 5G/6G" era, electromagnetic material measurement equipment, CT-Scan for measuring mechanical structures and defects, and laser microscopes. The center makes its facilities widely available to the public and supports local industry through collaborative research.







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