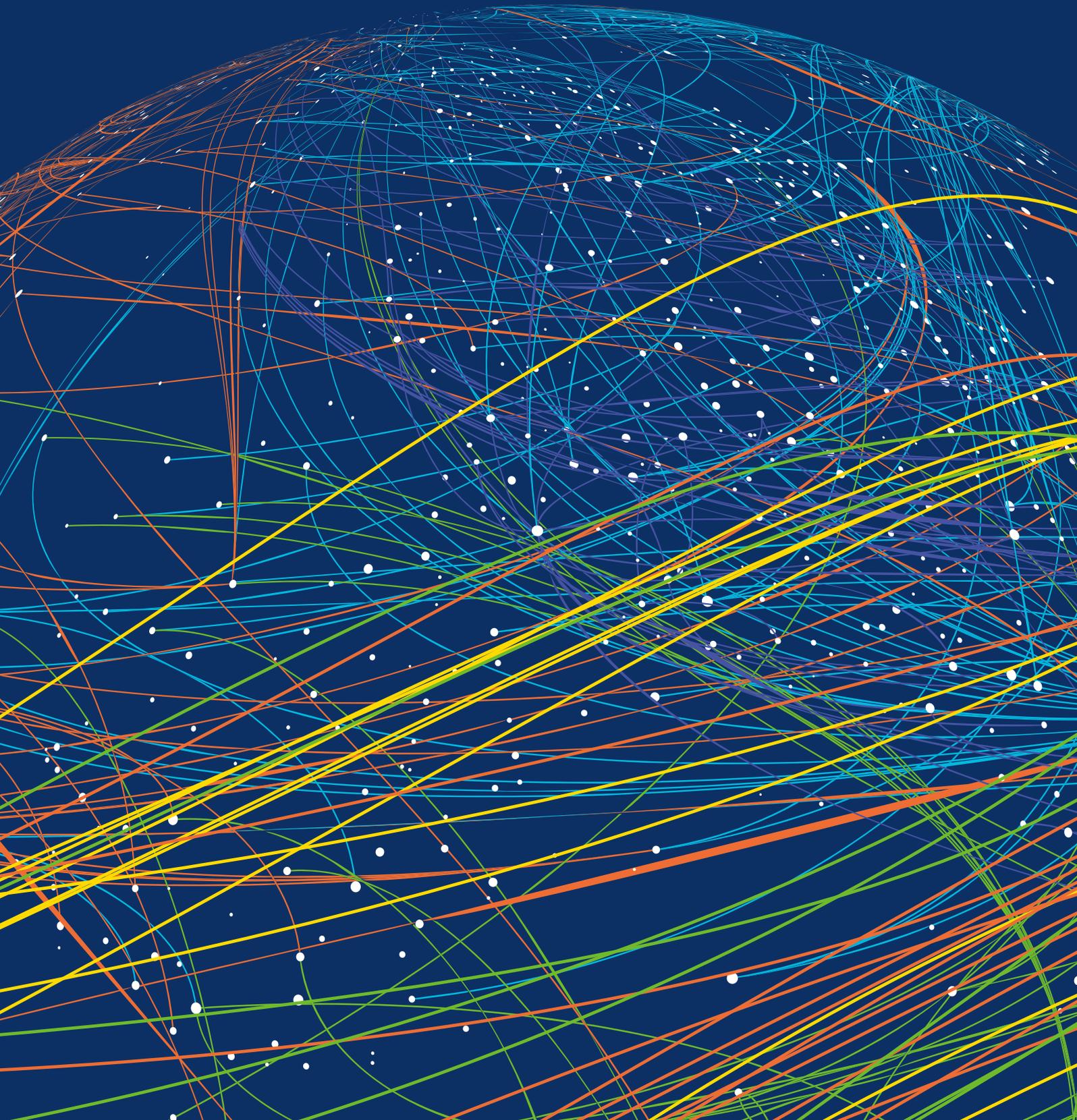




Creating ESQUISSES for the Future
TOHOKU INSTITUTE OF TECHNOLOGY

Tohoku Institute of Technology

Guidebook 2024



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MESSAGE FROM THE PRESIDENT

Studying with us at Tohtech in Sendai!

Our institute, Tohoku Institute of Technology, is one of the universities leading the field of engineering education in Japan. The excellent professors and laboratories found at Tohtech will enable you to both examine and design new techniques and technologies, aiming to create products and help cultivate communities to improve the quality of life in today's society.

Studying in Japan, and especially in Sendai can offer students a number of unique experiences:

- In addition to having a bustling urban city center, Sendai has easy access to both the mountains and other rural areas, and the sea. Studying here will allow you to work hard at your research, but also enjoy the bustle of the city and the beauty of the Japanese countryside.

- Some of you may have an interest in the huge earthquake which occurred in 2011 and the ongoing restoration processes in Tohoku. Coming here, you will be able to see firsthand how the people of Tohoku have tackled the difficulties arising from that natural disaster and how they continue to work hard to recreate sustainable communities in the areas which were damaged in the earthquake.

- Thanks to the number of high-profile universities in Sendai, there are many foreign students from all over the world studying here. If you come to study with us, you too will have the chance to interact with Sendai's growing international community.

I am sure that you have many questions about the professors or the types of study and research available at Tohoku Institute of Technology. We are very much looking forward to hearing from you, answering your questions, and helping you to achieve your goals and dreams.

WATANABE Hironori

President, Dr. Eng
Tohoku Institute of Technology

Biography

- 1992 Assistant, Faculty of Engineering, Waseda University
- 1995 Lecturer, Department of Building Equipment Environment, College of Science and Technology, Tohoku
- 1998 Lecturer, Faculty of Engineering, Tohoku Institute of Technology
- 2002 Associate Professor, Faculty of Engineering, Tohoku Institute of Technology
- 2008 Professor, Faculty of Engineering, Tohoku Institute of Technology
- 2012 Chair, Department of Architecture, Tohoku Institute of Technology
- 2014 Dean, Graduate School of Engineering & Faculty of Engineering
- 2016 Vice President, Tohoku Institute of Technology
- 2021 President, Tohoku Institute of Technology
- 2021 President, Tohoku Institute of Technology



ABOUT US

OUR PHILOSOPHY AND PRINCIPLES

Founding Principles

The Tohoku Institute of Technology will nurture advanced technicians and engineers who will become industry leaders, particularly in the Tohoku region.

Philosophy

The Tohoku Institute of Technology will contribute to the development of a sustainable society through education and research activities.

Educational Policy

The Tohoku Institute of Technology will cultivate human resources who will become specialists in their field, who will possess a harmonious personality, and who can demonstrate superior creativity and the ability to get things done.

AEGG Policy:

In addition to the following policies (A/E/G₁), Tohoku Institute of Technology values are also based on a teaching policy (G₂) to aid in developing a zest for living and respect in both the university and the wider society.

POLICY A Admission Policy

To meet our education goals, we offer admission to students with following abilities:

1. Students with basic academic knowledge and the ability to facilitate general judgment
2. Students with special abilities in special subjects
3. Students with enthusiastic and clear goals
4. Students with remarkable achievements and special skills

POLICY E Educational Policy (Composition and Enforcement Policy)

1. Establishment of GPA (grade point average) goals for each department
2. Correlation of each subject and students' required competence
3. Integration of major and general subjects to develop a social point of view and to enhance character formation
4. Small-class education
5. Creation of curriculum models for each department and course

POLICY G₁ Graduation Policy (Conferment Policy)

We evaluate the above mentioned expected skills and abilities on each subject. We also evaluate graduation project or work in a systematic and objective manner as part of the total evaluation.

POLICY G₂ Guidance Policy

Guide students in building their future plan while promoting respect for other members of society.

1. Create awareness of each student being a part of society through non-curricular activities
2. Deepen professional awareness through professional career programs.

Expectations of Our Students:

The following skills and abilities obtained in an honest and motivated manner are expected:

1. Knowledge and comprehension

Scientific knowledge and technical skills which are associated with culture, humanity and sociality.

2. Logical thinking and analyzing skills

Ability to find, analyze and solve problems based on phenomena and results.

3. Cooperativeness and adaptability

Ability to address problems spontaneously as a member of a group.

4. Communication skill

Ability to develop greater self-expression and mutual understanding.

5. Ability to define problems and develop management skills

Eagerness to discover new phenomena and deal with problems.

6. Ability to develop global understanding and language skills

Ability to see things from different perspectives and develop skills to operate in an international market place.

FACTS AND FIGURES

Founded in 1964, Tohoku Institute of Technology has greatly contributed to the development of industry and economy in Japan especially in the Tohoku area. Over 35,000 students have graduated from Tohtech since its inauguration. The two campus of the university, located in Yagiyama and Nagamachi, are well located, being close to Sendai city center and surrounded by an abundance of greenery.

ACADEMIC

Full time faculty members: 115

Undergraduate student to faculty ratio: 29 to 1

Faculties: 3 Departments: 8

Libraries: over 245,000 books in 2 libraries (Yagiyama/Nagamachi)

Area of campus:

(Yagiyama campus: 50111m² Nagamachi campus: 194110m²)

STUDENTS

Student Enrollment: 3437 students in total (3341 undergraduates, 96 graduates)

Males to Females: 4:1

INTERNATIONAL

Students from abroad: 20

Partner Institutions: 17

(As of 2024)



HISTORY

Jan	1964	Establishment of Tohoku Institute of Technology was authorized
Apr	1964	Tohoku of Technology was inaugurated. Faculty of Engineering comprising Departments of Electronics and Communication Engineering was established.
Apr	1966	Department of Architecture was established.
Apr	1967	Departments of Civil Engineering and Industrial Design were established.
Apr	1992	Master's programs for the Graduate School of Engineering (Graduate Schools of Communication Engineering, Architecture, and Civil Engineering) were established.
Apr	1993	Master's program for the Graduate School of Electronics was established.
Apr	1994	Doctoral programs for the Graduate Schools of Communication Engineering and Architecture were established.
Apr	1995	Doctoral programs for the Graduate Schools of Electronics and Civil Engineering were established.
Apr	2000	Master's program for the Graduate School of Industrial Design was established.
Apr	2001	Department of Environment Information Engineering was established.
Apr	2002	Doctoral program for the Graduate School of Industrial Design was established.
Apr	2003	Doctoral program for the Graduate School of Environmental Information Engineering was established.
Apr	2004	Department of Communication Engineering was renamed Department of Information and Communication Engineering.
Apr	2007	Department of Electronics was renamed Department of Electronics and Intelligent systems.
Apr	2008	Faculty of Engineering was reorganized as Faculties of Engineering and Life Design. Departments of Creative Design, Life Design for Safety and Amenity, Management and Communication were established.
Apr	2011	Department of Civil Engineering renamed Department of Civil Engineering and Management.
Apr	2012	Department of Environmental Information Engineering was renamed Department of Environmental and Energy. Master's program for the Graduate School of Industrial Design was established in Faculty of Life Design.
Apr	2014	50th anniversary of the establishment of Tohoku Institute of Technology.
Apr	2017	Department of Electronics and Intelligent systems was renamed Department of Electrical and Electronic Engineering.
Apr	2020	Faculty of Architecture was established. Department of Applied Chemistry and Environment was established. Department of Creative Design was renamed Department of Industrial Design. Department of Life Design for Safety and Amenity was renamed Department of Design for Social System and Living Environment.
Apr	2024	Master's program for the Graduate School of Architecture was established in Faculty of Architecture. Master's program for the Environmental Information Engineering was renamed Applied Chemistry and Environment.

ACADEMIC CALENDAR

April	Entrance ceremony
	Campus open day
	Orientation for the first semester
	First semester begins
June	Open campus
July	First semester exams
	First semester ends
	Open campus
August	Summer vacation
September	Orientation for the second semester
	Second semester begins
October	University festival
	Open campus
	University anniversary
December	Winter vacation
January	Second semester exams
	Second semester ends
February	Spring vacation
March	Commencement



Orientation for the first semester



Open campus



University festival



Commencement

UNDERGRADUATE STUDY

FACULTY OF ENGINEERING

Department of Electrical and Electronic Engineering



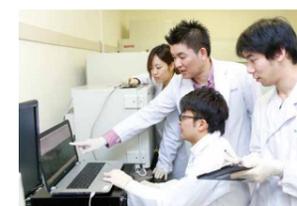
Technologies created through electrical and electronic engineering are widely used around the world and found in such things as automobiles, smart-phones, medical care equipment, electric power, communication equipment and so on. Engineers who have studied electrical and electronic engineering are indispensable for maintaining a convenient and safe society and for future development in this field. Our curriculum has been designed to cover the educational requirements for students who wish to become highly skilled professionals in this field.

All first and second grade students learn basic knowledge about electrical and electronic engineering while learning general liberal arts subjects. Third graders acquire expert knowledge of electrical and electronic engineering. The 4th grade students will carry out undergraduate research training on one of the following three fields according to their preference.



Mechatronics and Robotics:

Students will study microcomputers, system control, visual recognition, speech understanding, sensor networks or wearable computing, etc. to make smart robotics and mechatronics equipment smarter.



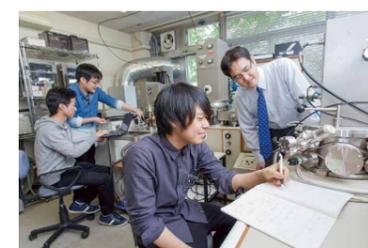
Medical and Biological Engineering:

Students will conduct research on biometrics and life science such as bioelectric signals, electrochemistry, medical diagnostic and image measurement technology, or neural networks using iPS cells.



Optical and Information Devices:

Students will learn the technologies related to optical and information devices and will research optical elements, display devices, radiation detection devices or devices using nanotechnology.



ACADEMIC ORGANIZATION

Overview of Undergraduate Courses

Faculty of Engineering	Department of Electrical and Electronic Engineering
	Department of Information and Communication Engineering
	Department of Civil Engineering and Management
	Department of Applied Chemistry and Environment
Faculty of Architecture	Department of Architecture
Faculty of Life Design	Department of Industrial Design
	Department of Design for Social System and Living Environment
	Department of Management and Communication

Overview of Graduate Courses

Graduate School of Engineering	Department of Electronics
	Department of Communication Engineering
	Department of Architecture
	Department of Civil Engineering
	Department of Applied Chemistry and Environment
Graduate School of Architecture	Department of Architecture
Graduate School of Life Design	Department of Industrial Design

Centers and Student Support

Center of General Education: Liberal arts subject, Teacher training subject
Information Network Service Center: Network consultation
Learning Support Center: Support for improving basic academic ability
Wellness Center: Counseling, Health services
Regional Collaboration Center: Cooperate with local and regional industries
Research Support Center: Contract research, Joint research
Educational and Student Affairs Section: International exchange office

Department of Information and Communication Engineering



The undergraduate program of this department fosters engineers in various areas of information and communication technology (ICT) with theoretical and practical training of information technologies, communication technologies and their integration. In the first two years, students acquire fundamental skills on mathematics, physics, electronics, computer communication, and information processing. After the building of fundamental knowledge two model courses are available: The Communication Course and the Information Course. Both courses have thesis research.



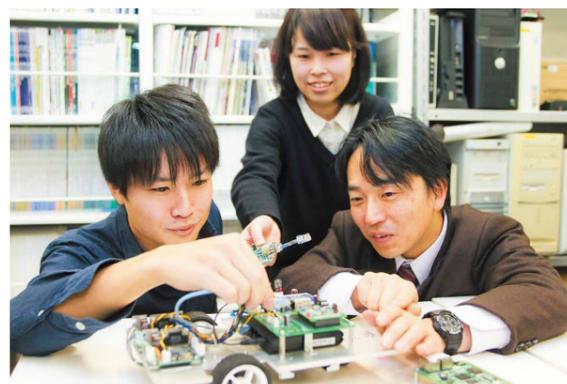
Communication Course

This course allows a thorough study of Communication Technology such as radio wave engineering, optical communication engineering, and communication systems for communication system engineers and network engineers.



Information Course

This course enables students to study Information Technology such as operation systems, information security, and software design for system engineers and programmers.



Department of Civil Engineering and Management



Civil engineering is an academic and practical field that brings together knowledge from many specialized areas to plan, design, construct, maintain, and operate infrastructure with the goal of improving the living environment for citizens. Although it is an engineering discipline, it draws on a wide range of insights from public administration, finance, economics, psychology, tourism, history and culture, and regional studies. From this broad and comprehensive perspective, we aim to train engineers who can contribute to the development of cities, regions, and society.



Planner Course

This course aims to foster planners who will design the future of urban and suburban landscapes and who can organize the required project to make it happen. Students will learn about social infrastructure, urban development and will study regional tourism resources, disaster prevention, and environmental awareness.



Engineer Course

It is necessary to develop many public facilities that we utilise each and every day. Lifelines such as waterworks, sewage systems, electricity and gas supply systems, transportation, and disaster prevention facilities are essential for healthy and enriched society. This course aims to foster engineers who are able to develop and maintain lifelines with high level of skills and high motivation.



Department of Applied Chemistry and Environment



Aiming to help provide a sustainable society through chemistry, students can acquire specialized knowledge and skills.

Students in our department will work to solve environmental and energy problems while utilizing applied chemistry. As budding chemical engineers, while studying new material development and evaluation, manufacturing techniques, environmental research and evaluation techniques, and environmental conservation techniques.

Students will pursue high ethical standards.

The curriculum puts on the high sense of ethics as the engineer who deals with chemistry, and systematically learns applied chemistry and environmental science to realize a sustainable society.



Applied Chemistry Studies

Become a specialist in applied chemistry, a vital component in all modern-day industries.

Applied chemistry technologies such as functional materials are involved in all industries such as those creating chemical products and the semiconductor products.

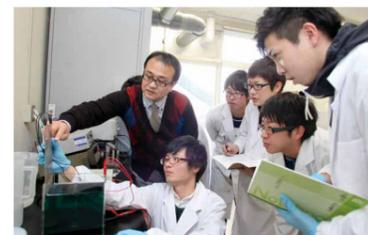
These technologies are the basis for creating a sustainable society. Students can acquire knowledge and skills necessary to become chemical engineer in our department.



Environmental Studies

Learn various environmental protection technologies and become a specialist in solving environment problems.

By learning the behavior and biological response of various chemical components that cause environmental pollution, in addition to air, water environmental and soil conservation and resource recycling technologies, etc., you will acquire specialized environmental problem solving skills.



FACULTY OF ARCHITECTURE

Department of Architecture



Enriching the safety and comfort of people's lives through the construction of cities and their architecture.

In order to create spaces where people can live safely and comfortably, you need a comprehensive perspective on appropriate knowledge and skills, in addition to sensitivity and logical thinking.

In the department of architecture, students learn to master the basics of architecture specialization in a well-balanced curriculum consisting of five fields: History and Design,

Planning and design, Environment and Equipment, Material and Production and Structure.

Applicable Sensibilities and skills are honed through activities that are directly connected to actual work through various exercises and experiments.

Our practical architectural education program has produced many architect graduates.



Architectural System and Engineering Studies

The curriculum places emphasis on structural engineering, vibration control, environmental engineering, building materials, and construction engineering. The students will improve their techniques and knowledge through experiments and practical experience.



Architectural Planning and Design Studies

The curriculum places emphasis on art design, architectural history, and urban planning. The students will not only get inspiration from the studying of historical building and modern architectures, but also understand the fundamentals of art design science and urban design, realizing the integration of architectural design and social realities.



■ FACULTY OF LIFE DESIGN

Department of Industrial Design



The study of design aims to foster wisdom for the creation of ideas to make our society more comfortable and to give concrete shapes to those ideas so that they can be realized and put to use in our daily life. Demand for graduates with this wisdom and these skills is increasing, not only in the household hardware industry but also in the information and service industries. The department of Industrial Design is educating students to become design experts who can take leadership roles in wide range of business situations.

Students study design, processes and techniques in the practice classes. Student can, based on their interests and purposes, choose several assignments regarding various aspects of design as shown below.



Graphic Design

Editorial design, typography, advertising visuals, packages, etc.



Web Design

Web site layout, interface icons, html coding, etc.



Illustration

Computer graphics, analog illustrations, picture books, etc.



Fashion

Womenswear, menswear, sport wear, shoes, etc.



Digital Imaging

CG animation, visual installations, projection mapping, etc.



Application Design

Applications for smart phones, game programming, etc.



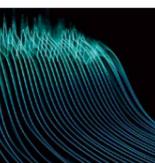
Product Design

Furniture, electrical appliances, vehicles, public transportation, etc.



Craft

Dyeing and weaving, ceramics, woodwork, metalworks, etc.



Sound Design

Sound effect, sound operation, sound logos, etc.



Design Management

Business model, branding, creating innovation, service design, etc.

Department of Design for Social System and Living Environment



The department of Design for Social System and Living Environment is an integrated field consisting of human life science, architecture and design. There are 2 main subject groups: Social planning for human lives, works and industries, and housing, interior, environmental design. Both groups encompass a common subject: community and welfare systems. Students will pursue the creation of high quality of life for all. Students will start by observing problems that occur in their everyday lives, then learn to deal with them and solve them by

considering better ideas and methods. The goals of this department are to carry out theoretical research and / or design for the environment in order to contribute solutions to current problems faced by people mainly in the Tohoku region.



Subject Group: Social Planning for Human Lives, Works and Industries

The study in "Social planning for human lives" involves research in the fields of human health, psychology, nursing, welfare and community. Study in "Works and industries with safety and amenity" involves research in the fields of project planning, social research, regional history, culture and disaster prevention.



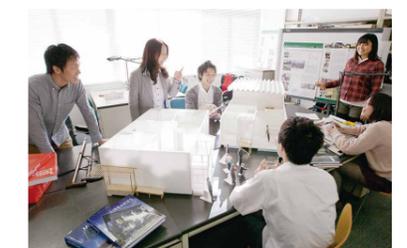
Subject Group: Housing, Interior and Environmental Design

The study in "Housing, Interior and environmental design" involves research in the fields of design and history of housing, interior and environment with city planning and legal systems. Another section of this subject group is the "Housing, interior and environmental science", includes research in the fields of structural safety, energy, and ecology.



Common Subject Group: Community and welfare systems

This subject group includes but it is not restricted to study regarding welfare, environment, universal design and community systems.



GRADUATE STUDY

Department of Management and Communication



Students majoring in Management and Communication will learn about the mechanisms involved in business management in the market economy. Students study specific issues arising from the current economic situation theoretically, as well as business management practices and the communication situations. They learn about the communication that takes place inside and outside of organizations when running various organizations, accounting to properly maintain organizations, and ICT skills that link management and communication.

The Management and Communication major will carry out theoretical research which deals with specific problems that arise from the current economic situation, as well as study business management practices, and various communication settings. Through the research, students will learn how to work with contemporary issues in areas such as corporate management, accounting, interpersonal communication, intercultural communication and so on.



Management Course

The Management Course will help students to acquire practical knowledge such as management and manufacture systems needed for the business field through the research of regional industries and corporations.



Communication Course

The Communication Course will help students to learn communication theories which explain the reality of our everyday lives. Students will also learn methodologies and acquire communication skills to actively engage with society through various studies such as business communication and media communication.



Philosophy and Aims

The philosophy and aims of graduate study are the pursuit of academic theories and their applications, and to contribute to the development of our culture. Our motto "From Creation to Integration, Launched from Sendai" encapsulates these goals. We aim to foster the knowledge which will make our lives rich in terms of both humanity and the environment. We believe that the integration of this knowledge into our society will contribute to the development of local culture and industries. Moreover, we aspire to nurture students who can develop their problem-solving abilities and advanced knowledge so that they may become the leaders of industrial sectors and local communities.

Educational Goals

Graduate School of Engineering

We aim to educate students to be engineers and researchers who are highly skilled and who possess excellent creativity, sophistication and international understanding relevant to science, environmental technology, industry, life, and art. The skills obtained in this program should be used to aid in the creation of sustainable societies, from the Tohoku region to the rest of the world.

Graduate School of Life Design

We aim to educate students to be engineers, designers and researchers who are highly skilled and who possess excellent creativity, sophistication and international understanding. Our students will follow courses which aim to unite science, environmental technology, industry, life, and art. The skills obtained in this program should be used to aid in the creation of sustainable societies and enriched lives and flourishing cultures, from the Tohoku region to the global society.

Curriculum Policy

Graduate School of Engineering / Graduate School of Industrial Design

Master's Course

The aims of this course are to teach a wide range of advanced knowledge, research abilities and professional skills.

Doctoral Course

The aims of this course are to teach advanced knowledge and to help students to develop research abilities which are required for independent researchers and highly skilled engineers.



GRADUATE SCHOOL OF ENGINEERING

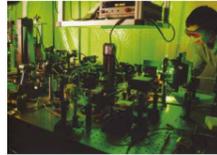
Department of Electronics

We now live in a highly developed IT society. Electronic engineering is one of the key technologies which support information technology. It involves the study of a wide spectrum of technologies from materials to devices, equipment, measurement, control, and systems. In the master's program, students carry out research projects with the purpose of becoming highly skilled engineers. In the doctoral program, students focus on their research, aiming at becoming leading academics and engineers.



System Engineering Group Leader: Prof. Toyomi Fujita

Research Themes: Robotics / Acoustic and Communications Systems / Sensor Networks / Integrated Systems



Sensor Engineering Group Leader: Prof. Shigenobu Kasai

Research Themes: Biomedical Imaging and Sensing / Electromagnetic and Optics Sensing / Image Sensing Display / Biomedical Signal Processing



Device Engineering Group Leader: Prof. Tetsuya Miyashita

Research Themes: Semiconductor Devices / Magnetic Devices / Medical Devices / Nano Devices



Energy Engineering Group Leader: Prof. Takashi Uchino

Research Themes: Wireless Power Transfer Using Inductive Coupling / Next Generation Energy Harvesting Devices / Energy Storage System / Vacuum Nanoelectronics



Frontline Research



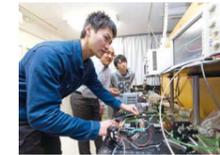
Ikuro Suzuki, Professor, (2014-)

Professor Suzuki received a Ph.D. from University of Tokyo in 2008. He served as an assistant professor at Tokyo University of Technology (2010-2013) and at Tokyo Medical and Dental University (2008-2009).

Current researches in his lab focus on the development of electronic sensing techniques in human induced pluripotent stem cell derived and 3-D reconstructed techniques of biological tissues to understand the function of brain and expand into drug discovery and regenerative medicine.

Department of Communication Engineering

Communication engineering is an area of study dealing with information from a broad perspective. Our society continues to develop rapidly through computerization and communication technology. This course fosters researchers and engineers with advanced knowledge who can play a major role in an information society. Our program is carried out under the supervision of professors who are experts in their fields.



Optical Communication Technology Group Leader: Prof. Atsushi Sato

Research Theme: Optical communication systems / Laser sensing technology / Terahertz sensing technology



Electromagnetic Wave Technology Group Leader: Prof. Eisuke Kudoh

Research Themes: Wireless Communication Systems / Wireless Power Transfer / Ultrasonic-Wave Electronics / Space Plasma Interaction with Planets / Radio Astronomy



Basic Information Technology Group Leader: Prof. Ken-ichi Suzuki

Research Themes: Memory System of Multi-Core-Processor / Hardware Implementation of Deep Learning / Information Networks / Network Security



Information Processing Technology Group Leader: Prof. Hiroshi Kido

Research Themes: Efficacy of Earwitness Information in Forensic Science / Analyzing Graphical Models / Satellite Image Processing / Information Networks / Cognitive Engineering / AI



Frontline Research



Eisuke Kudoh, Professor, (2009-)

Professor Kudoh received a Ph.D. from Tohoku University in 2001. He worked for Nippon Telegraph and Telephone Corp. from 1988-2001, and served as an associate professor at Tohoku University from 2001-2009.

Current research in his lab focuses on mobile radio communication and its applied technologies such as IoT (Internet of Things). An example of the research is the visualization of radio signals using inexpensive microcomputer boards, estimating location using the Zigbee sensor network and performing wireless transmission experiments using software defined radio systems.

Department of Civil Engineering

Civil engineering is a comprehensive field responsible for the development of infrastructure and urban and regional planning. Specifically, it aims to improve social welfare through urban disaster prevention, city planning, maintenance and management of social infrastructure, advancement of construction technology, and harmony with the water environment. Under these objectives, the Department of Civil Engineering is composed of five specialized areas fostering professional engineers through research and education.



Civil Engineering Materials and Structural Engineering Group Leader: Prof. Hideo Koide

Research Themes: Direct Tensile Testing of Soften Concrete/ Recycling Low-Rigidity/ Endurance and Maintenance of Steel Structure



Geotechnology Group Leader: Prof. Kwon Youngcheul

Research Themes: Slope Failure and Possibility of Debris Flow Induced by Earthquake and Heavy Rain / Stability of Foundation from Artificial Reconstruction in Urban Residential Area



Usage of Aquatic Environment and Disaster Prevention Group Leader: Prof. Keiichi Sugawara

Research Themes: Usage of Aquatic Environment and Disaster Prevention



Infrastructure Planning Group Leader: Prof. Akira Kikuchi

Research Themes: Travel Demand Forecasting/ Social Psychology/ Transportation Policy/ Contract provision and risk management for Infrastructure/ Decision making, consensus building, reliability design and performance design for Infrastructure



Water Cycle in Area Group Leader: Assoc. Prof. Hojo Toshimasa

Research Themes: Water Cycle in Local Area/ Pollution Loads from non-point Sources/ Behavior of Landfill Leachate Permeating into Soil

Frontline Research



Hideo Koide, Professor, (1990-)

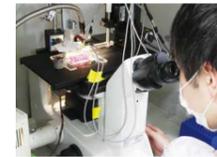
Professor Koide received a Ph.D. from Tohoku University in 1990.

Current researches in his lab focus on "recycle system of concrete" and "effective utilization of wastes and industry by products as concrete materials".

1. A study on properties of concrete using recycled concrete powder.
2. The various influences of tensile properties on "Recycled Concrete" by differences of "Recycled Aggregate".

Department of Applied Chemistry and Environment

The Department of Applied Chemistry and Environment conducts research activities in which students plan, investigate, experiment, and analyze by themselves, utilizing the wide range of knowledge and skills in applied chemistry and environmental studies acquired in the undergraduate program to solve various problems in daily life and on a global scale. Through research activities, we aim to contribute to society by fostering engineers and specialists in the fields of chemistry and the environment who can respond to a variety of issues.



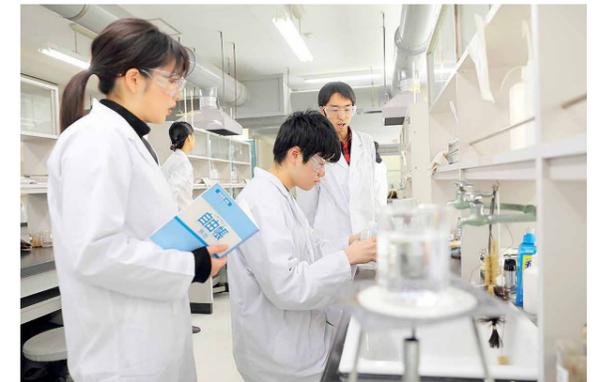
Applied Chemistry Group Leader: Prof. Yasuko Y.Maruo

Research Themes: Exposure and Risk Assessment in Chemical Environment / Bio-sensor for Environmental Monitoring / Nano Materials for Chemical Sensors/ Environmental Materials for Global CO2 recycling / Application of Supercritical Carbon Dioxide



Conservation Ecology Group Leader: Prof. Kazuhiro Yamada

Research Themes: Water Purification by Eco-Engineering / Mathematical Approach of Ecology and Conservation Ecology



Frontline Research



Yasuko Y.Maruo, Professor, (2013-)

Professor Maruo received a Ph.D. from Tohoku University in 2003. She worked in Research Center of Nippon Telegraph and Telephone Corp. (1986-2013).

Current researches in her lab focus on nano-technology and its application to CO₂ photochemical conversion and simple analysis method of chemical materials. 1. CO₂ photoreduction catalyst including nanoparticles. 2. Simple and easy analysis method of volatile organic compounds using a combination of nano-porous material and chemical reaction. 3. Application of our developed analysis chips for environmental measurement and environmental evaluation.

GRADUATE SCHOOL OF ARCHITECTURE

Department of Architecture

The Graduate School of Architecture has five divisions in the master's degree program, and four divisions in the doctoral degree program. Architecture is based on the magnificent unity between human science and natural science. Architects have always striven to create architectural designs realizing the connection between society, nature, and living spaces. Our courses are designed to provide students with both professional architectural skills and a strong sense of creativity. In order to obtain a master's degree in the subject, students have the option of writing a thesis or creating and presenting an architectural design.



Architectural History and Design Group

Leader: Prof. Fukuya Shoko

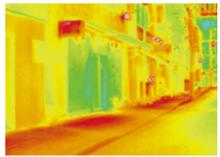
Research Themes: Carpenters in Rural Districts in the Edo Period / Spatial Structures and Writing Expression of Spatial Structure of Architecture Design / Sustainable Development and renovation of Historical District / Urban Development and Reconstruction



Architectural and Urban Planning and Design Group

Leader: Prof. Satoshi Ishii

Research Themes: Renovation of housing / Senior residential housing / Reorganization of Housing in Betwixt Mountains / Arts for Urban Development / Facilities for Senior Residence / Urban Development in Regions with Heavy Snow / Improvement on Environment in Evacuation Shelter and Temporary Evacuation Life



Architectural Environmental Engineering Group

Leader: Prof. Lei Xu

Research Themes: Urban Environmental Plan Considering Climate and Natural Features / Basic Research on Low-Carbon Environment / Building and Urban Planning During Disaster / Consumption State Survey of Non-Residential Building / Natural Energy Utilization in Buildings / Building Information Model / Advanced Energy Saving Air-Conditioning System / Environment Protection and Energy Efficiency in China



Building Production Technology Group

Leader: Prof. Satoshi Arikawa

Research Themes: Durability of Concrete / Non-masonry building / Management of Building Production



Vibration Control Structure Group

Leader: Prof. Songtao Xue

Research Themes: Health Monitoring System on Long Term Use Structure / Vibration Length on Structural Performances of Vibration Controlling System / Development on Various Devices for Damage Control

Frontline Research



Songtao Xue, Professor, (2010-)

Professor Xue received a Ph.D. from Tohoku University in 1991. In 1985, he came to Japan after graduate Tongji University in Shanghai, and he served as an associate professor at Tohoku University (1991-1996), and Tongji University (1996-2000), and Kinki University (2000-2010).

Current researches in his lab focus on the development of structural health monitoring system which is expected to have enormous market in the future, such monitoring system can hourly understand the present health condition of the structure, and this topic synthesizes structural engineering, earthquake engineering, and the life analysis, etc.

GRADUATE SCHOOL OF LIFE DESIGN

Department of Industrial Design

Design engineering is an area of study which exemplifies not only creative ideas but also value integration. The art of design is based on the close relationship among human sensibility, society, the living environment, and scientific technology. Design, production, and ways of expression all concern the relationships between objects, open spaces and humans, and they should not be studied separately. The interaction among objects and humans, living with nature, and the problems of the regional industrial economy should not be studied based on the unity of various fields of science. For that reason, there are 2 groups of study; "Social value design group" and "Sustainable community design group." We aim to equip students with high proficiency in research founded upon rich scholastic knowledge for engaging in professional work in a special field of design engineering or for pursuing research activities as an independent researcher.



Social Value Creation Group

Leader: Prof. Hironori Koiwai

Research Themes: Institutional System Design for a Sustainable Social Environment / Application Software Design and Development Process / Business Management Accounting Practice and Organizational Design in SMEs / Improving Product Value through Design / Practice and Process of Industry-academia Collaboration through Design Marketing / Brand and Product Development Based on the Characteristics of Tohoku Region Industry / Design-led Corporate Strategy and Branding Research / Social Implementation Aimed at by Combining Each Area of Design and Business Administration / Product and Market Development of Regional SMEs through Multi-generational Participation / Regional Industry Promotion through Marketing



Sustainable Community Design Group

Leader: Prof. Masahiro Onuma

Research Themes: Regional Living Environment Design and the Worth of Maturity / Research on the Design of Living Landscape of Rural Area / Multidimensional and Cyclical Environmental Design Research for Regional Sustainability / Folklore Studies on the History of Negotiations between Humans and Nature in the Tohoku Region / Research on Regional Residence Planning and Landscape Planning from the Viewpoint of Daily Life of Work, Housing, and Play and Emergency Behavior such as Disasters / Visual Design in Local Communities and Culture / Autonomous and Sustainable Living and Community / Improving Consumer Motivation and QOL / How to Adjust the Indoor Thermal Air Environment with the Aim of Improving Safety and Comfort and Reducing Carbon / Tohoku Micro Climate Design Architecture and New Energy Device Development Research / Construction and Equipment that Reduces the Risk of Infectious Diseases in Facilities for the Elderly

Frontline Research



Masahiro Onuma, Professor, (2012-)

Professor Onuma received a Doctor of Engineering from Tohoku University in 2004, and he has qualified architect of the first class. He served as an associate professor at Tohoku Bunka Gakuen University (2004-2012).

Current researches in his lab focus on the architectural design for "the worth on maturity" of life and work place with projects typified by preservation, utilization and renovation of regional cultural properties in Tohoku Region as a town architect professor.

AFFILIATED FACILITIES

■ Center of General Education

The Center of general education is in charge of liberal arts education including the humanities, social science, languages and gymnastics. The center also provides special classes aimed at bridging the gap between high school and the university. Apart from classes, the center organizes seminars to improve academic ability. The Center of general education also offers detailed consultation with students wish to become teachers and taking the education training course.

■ Learning Support Center

The Learning Support Center provides assistance to student in Mathematics, Physics, and Chemistry. The center provides special classes outside the curriculum for students who are having problems with basic subjects.

■ Information Network Service Center

The information network service center manages and operates the campus LAN, information system, and information processing practice room. Support in these areas is supplied by the center's specialized technical staff.

■ Wellness Center

The Wellness center provides access to a wide range of health services including primary medical care, mental health care, and campus-wide health promotion. In the counselling room, clinical psychotherapists are available for consultation.

■ Library

The Yagiyama and Nagamachi campuses each have a library. The library at Yagiyama campus holds specialized books about science and engineering. The Nagamachi campus library holds books about liberal arts, design, life science and management. Both libraries are open to local residents on Saturdays.

■ Archives Center

The library in Yagiyama campus library has university's archives center. At the archives center, information on "Resources of Knowledge" accumulated so far is displayed in an easy to understand manner using panels, real objects, and images. In the "Human Resources" section, we introduce the research contents and achievements of researcher who are involved in this university, such as Prof. Shunichi Iwasaki, Prof. Yoshio Akioka, and Prof. Yasuto Mushiaki.

■ Educational and Student Affairs

At Educational and Student Affairs. Student can get help and advice regarding: applications and procedures for financial aid, applications and procedures for exemption from payment of enrollment and tuition fees, procedures for extracurricular activities, etc. The section also provides consultations on various aspects of campus life.

INTERNATIONAL EXCHANGE

■ Outline

At Tohoku Institute of Technology, we believe that the experience of gaining understanding through interaction with people with different cultures and values can make people happier and their lives more rewarding. To students both in Japan and around the world, this is an important process in an age of increased globalization, and to the faculty members who carry out education and research, experiencing globalization for themselves can aid in their own self-development, education, and research.

With these goals in mind, the Tohoku Institute of Technology considers international exchange programs, through the acceptance of students and faculty members from overseas and through sending its own students and faculty members abroad, to be equally important Tohoku Institute of Technology continues to make efforts to develop and pursue these goals.

The Tohoku Institute of Technology considers the objectives of its international exchange programs to: 1. Provide opportunities for interaction with a large number of people aiming to achieve engineering and life design studies with a human focus. 2. Be a university offering research and educational programs in fields in demand with international researchers and students. 3. Familiarize students with international sensibilities by having them experience different cultures through interaction with people from other countries.

Universities with academic exchange agreements

(as of 2024)



Information for researchers

We welcome any collaboration requests. If researchers wish to collaborate with us, please contact the International Exchange Section, Educational and Student Affairs Section.

For inquiries or to request further information, contact us:
International Exchange Section, Educational and Student Affairs Section
Tel.: +81-22-305-3167 E-mail: gaoffice@tohtech.ac.jp

ADMISSIONS

■ Undergraduate Admission

1. Screening method: Review of documentation and interview.
2. Test period: For those wishing to enroll in the academic year beginning in April, applicants may choose to take the test in either phase 1 (November) or phase 2 (March).
3. Requirements for application: Eligible foreign nationals who meet both of the following requirements:
A person who has completed or is scheduled to complete a 12-year course of school education at a foreign facility.
Certificate of Japanese language proficiency adequate for undergraduate studies. This must show an EJU score of over 200 in Japanese or a pass at the N2 (previously 2) level of the JLPT (Japanese Language Proficiency Test).
4. Documentation required for application: Completed University application form
Written reason for applying to the university / Final school graduation (or expected graduation) certificate / Official transcripts of last school attended / Proof of Japanese language proficiency (see above)

■ Graduate School Admission

(1) Doctoral course (Master's program)

1. Screening method: Written examination, interview, review of documentation.
Written examination contents*: Your specialized subject (major), English.
*Depending on the course of study, your interview and the review of documentation, you may be exempted from the written examination.
Test period: For those wishing to enroll in the academic year beginning in April, applicants may choose to take the test in either phase 1 (August) or phase 2 (February).
2. Requirements for application: A person who has completed or is scheduled to complete a 16-year course of school education at a foreign facility.
3. Documentation required for application:
Completed University application form / Written reason for applying to the university / University graduation (or expected graduation) certificate / Official university transcript / Proof of completed Japanese study abroad programs or proof of Japanese language proficiency / Copy of certificate of residence or passport

(2) Doctoral course (Ph.D. program)

1. Screening method: Oral examination, interview, review of documentation.
Oral examination contents: Master's thesis, research plans.
2. Test period: February (the academic year starts in April of the same year).
3. Requirements for application: A person who has completed or is scheduled to complete a degree program equivalent to a Master's degree at a foreign graduate school.
4. Documentation required for application:
Completed University application form / Curriculum vitae •Master's course completion certificate/
•Official university transcript / Copy of Master's thesis / Letter of recommendation/reference from Master's course supervisor / Proof of completed Japanese study abroad programs or proof of Japanese language proficiency / Copy of certificate of residence or passport

(Currency: Japanese Yen)

Faculty	Faculty of Engineering Faculty of Architecture Faculty of Life Design (Dept. of Industrial Design)	Faculty of Life Design (Dept. of Design for Social System and Living Environment)	Faculty of Life Design (Dept. of Management and Communication)
Entrance Fee	250,000	250,000	250,000
Tuition Fee	980,000	740,000	680,000
Building & Maintenance Fee	300,000	270,000	200,000
Student Expenses	20,000	20,000	20,000
First Year Total	1,550,000	1,280,000	1,150,000
2nd Year Total	1,310,000	1,040,000	910,000
3rd Year Total	1,320,000	1,050,000	920,000
4th Year Total	1,330,000	1,060,000	930,000
Four Years Total	5,510,000	4,430,000	3,910,000

*Other Fees: Alumni Association Fee, Supporting Group Fee, Student Association Fee
*Provide economic support for International students, Tohoku Institute of Technology has tuition reduction system.

■ Additional Information:

For further information, please contact:

University admission public relations division, Tohoku Institute of Technology
982-8577, Miyagi-ken, Sendai-shi, Taihaku-ku, Yagiyama, Kasumicho, 35-1
Telephone: +82-22-305-3111
Email: nyushi@tohtech.ac.jp
<http://www.tohtech.ac.jp>
<http://www.tohtech.ac.jp/english/dept/eng/civ/index.html>

CAMPUS LIFE

There are total of 46 clubs and circles encompassing both sports and art. Our gymnasium and club facilities are located in both our campuses. If you join clubs or circles at our university, you will have the chance to meet students from other departments, colleges and universities. It's another way to make great memories of your student life here at the Tohoku Institute of Technology.



Sports Club

Aikido
American Football
Archery
Athletic
Badminton
Baseball
Basketball
Camp
Cheerleading
Dance
Darts
Futsal
Golf
Handball
Hiking
Judo

Karate
Kendo
Kyudo (Japanese Archery)
Mini tennis
Motorcycling
Rubber-Ball Baseball
Rugby
Semi-Hard Baseball
Shorinji Kempo
Shooting
Soccer
Soft Tennis
Sports
Swimming
Table Tennis
Tennis
Training
Volleyball

Culture and Art

Art Work
Brass Band
Design
Electrical Technology
English Conversation
Environment
Esports
Ethnic Foods
Folk Song
Goat Project
International Exchange
Manga
Movie
Photograph
Quiz
Robotics

Rock Music
Software
Subculture
Tea Ceremony
Volunteer Activities

Executives

Campus Festival Committee
Cheering Group
Extracurricular Activities
Association
Press Congress
Undergraduate Association

VISIT US

Location

Both Yagiyama and Nagamachi campuses are located in the hills west of the central part of Sendai. Our two campuses offer convenient access to the heart of the city and are blessed with abundant nature. The Ichiban-cho Lobby (satellite campus) is located in the city center and functions as a place where staff and students can interact with the local community.

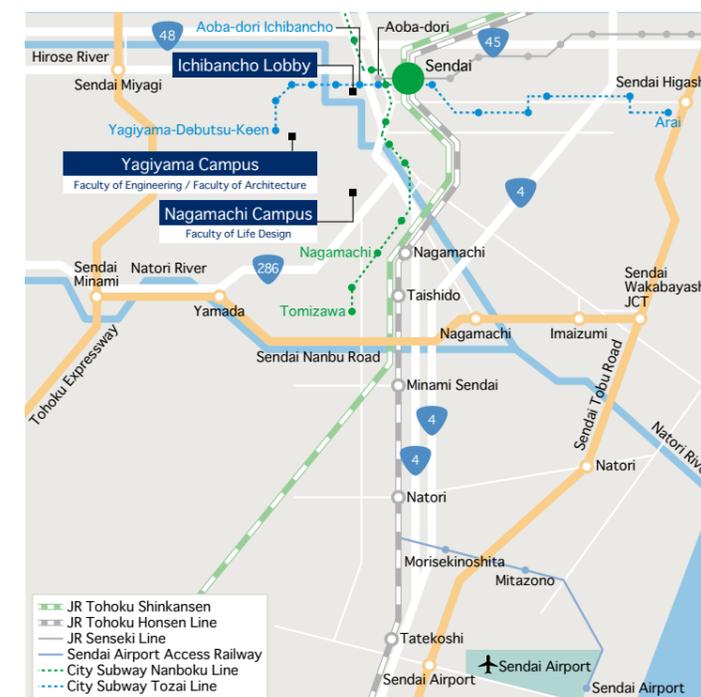
Access

To Yagiyama campus: By Bus: Take a Sendai City/Miyagi Kotsu bus from the bus terminal at the west exit of Sendai station. Get off at the Tohoku Kodai (Tohoku Institute of Technology) Yagiyama campus stop. It takes about 25 minutes from Sendai station. By train: Take a Sendai Subway Tozai Line from Sendai Station to Yagiyama Zoo Park Station. The journey takes 12 minutes. Yagiyama campus is 10 minutes walks from the subway station. A University shuttle bus is also available from the station.

To Nagamachi campus: Take a Sendai City bus bound for Yaso-en by way of Atago bridge from the bus terminal at the west exit of Sendai station and get off at the Mogasaki Stop. It takes 20 minutes from Sendai station. City buses offer an express service on this route.

To Sendai station: From Tokyo: Take the JR Tohoku Shinkansen (bullet train) from Tokyo station. It takes about 2 hours and costs about 11,000 yen one-way. From Sendai airport: Take the Sendai Airport Line train or airport limousine bus.

To Sendai Airport: There are several direct flights to Sendai airport from overseas including Beijing, Seoul, Shanghai, Taipei, and Bangkok. Domestic flights which connect to 9 cities including Narita, Nagoya, and Kansai airports are also available. You can get to Sendai station by the Sendai Airport Line train, airport limousine bus, or taxi. The train is the cheapest (around 680 yen) and most convenient (less than 30 min) way to Sendai station.



CAMPUS MAP

About Sendai

Campus life in Sendai

Lord Masamune Date laid the foundations of Sendai more than 400 years ago. The Tohoku Institute of Technology is located in Sendai, a prosperous commercial and academic city, which is the heart of the Tohoku region. There are many entertainment and cultural facilities such as museum and libraries, and you can enjoy some magnificent scenery of the surrounding region within a short distance. Enjoy your university life here in Sendai!

In the center of the city, you can find a number of high-quality restaurants and fashionable department stores. Traditional and contemporary festivals and events take place in every season.



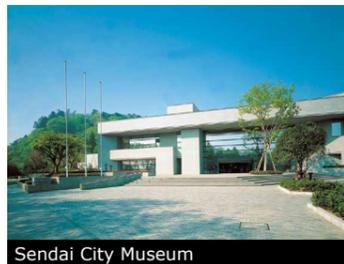
Sendai Mediatheque



Shopping Arcade



The Miyagi Museum of Art



Sendai City Museum



Sendai Station Area



Jozenji Street

Photos provided by Miyagi prefecture tourism division and Sendai city tourism and exchange section

Sendai Mediatheque: Sendai Mediatheque incorporates Sendai library and art gallery. There are exhibitions held here all year round. It is one of the centers of the visual arts in Sendai.

Shopping Arcade: Located in the center of the city, there are many designer shops and department stores. This shopping area is always full of locals and tourists alike. The Sendai Tanabata Festival can be seen in the arcade in August.

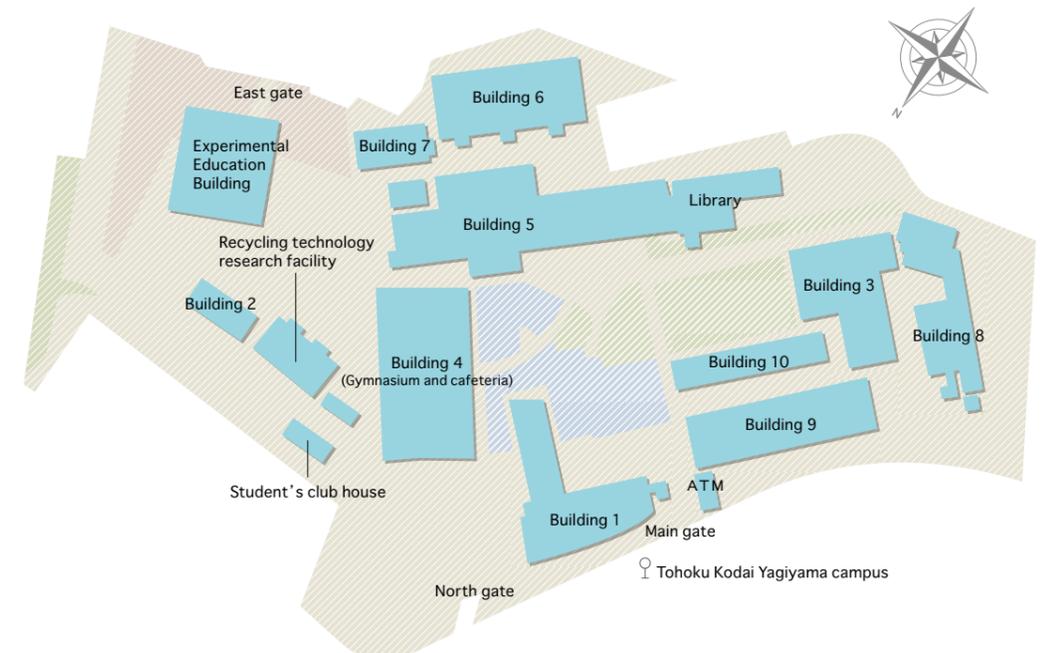
The Miyagi Museum of Art: This museum collects Japanese and overseas artist's painting and hand crafts, some of which have a connection with Miyagi prefecture and Tohoku region. Exhibitions from the permanent collection including the Churyo Sato gallery are occasionally held. The museum also has a garden sculpture collection titled "Alice's garden".

Sendai City Museum: Located in the site of the outermost ruins of Sendai Castle, about 90,000 Date family treasures including Lord Date Masamune's armor are preserved here. There are special exhibitions and permanent collections on display all year long.

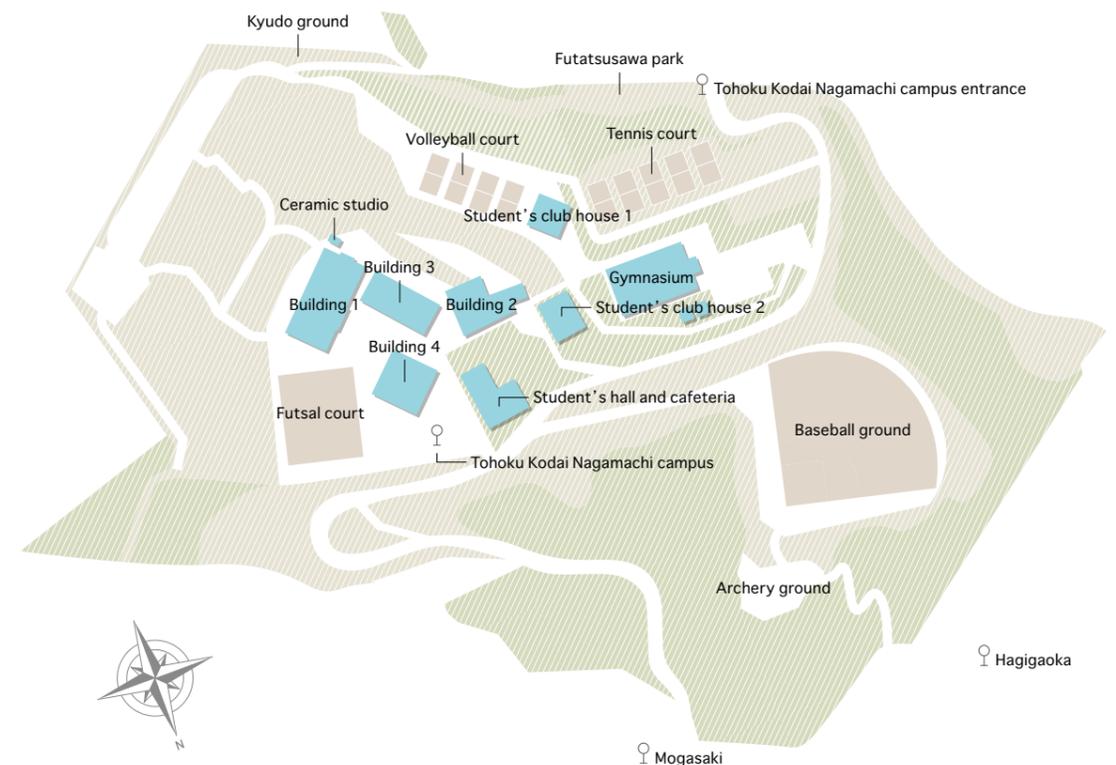
Sendai Station Area: The bustling and attractive station offers easy access to Tokyo and other cities. There are also many shopping malls and hotels connected to the station.

Jozenji Street: Trees along this street are beautiful in early summer. There are bronze status along the street, making it just like an open-air art gallery, Jozenji street Jazz festival is held here in September. And Sendai pageant of Starlight is held in December.

Yagiyama Campus



Nagamachi Campus



GRADUATE SCHOOLS

Graduate School of Engineering

Graduate School of Architecture

Graduate School of Life Design

UNDERGRADUATE COURSES

Faculty of Engineering

Faculty of Architecture

Faculty of Life Design

Tohoku Institute of Technology

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