

School Year 2022

Muroran Institute of Technology Guide Book

-Making Dreams Come True Through
Creative Science and Technology-



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Academic Calendar

| | |
|------------------------|-----------------------------|
| First Semester Begins | April 8 |
| School Founding Day | May 22 |
| Summer Vacation | August 11 – September 19 |
| Campus Festival | September 17 - September 18 |
| Second Semester Begins | October 3 |
| Winter Break | December 28 - January 4 |
| Spring Vacation | March 1 - |
| Graduation Ceremony | March 23 |

A Message from the President

Educational capabilities based on well-established research expertise

Muroran Institute of Technology (MuroranIT) actively incorporates regional contributions in its promotion of educational and institutional reform. This approach is based on the philosophy that addressing local problems in Hokkaido will make it possible to provide solutions to similar issues in Japan and around the world. In March 2023, our Faculty of Science and Engineering will produce its inaugural graduates. In addition to being equipped with the inquisitiveness necessary to get to the root of matters, these graduates will have a deep understanding and good command of both information and communication technology (ICT) and artificial intelligence (AI) as well as the expertise that can only be acquired by graduating from an institute of technology — the kind of expertise that will enable them to contribute to manufacturing and value creation.

MuroranIT is renowned for its well-established research capabilities that support the superior level of education it offers. According to the 2023 University Rankings by Asahi Shimbun Publications (published in April 2022), the University earned Japan's second highest citation index rating (Clarivate Analytics) in the area of computer science. This demonstrates an impressive number of citations per article (2016–2020) and represents the fifth consecutive year that the University has received a high evaluation. Such positive consistency not only indicates the high quality of papers published but also serves to motivate other researchers. Further, the University publishes an increasing number of important papers in computer science, indicating the improvement of its papers in terms of both quality and quantity.

In September 2021, the University was included in the Times Higher Education (THE) World University Rankings (1201+) for the fourth consecutive year. THE evaluates academic institutions based on their research performance and other metrics. In the engineering category, the University ranked between 801st and 1,000th globally, and among national technical universities it ranked alongside Kyushu Institute of Technology, the University of Electro-Communications, Toyohashi University of Technology, and Nagoya Institute of Technology. Among universities in Japan, it ranked between 16th and 32nd. In the QS Asia University Rankings 2022, another globally recognized university ranking system, the University ranked between 401st and 450th for the first time. The University's accomplishments and strengths are based on its engaged and dedicated faculty, its commitment to high-quality research, and the more than 40,000 alumni in gainful employment.

The University values outcomes for faculty members and students alike. The achievements of the University's faculty members are particularly notable in terms of their contribution to science and technology in Hokkaido. Specially Appointed Professor ITAKURA Ken-ichi received the 2021 Hokkaido Science and Technology Award for his development of a model for the revitalization of coal-producing regions through carbon-neutral hydrogen production. The 2021 Hokkaido Science and Technology Incentive Award was presented to Associate Professor NAKATA Daisuke of the Aerospace Plane Research Center (APReC) for his studies on basic rocket sled technology that is expected to lead to the further development of Hokkaido's aerospace industry.

The University also enjoys the trust of parents. In a ranking of universities that parents would like their children to enter, MuroranIT ranked fifth among institutions in the Hokkaido and Tohoku regions. Furthermore, in the 2022 University Image Survey conducted from the perspective of human resources personnel (Nikkei Career Magazine), MuroranIT was ranked third in Hokkaido in the 'employability' category. Alumni of the University have also received consistently high praise from companies.

This is just a sampling of the awards and recognitions the University has received. Armed with solid research capabilities, the members of our specialist faculty are committed to teaching the intrinsic joy of science and engineering with the aim of nurturing and developing the intellectual capabilities of all students. The kind support and cooperation of everyone involved is truly appreciated.

KUGA Yoshikazu
President



Principles and Goals

-Making Dreams Come True Through Creative Science and Technology-

Principles

Muroran Institute of Technology (MuroranIT) will take advantage of the well-developed surrounding industrial environment of Muroran City, which is renowned for its innovative manufacturing and rich natural environment. MuroranIT will offer comprehensive science and technology education, and at the same time, engage in creative scientific and technological research considering the balance between humanity, society and nature, and contribute as a stronghold for the development of local and international knowledge in order to develop a well-rounded society in the future.

Goals

[Education]

- 1 The aim of MuroranIT is to improve the variety of talents inside of each student, to develop a broad-based education that promotes internationalism, and to cultivate abundant expert knowledge, and creativity through our education programs.
- 2 MuroranIT develops comprehensive education based on science and technology in order to train creative engineers who can open the way to the future.

[Research]

- 3 MuroranIT encourages the quest for knowledge and creative research activities, and contributes to the development of science and technology.
- 4 MuroranIT cherishes the global environment, and supports the expansions of research based on the balance between humanity, society and nature.

[Social and International Contribution]

- 5 MuroranIT shares the results of our academic research with the local and international community and promotes the link between industry, government and academia to develop a well-rounded society.
- 6 MuroranIT strongly promotes international collaborative research and academic exchange, and contributes to world development.

[Management]

- 7 MuroranIT aims to constantly develop and manage our university with the spirit of self-sufficiency and self-responsibility.
- 8 MuroranIT proactively releases information to show that it is an open university, and is accountable to society.

Educational Goals

Educational Goals for the Undergraduate Course

- 1) We will accept students who are motivated to make a contribution to society through science and engineering as well as to contribute to science and technology, and we will provide education that nurtures the numerous talents of students.
- 2) We will provide comprehensive scientific and technical education that is instructive for broad-based learning about basic information technology and specialized natural scientific and technical knowledge.

This will help to

- ① Train engineers and scientists who emerge with a well-rounded personality as a result of a broad-based education, and who have the ability to think from an international perspective with flexibility and who can get things done.
- ② Train creative engineers and scientists who have acquired specialized natural scientific and engineering knowledge, and can correctly apply such knowledge based on information technology, and actively familiarize themselves with new fields.
- ③ Train engineers and scientists who can think logically and share that logic accurately with others and who can communicate internationally and understand the opinions of others.
- ④ Train engineers and scientists who seek the best possible relationship between humanity, society, nature and scientific technology, and who have morality and social responsibility as creators who can practically use science and technology.
- ⑤ Train engineers and scientists who are always concerned about changes and developments in nature and human society, and who can improve their own abilities on a permanent basis.

Educational Goals for the Master's Course

We will develop the talents of each student, and through the cultivation of highly specialized learning and education with a broad outlook, train engineers who will contribute new technology to society.

- ① Train engineers with the ability to analyze and solve complex scientific and technical problems.
- ② Train engineers with the ability to research and deal with complex problems.
- ③ Train engineers with the ability to think logically and the ability to communicate internationally, particularly in their specialist field.

Educational Goals for the Doctoral Course

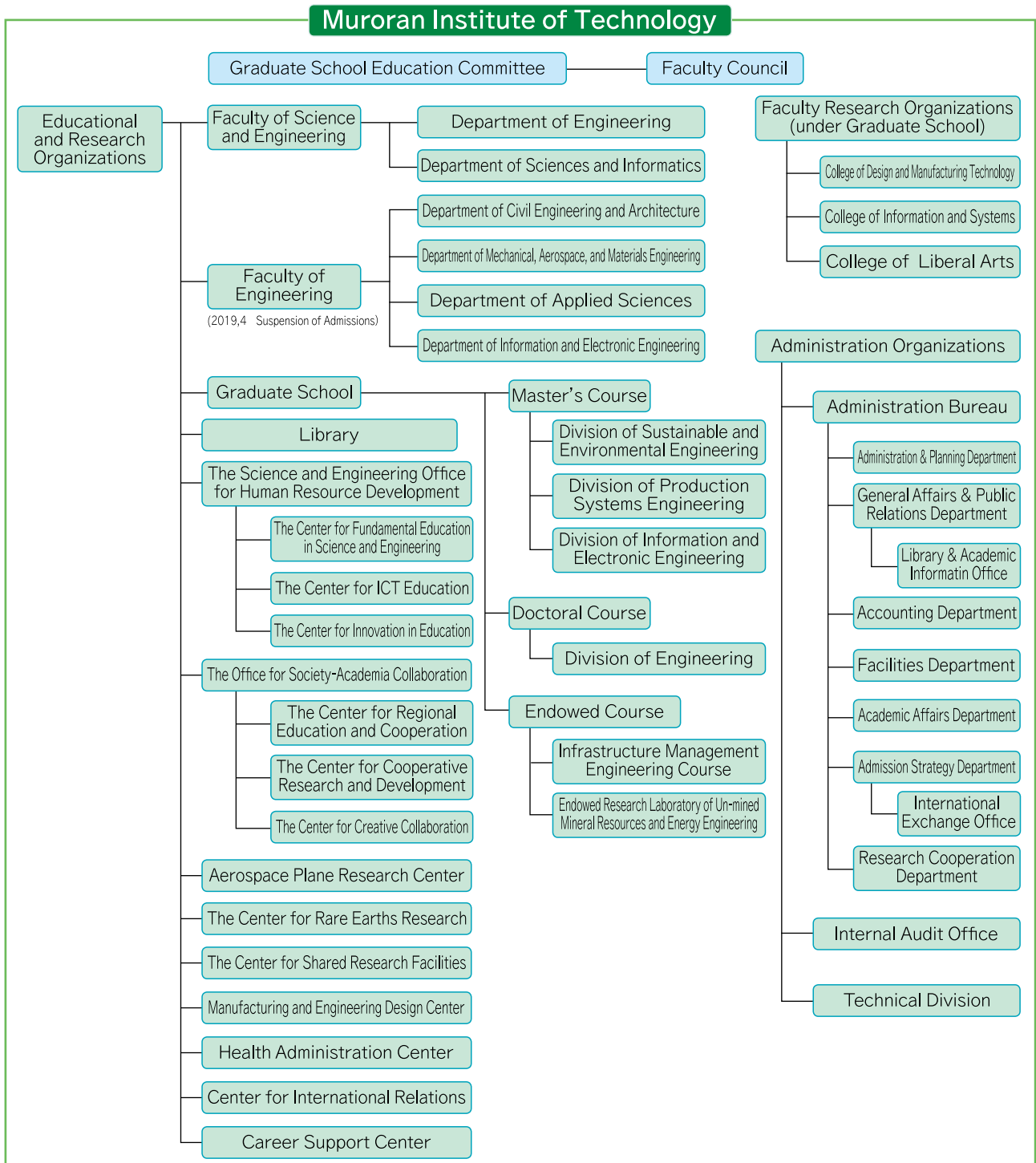
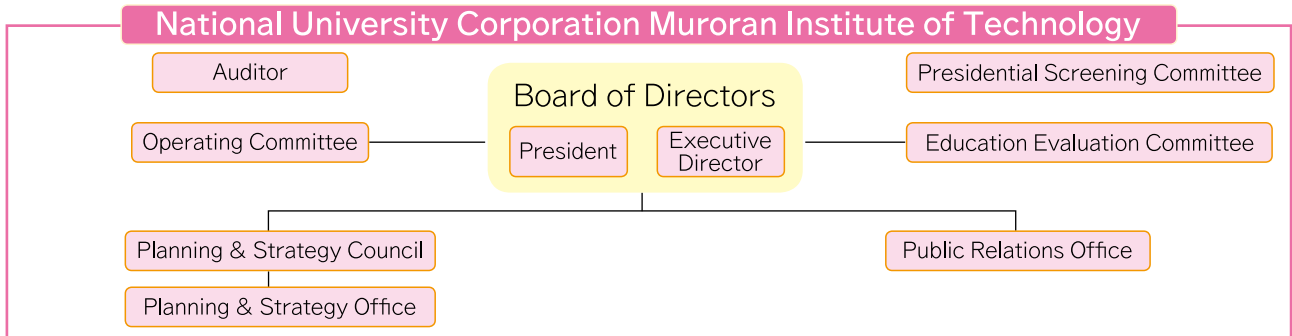
- 1) We will accept domestic/international students and other appropriate people working in technical/industrial fields, who have a wide-range of knowledge, an international point of view, high moral values, and who have the motivation to create knowledge and develop culture with strong research abilities in science and technology.
- 2) Provide science and engineering education as well as research guidance to train creative researchers and engineers with the high-level research ability necessary for independent research activities or other highly specialized operations, as well as fundamental knowledge of peripheral fields.

This will help to

- ① Nurture human resources with the ability to succeed internationally as leading researchers, engineers and scientists who have mastered advanced engineering technology.
- ② Nurture researchers and engineers with a versatile mental capacity and imagination, and the ability to gather and convey information internationally in response to the development and diversity of science and technology.
- ③ Nurture researchers and engineers with international communication skills.
- ④ Nurture researchers and engineers with high moral values and a global perspective.

Organization & Structure

Organizational Map



■ History

| | | |
|---------|------|---|
| March | 1887 | Establishment of Engineering Department (4-year course) in Sapporo Agricultural College |
| June | 1896 | Abolition of Engineering Department (Student applications were halted in 1894) |
| May | 1897 | Establishment of Civil Engineering Department (3-year course) in Sapporo Agricultural College |
| June | 1907 | When Tohoku Imperial University was established in Sendai, Sapporo Agricultural College became a part of it, and along with it the Civil Engineering Department |
| April | 1918 | Name changed to Civil Engineering Special Division when the department was moved back to Hokkaido Imperial University |
| May | 1939 | Establishment of Muroran Engineering High School (Mechanics, Electricity, Industrial Chemistry, Mining, Metallurgy), the predecessor of Muroran Institute of Technology |
| April | 1944 | Name changed to Muroran School of Technology |
| April | 1945 | Establishment of Technical Teacher Training Center |
| May | 1949 | Establishment of Muroran Institute of Technology (by combining Muroran Engineering Technical School and Hokkaido University Civil Engineering Department) with four departments of Electrical Engineering, Industrial Chemistry, Mine Engineering, and Civil Engineering |
| April | 1970 | Establishment of Health Management Center |
| April | 1990 | Reorganization of the Undergraduate departments from Electrical Engineering, Industrial Chemistry, Development Engineering, Civil Engineering, Mechanical Engineering, Metallurgical Engineering, Chemical Engineering, Industrial Mechanical Engineering, Architectural Engineering, Electronic Engineering, Applied Physics, Mechanical Engineering Night Course, Electrical Engineering Night Course to Civil Engineering and Architecture, Mechanical Systems Engineering, Computer Science and Systems Engineering, Electrical and Electronic Engineering, Materials Science and Engineering, and Applied Chemistry Reorganization of the Master's Degree majors in the Graduate School of Engineering from Electrical Engineering, Industrial Chemistry, Development Engineering, Civil Engineering, Mechanical Engineering, Metallurgical Engineering, Chemical Engineering, Industrial Mechanical Engineering, Architectural Engineering, Electronic Engineering, Applied Physics, and Energy Engineering to Civil Engineering and Architecture, Mechanical Systems, Computer Science and Systems Engineering, Electrical and Electronic Engineering, Materials Abolition of Technical Teacher Training course in a related move Establishment of Doctoral Degree in the Graduate School of Engineering with courses in Civil and Environmental Engineering, Production and Information Systems Engineering, Chemical and Materials Engineering |
| April | 2004 | Establishment of Muroran Institute of Technology as a national university corporation |
| March | 2005 | Establishment of Aerospace Plane Research Center |
| April | 2005 | Establishment of Career Support Center |
| January | 2006 | Establishment of Manufacturing and Engineering Design Center |
| April | 2007 | Establishment of Center for International Relations |
| April | 2009 | Establishment of Faculty Research Organizations in the areas of Environmental Technology, Design and Manufacturing Technology, Information and Systems and Liberal Arts The undergraduate departments of Civil Engineering and Architecture, Mechanical Systems Engineering, Computer Science and Systems Engineering, Electrical and Electronic Engineering, Materials Science and Engineering were reorganized into the departments of Civil Engineering and Architecture, Mechanical, Aerospace, and Materials Engineering, Applied Sciences, and Information and Electronic Engineering The Master's Degree divisions of Civil Engineering and Architecture, Mechanical Systems Engineering, Computer Science and Systems Engineering, Electrical and Electronic Engineering, Materials Science and Engineering were reorganized into the divisions of Civil Engineering and Architecture, Mechanical systems and Materials, Applied Sciences and Information and Electronic Engineering The Doctoral Degree divisions of Civil and Environmental Engineering, Production and Information systems Engineering, Chemical and Materials Engineering, and Science for Composite Functions were reorganized into the divisions of Architecture, Civil and Environmental Engineering, Production and Information Systems Engineering, Aerospace Engineering, Chemical and Materials Engineering, and Engineering for Composite Functions |
| October | 2012 | Establishment of Research Center for Environmentally Friendly Materials Engineering |
| April | 2014 | Reorganization of the Master's Degree divisions from Civil Engineering and Architecture, Mechanical systems and Materials, Applied Sciences and Information and Electronic Engineering to Sustainable and Environmental Engineering, Production Systems Engineering and Information and Electronic Engineering Unification of the Doctoral Degree divisions from Architecture, Civil and Environmental Engineering, Production and Information Systems Engineering, Aerospace Engineering, Chemical and Materials Engineering, and Reorganization of Engineering for Composite Functions to Engineering |
| April | 2018 | Reorganization of the Office for Community Engagement and Collaboration under which the Center for Regional Education and Cooperation and the Center for Cooperative Research and Development are established |
| October | 2018 | Establishment of the Center for Creative Collaboration under the Office for Community Engagement and Collaboration |
| April | 2019 | Reorganization of the undergraduate departments of Civil Engineering and Architecture, Mechanical, Aerospace, and Materials Engineering, Applied Sciences, and Information and Electronic Engineering in the Faculty of Engineering to the departments of Engineering, and Science and Informatics in the Faculty of Science and Engineering Reorganization of the Center for General Education and Center for Multimedia Aided Education to the Science and Engineering Office for Human Resource Development, under which the Center for Fundamental Education in Science and Engineering, the Center for ICT Education, and the Center for Innovation in Education are established Establishment of Endowed Course "Endowed Research Laboratory of Un-mined Mineral Resources and Energy Engineering" (until March 31, 2021) |
| October | 2019 | Name of Research Center for Environmentally Friendly Materials Engineering changed to the Center for Rare Earths Research |
| April | 2020 | Establishment of the Center for Shared Research Facilities |

1887 Sapporo Agricultural College
Engineering Department



Sapporo Agricultural College
Engineering Department

1897 Sapporo Agricultural College
Civil Engineering Department



Tohoku Imperial University

1907 Tohoku Imperial University

1918 Hokkaido Imperial University
Attached Civil Engineering
Special Division



Hokkaido Imperial University Attached
Civil Engineering Special Division

1939 Muroran Engineering
High School



Muroran Engineering High School

1944 Muroran School of
Technology



Muroran School of Technology

1949 Muroran Institute of
Technology

Electrical Engineering
Industrial Chemistry
Mine Engineering
Civil Engineering



Panoramic View of
Muroran Institute of
Technology

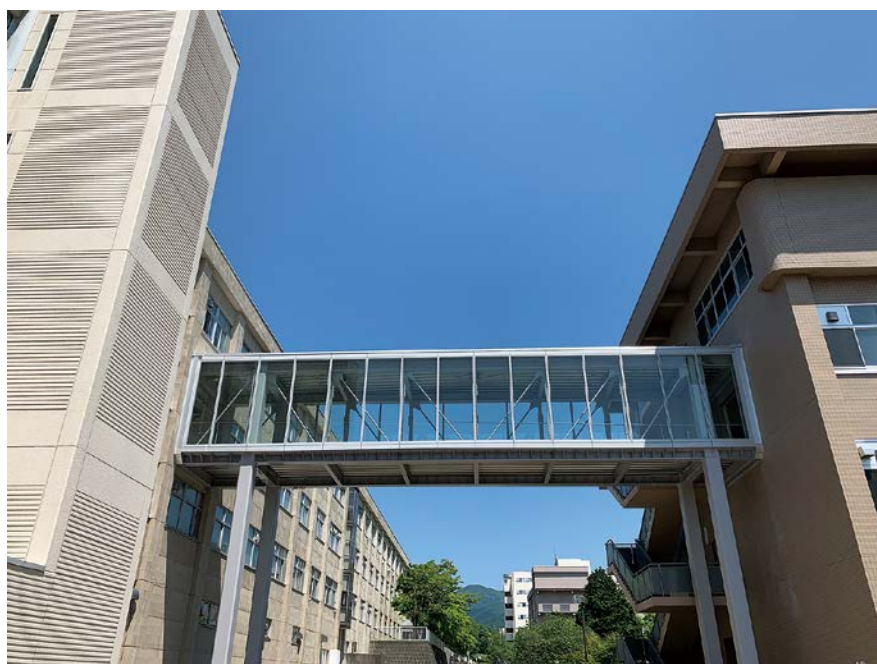
2004 Muroran Institute of Technology
as a National University Corporation



Main Gate of Muroran Institute of
Technology

■ Former Presidents

| | Term of Office | Name |
|---|---|--|
| Muroran Engineering High School | May 1939- Oct. 1943 Oct. 1943- Mar. 1944 | YOSHIMACHI Taroichi MORI Keisaburo |
| Muroran Engineering Technical School | Apr. 1944- Aug. 1948 Aug. 1948- May 1949 | MORI Keisaburo IGUCHI Shikazo |
| Muroran Institute of Technology | May 1949- Mar. 1956 Mar. 1956- May 1956 May 1956- May 1960 May 1960- Nov. 1967 Nov. 1967- Feb. 1968 Mar. 1968- May 1970 May 1970- Mar. 1971 Apr. 1971- Mar. 1975 Apr. 1975- Mar. 1979 Apr. 1979- Mar. 1983 Apr. 1983- Mar. 1991 Apr. 1991- Mar. 1997 Apr. 1997- Oct. 1997 Oct. 1997- Jan. 1998 Feb. 1998- Mar. 2004 | IGUCHI Shikazo SAEKI Rikichi (acting) OHGA Tokuji OHTSUBO Kikutaro SAWA Shigeo (acting) ABE Okito ICHIBA Kumi (acting) KANAMORI Shoichi TAKEUCHI Sakae YOSHIDA Masao KOBAYASHI Haruo ARAKAWA Taku IZUMI Kiyoto MATSUOKA Kenichi (acting) TAGASHIRA Hiroaki |
| National University Corporation Muroran Institute of Technology | Apr. 2004- Jan. 2006 Feb. 2006- Mar. 2009 Apr. 2009- Mar. 2015 Apr. 2015- Present | TAGASHIRA Hiroaki MATSUOKA Kenichi SATO Kazuhiko KUGA Yoshikazu |



Education Research Building #1-3, connecting corridor "Soramichi"

■ University Executives and Staff

| | |
|---------------------------------------|------------------|
| President | KUGA Yoshikazu |
| Executive Director/ Vice President | MATSUDA Mizushi |
| Executive Director/ Vice President | SATOH Kohki |
| Executive Director/ Vice President | FUNAMIZU Naoyuki |
| Auditor | TAKAHASHI Nobuo |
| Auditor | MASUE Asao |

Administration Bureau

| | |
|---|----------------|
| General Manager | OHKAWA Tetsuya |
| Deputy General Manager | GOURO Kenji |
| Administration & Planning Department Manager | SHIBATA Jun |
| Accounting Department Manager | SATOH Yasuyuki |
| Facilities Department Manager | OSHIDA Satoshi |
| Academic Affairs Department Manager | WATANABE Hideo |
| Admission Strategy Department Manager | AIUCHI Seiya |
| Research Cooperation Department Manager | ITOH Mitsuharu |

University Centers

| | |
|--|-------------------|
| Director of Library | SATOH Kohki |
| Head of the Science and Engineering Office for Human Resource Development | MATSUDA Mizushi |
| Director of the Center for Fundamental Education in Science and Engineering | MATSUDA Mizushi |
| Director of the Center for ICT Education | KUWATA Yoshitaka |
| Director of the Center for Innovation in Education | MOMONO Naoki |
| Head of the Office for Society- Academia Collaboration | FUNAMIZU Naoyuki |
| Director of the Center for Cooperative Research and Development | YOSHINARI Satoshi |
| Director of the Center for Regional Education and Cooperation | KAWAI Hideki |
| Director of the Center for Creative Collaboration | TOKURAKU Kiyotaka |
| Director of Aerospace Plane Research Center | UCHIUMI Masaharu |
| Director of the Center for Rare Earths Research | SEKINE Chihiro |
| Director of the Center for Shared Research Facilities | NAKANO Hideyuki |
| Director of Manufacturing and Engineering Design Center | SHIMIZU Kazumichi |
| Director of Health Administration Center | IWATA Minoru |
| Director of Center for International Relations | KOHATA Yukihito |
| Director of Career Support Center | AIZU Yoshihisa |
| Director of Technical Division | SATOH Kohki |

| | |
|----------------|-----------------|
| Vice President | OHKAWA Tetsuya |
| Vice President | MOMONO Naoki |
| Vice President | KOHATA Yukihiro |
| Vice President | DONG Mianxiong |

Faculty of Science and Engineering

Undergraduate Course

| | |
|---|------------------|
| Director of Department of Engineering | FUJIKI Hiroyuki |
| Director of Department of Sciences and Informatics | YOSHIDA Masanori |

Graduate School

Master's Course

| | |
|--|------------------|
| Director of Division of Sustainable and Environmental Engineering | KAWAMURA Shima |
| Director of Division of Production Systems Engineering | UEBA Masazumi |
| Director of Division of Information and Electronic Engineering | KAWAGUCHI Hideki |

Doctoral Course

| | |
|--|-----------------|
| Director of Division of Engineering | MATSUDA Mizushi |
|--|-----------------|

Research Organization

| | |
|---|---------------|
| Director of College of Design and Manufacturing Technology | ICHIMURA Koji |
| Director of College of Information and Systems | NAGANO Koji |
| Director of College of Liberal Arts | MAEDA Jun |

Educational and Research Organizations

■ Faculty of Science and Engineering

| Departments | Educational and Learning Objectives | Content |
|---------------------------|--|--|
| Department of Engineering | <p>[Overall] The Department of Engineering is responsible for the education of specialized engineering that is connected directly to industrial applications, for example, architecture, civil engineering, mechanical engineering, robotics, aerospace engineering, electric engineering, electronics, communication engineering, and so on. The word, "engineering" implies creativity, the so-called new trend of "Monozukuri," which will be required in the fields of manufacturing and construction in the future era. The department nurtures personnel who understand the industrial structure of the regional community, including Hokkaido; the characteristics of nature and the urban environment; the principles and properties of production activities; and who have developed their abilities in applying and utilizing their knowledge of their surrounding society from an engineering standpoint. The Department of Engineering not only offers a daytime course but also an evening course.</p> | <p>The Department of Engineering provides fundamental knowledge of natural science, engineering, and informatics in core curriculum for one year and a half after entering into the university. At the beginning of the second semester in second year, the students participate in specialized courses and acquire technical knowledge and practical skills. At the same time, a liberal arts educational component fosters development in the humanities and an ability to collaborate with others.</p> |
| Daytime Courses | <p>[Course of Architecture and Civil Engineering] This course provides practical education on the planning, design, and construction technology of architectural facilities or larger structures, such as roads, bridge, parks, dams, etc. The course nurtures personnel who can contribute to the production of a safe and comfortable environment with a broad perspective, encompassing spiritual enrichment through nature.</p> <p>[Course of Robotics and Mechanical Engineering] This course provides a practical education about mechanical engineering and robotics and nurtures personnel who acquire extensive fundamental knowledge, advanced practical skills, and the creativity and strength to confront various kinds of problems by utilizing their communication abilities.</p> <p>[Course of Aerospace Engineering] Aerospace Engineering is a comprehensive engineering course that utilizes and consolidates a variety of components and elements of related technologies and builds highly sophisticated systems. This course provides practical education in a wide range of elemental and system technologies and nurtures human resources capable of systematic thinking for sophisticated manufacturing in a broad range of fields.</p> <p>[Course of Electrical and Electronic Engineering] This course provides fundamental knowledge and skills in areas such as electron devices, electronic technologies, electrical energy generation, supply and utilization, system control, etc.</p> | <p>[Course of Architecture and Civil Engineering] This course mainly provides systematic education in the field of architecture and civil engineering. In the first half of the second semester in the second year, the students will study introductory subjects and core curriculums about architecture and civil engineering. After the second half of the second semester in the second year, the curriculum of the course is divided into an architecture track and a civil engineering track. The architecture track is mainly organized by subjects for eligibility requirements, such as architectural planning and design, building construction and material, etc. The civil engineering track is organized by subjects about specialized technology regarding planning, design, and construction of civil engineering structures.</p> <p>[Course of Robotics and Mechanical Engineering] This course provides a practical education to foster fundamental knowledge and advanced practical skills about the environment and energy, mechanical systems, and robotics. The course is organized by subject groups, such as the dynamical system group that is the basis of mechanical engineering, the system integration group connecting with robotics, and the engineering design group related to system design and manufacturing.</p> <p>[Course of Aerospace Engineering] This course provides integrated education in the field of aerospace engineering to nurture a systematic way of thinking and a specialized education emphasizing fundamental technologies of sophisticated systems. The course is organized around the fundamental disciplines of aerospace engineering, which is an integration of various elements and technologies, and an intensive research study is offered to foster knowledge and practical skills.</p> <p>[Course of Electrical and Electronic Engineering] This course is organized to provide specialized knowledge of electrical and electronic engineering, including electron devices, electronic circuits, computer engineering, signal processing, communication systems, quantum measurements, generation and supply of electric energy, control of various systems, etc.</p> |
| Evening Courses | <p>[Course of Mechanical Engineering] This course provides education about mechanical engineering and related areas, such as robotics and aerospace engineering. The course nurtures human resources capable of playing an active role in various fields of manufacturing from a broad perspective.</p> <p>[Course of Electrical and Electronic Engineering] This course provides fundamental knowledge and skills in areas such as electronic devices, electronic technologies, electrical energy generation, supply and utilization, system control, etc.</p> | <p>[Course of Mechanical Engineering] The foundation of this course is mechanical engineering, and its principal axis consists of subject groups such as dynamical systems, system integrations, and experiments. The curriculum of the course is systematically organized by mechanical engineering and its related areas, such as robotics, aerospace engineering, and electrical and electronic engineering.</p> <p>[Course of Electrical and Electronic Engineering] This course is organized to provide specialized knowledge of electrical and electronic engineering, including electron devices, electronic circuits, computer engineering, signal processing, communication systems, quantum measurements, generation and supply of electric energy, control of various systems, etc.</p> |

| Departments | Educational and Learning Objectives | Content |
|---|---|--|
| <p>Department of Sciences and Informatics</p> | <p>[Overall] The Department of Sciences and Informatics strives to create new value for developing industry and enhancing productivity based on scientific approaches as well as to construct systems useful for “Monozukuri” (the craftsmanship of Japanese manufacturing) to lead the way to a prosperous future society. One objective of education in this department is to furnish students with an inquisitive mind to elucidate and systematize the principles of natural and social resources (i.e., the ability to discover and develop untapped industrial potential).</p> <p>[Course of Physics and Materials Sciences] The objective of this course is to provide students with a broad understanding of fundamental physics as the foundation of the natural sciences. This course also covers materials science and informatics as applications of physics. Our goal is to foster scientists and engineers with a strong exploratory mind who will contribute to clarifying the mechanisms of nature and who can create new functional materials that will help solve both global and local societal issues.</p> <p>[Course of Chemical and Biological Systems] This course is focused on not only natural sciences such as chemistry and biology but also chemical engineering sciences in conjunction with informatics. This enables us to nurture inquisitive scientists and engineers who can contribute from an extensive scientific perspective to the creation and globalization of regional industries utilizing chemical and biological materials.</p> <p>[Course of Mathematical Science and Informatics] We train our students to become scientists and engineers with broad viewpoints on natural science, problem-solving abilities in local/global fields, and the spirit of inquisitiveness. This is achieved by teaching computer science as the mathematical basis for informatics and information engineering as the application of informatics in various scientific fields.</p> | <p>This department provides an education program combining natural science and informatics. The primary fields of natural science are mathematics, physics, chemistry and biology, while informatics deals with data processing and information systematizing intended for nature and society. The department offers courses on Physics and Materials Sciences, Chemical and Biological Systems, and Mathematical Science and Informatics. These three courses provide students with a systematic and professional education culminating with graduation research.</p> <p>[Course of Physics and Materials Sciences] This course systematically provides students with a comprehensive overview of physics and materials science; typical topics include quantum mechanics, statistical mechanics, condensed matter physics and laser physics. These are aimed at honing the ability to understand the intrinsic nature and structure of materials on an atomic scale, leading to the creation of new functional materials and leading-edge technology. To utilize extensive knowledge of physics and materials science for applications, students are also provided with basic knowledge of and skills in information technology through experimental and exercise subjects including graduation research.</p> <p>[Course of Chemical and Biological Systems] This course provides education on chemistry and biology, which deal with material and life phenomena, respectively. Additionally, informatics is used to produce a comprehensive understanding of phenomena and the potential creation of useful materials. Chemistry and biology are taught according to four categories; physical chemistry, inorganic and analytical chemistry, organic chemistry, and biochemistry and biology. The knowledge obtained through classes on informatics is then utilized and developed in the application field (i.e., process production science).</p> <p>[Course of Mathematical Science and Informatics] The course provides education on the principles, techniques and applications of informatics for analyzing and processing a variety of information in nature and society, systematically. This curriculum consists of mathematics (e.g., algebra, probability theory and statistics, applied mathematics, discrete mathematics), data structures and algorithms, programming languages and databases among other related lectures with various relevant exercises.</p> |

■ Graduate School

Master's Course

| Divisions | Courses |
|---|--|
| <p>Division of Sustainable and Environmental Engineering</p> | <p>This division incorporates a broad spectrum of content that covers various engineering fields related to the environment, enabling students to create a sustainable society in harmony with the surrounding environment.</p> <p>[Course of Applied Chemistry] In this course, we cultivate creative human resources for students specializing in chemistry and chemical engineering. Timely research and development will be conducted, focusing on the development of useful chemicals in harmony with the environment, promotion of efficiency in chemical processes, and resource utilization and energy conversion technology considering the global environment and recycling-oriented society.</p> <p>[Course of Chemical and Biological Engineering] In this course, students will master specialized knowledge and technologies pertaining to chemical and biological engineering. They will create biologically active substances that apply new environmentally-friendly organic reactions, and produce efficient biological technologies that can co-exist with nature.</p> <p>[Course of Architecture and Building Engineering] In this course, students will master advanced specialized knowledge relating to the planning and design of architecture and urban spaces, as well as architectural design, construction equipment and construction implementation geared to the development of safe buildings. To that end, we cultivate engineers in the field of construction with strong ethical perspective who can respond promptly and effectively to the needs of the times.</p> <p>[Course of Civil Engineering] In this course, students will master urban planning and disaster prevention systems, with the aim of creating environments in which we can live safely, securely and comfortably. After finishing this course, students will be able to respond promptly and effectively to the needs of the times, as civil engineers with a strongly ethical perspective.</p> <p>[Course of System Engineering for Public Works] In this course, we foster students understanding of environmental preservation and recycling with the knowledge of both engineering and human/ social sciences. Particularly, we focus on the study of a control technology for natural disasters and a safe technology after disasters occur. Students will be expected to have a solid grounding in the skills of public policy making.</p> |
| <p>Division of Production Systems Engineering</p> | <p>This division covers a broad range of content, from fundamental technologies such as material, mechanical and physical engineering, which are essential to manufacturing, to advanced systems technologies such as aerospace systems and next-generation robots.</p> <p>[Course of Mechanical Engineering] This course covers fundamental academic studies in the many required fields relating to mechanical engineering and mechanical systems, as well as diverse knowledge, comprehensive technological ability and flexible application. Students will learn to apply advanced, specialized knowledge pertaining to environmental and energy technologies, machining and manufacturing technologies, and element and system technologies, and will ultimately emerge ready to expand the boundaries of manufacturing and industry and take these fields to new heights.</p> <p>[Course of Robotics] Robotics brings robots into practical use, not only in a diverse range of manufacturing and industrial sectors, but also in the home, in medical care, in nursing care, and at disaster sites. Starting from a core program of academics, robotics goes on to encompass numerous related engineering fields, and is a compilation of advanced technologies that come together in an integrated blend. Developing technology for multi-functional, high-performance robots requires fundamental knowledge in control technology, mechatronics, sensing technology, engineering design, element technology, and applied skills such as system integration. Students will acquire the necessary skills to create the intelligent machine systems that will lead the way to next-generation robots supporting key industries, and intelligent machine systems that will be contributing to our social lifestyles in the near future.</p> <p>[Course of Aerospace System Engineering] Aerospace system engineering can be applied in the engineering strategies for the realization of Society 5.0, as well as being a key technology field. Engineers in this field create sophisticated and comprehensive systems that include a broad range of state-of-the-art technologies such as aerodynamics, propulsion engineering, structure and materials engineering, guidance and control, amongst myriad others. This includes systems designed to function in environments far harsher than our terrestrial environment. Students will gain a thorough understanding of the interrelationship between systems and their enabling technologies, with the ultimate aim of establishing concrete aerospace systems. In addition, they will master fundamental knowledge of various enabling technologies and acquire the skills to build advanced systems that integrate these technologies. In order to cultivate high-level, specialized engineers and researchers ready to serve as effective team players on the global front, we work with JAXA, private companies, and other external organizations and make full use of the geographical advantages of Hokkaido, creating coursework that utilizes a diverse spectrum of research facilities in both the academic and non-academic realms, such as the Aerospace Plane Research Center. Through these curricula, we educate students in cutting-edge research that will give them access to countless career paths, while cultivating human resources.</p> <p>[Course of Materials Science and Engineering] The activities in which humankind engages are supported by the consumption of resources and energy, and as society continues to develop, we are facing urgent issues such as resource depletion and environmental problems on a global scale. In this course, students acquire advanced, specialized knowledge pertaining to the design, development and evaluation of materials. They can then organically integrate the knowledge gained in these areas to develop advanced materials. Through this approach, we cultivate human resources who can help build systems that are sustainable from a materials science and engineering standpoint, and can find solutions for energy and environmental problems.</p> <p>[Course of Applied Physics] In this course, students are equipped to systematically learn the specialized knowledge on physical engineering and solid-state engineering from the foundation to application, while understanding their importance and potentiality for application with respect to next-generation advanced materials such as magnetic materials, dielectrics, superconductors, optical materials and biomaterials. They are also equipped to be continually engaged in research and development on their own initiative, having the awareness and ability to analyze and solve advanced problems. We will foster human resources, with the spirit to seek knowledge and the motivation to develop technology, who will also be able to meet the needs of a society facing increasing complexity and sophistication in environmental, energy and other issues, and will be capable of contributing to build a sustainable society.</p> |

| Divisions | Courses |
|--|---|
| <p>Division of Information and Electronic Engineering</p> | <p>In these courses, students master a variety of technological systems pertaining to information and electronics, using mathematical techniques as a foundation.</p> <p>[Course of Computer Systemics] This course provides students with advanced, specialized knowledge pertaining to information engineering, such as algorithms, computer architecture, software engineering and information networks, as well as the ability to analyze information based on mathematical models.</p> <p>[Course of Intelligent Informatics] This course provides students with advanced, specialized knowledge pertaining to intelligence functions such as visual information processing, recognition and learning, and artificial intelligence, primarily for computer systems, as well as the ability to express information based on mathematical models.</p> <p>[Course of Electrical and Communication Engineering] This course provides students with specialized capabilities relating to the generation, supply and effective utilization of electrical energy, communication theory, signal generation for information transmission, signal processing and control of various types of electrical systems and communication systems, such as robots, power networks and communication networks.</p> <p>[Course of Electron Device and Instrumentation] This course provides students with specialized capabilities relating to electron device engineering, such as electron materials, electron devices and technology for fabricating integrated circuits. They will master specialized skills of measurement using electromagnetic phenomena and quantum effects.</p> |

Doctoral Course

| Division | Courses |
|---------------------------------------|--|
| <p>Division of Engineering</p> | <p>This division encompasses the entire spectrum of engineering, and emphasizes the cultivation of innovative doctoral graduates who are able to respond flexibly to changes in research fields engendered by advances in science and technology as well as to the needs and wants of companies involved in a broad spectrum of related fields.</p> <p>[Course of Advanced Sustainable and Environmental Engineering] This course covers a broad range of sustainable environmental engineering fields, with the aim of building a sustainable society in harmony with the surrounding environment that incorporates changes in the natural and social environments.</p> <p>[Course of Advanced Production Systems Engineering] This course covers aerospace planes and next-generation robots incorporating sophisticated system technologies, and in the fields of advanced mechanical engineering, advanced material engineering and physical engineering, which support this research and technology.</p> <p>[Course of Advanced Information and Electronic Engineering] This course covers the fields of information engineering and electrical/electronic engineering relating to intelligence and informatics systems, electrical and communication systems, and electron devices and instrumentation, which create social and engineering functions with high value.</p> |

Research Areas (Faculty Research Organizations)

| Areas | Content of Research |
|--|---|
| College of Design and Manufacturing Technology | <p>The College of Design and Manufacturing Technology conducts research in the fields of 1) architecture, building and civil engineering, 2) robotics, mechanical and aerospace engineering, 3) electrical and electronic engineering.</p> <ol style="list-style-type: none"> 1) The research field of architecture, building and civil engineering covers the planning, designing and construction of cities and living atmospheres. In particular, examples of research include the research and development of the control and construction of living environments, the construction, maintenance and disaster prevention of infrastructure including buildings and underground facilities, and the planning, designing and construction of cities and living areas where people can live comfortably and with peace of mind. 2) The research field of robotics, mechanical and aerospace engineering includes designing, manufacturing and operating devices and equipment, including various transport machineries such as cars, railways and aerospace crafts, robots, and medical equipment. Furthermore, as well as systems research, this field covers element technologies research and electronic and hydraulic controlling technology. 3) In the research field of electrical and electronic engineering, research on electrical and communication engineering is undertaken that covers electric energy and grid, communication devices and network systems, and control of those systems. Research on electron device and instrumentation that covers electronic materials, optical and quantum devices, and measurement systems is also developed. <p>Units: Architecture and Building Engineering Research Unit Civil Engineering Research Unit Mechanical Engineering Research Unit Robotics Research Unit Aerospace System Engineering Research Unit Electrical and Communication Engineering Research Unit Electron Device and Advanced Instrumentation Research Unit</p> |
| College of Information and Systems | <p>This research area broadly promotes research in the fields relating to physics, materials, chemistry, biotechnology, and informatics ranging from the basics to applications for the creation of a new era.</p> <p>It consists of four research fields: the physics field researching development of new substances, new functional materials, and their basics; the materials science field studying various metal materials applying environmental technologies and nanotechnologies; the chemistry and biotechnology field researching the synthesis of high-value compounds by advanced chemical reactions and biological functions as well as in the optimization of chemical processes; and the informatics fields investigating the system intelligence based on neuroscience, a fusion of the media, humans, and systems, as well as abstraction, integration, and visualization of information.</p> <p>Units: Applied Physics Research Unit Materials Science Research Unit Applied Chemistry Research Unit Chemical and Biological Engineering Research Unit Computer Systemics Research Unit Intelligent Informatics Research Unit</p> |
| College of Liberal Arts | <p>The College of Liberal Arts fosters students with various interests and utilizes methods other than engineering. We provide and cover many classes which will support the fundamental aspects of engineering and liberal arts.</p> <p>This area consists of four major fields; 1) the field of studies on the world of “numbers” with the methodologies of analysis, algebra and geometry, 2) the field of information studies for the support of education and computer system formation, 3) the field of linguistics and inter-cultural studies, and 4) the field of the studies on humanities, medical care, social structures, and policies for civil society.</p> <p>Units: Mathematical Science Research Unit Humanities and Social Sciences Research Unit Linguistic Science and International Relations Research Unit</p> |

Library

The university library, which is also widely open to the local community, maintains and provides books, journals, electronic journals, databases and other resources for study, research and learning. In recent years, the facility has undergone a number of upgrades, including the development of a learning commons and self-study facilities, improved computer resources and other elements of information provision. Shared student spaces have also been thoughtfully developed. The Academic Resources Archive of Muroran Institute of Technology run by the library has also been developed as an institutional repository publicizing the results of university research and serving as a place for the collection and provision of intellectual information in line with the university’s responsibilities.



MuroranIT Library—a facility for learning and study

The Science and Engineering Office for Human Resource Development

This Office aims to provide students with a basic engineering education in physics, chemistry, biology, mathematics and other subjects as well as to enhance education on cyber security, programming, big data, artificial intelligence (AI), Internet of Things (IoT) and other important fields of study for today's complex and highly advanced information society.

- (1) The Center for Fundamental Education in Science and Engineering conducts operations primarily related to liberal arts, basic science and engineering education, teacher training courses, and various educational programs.
- (2) The Center for ICT Education is not only responsible for implementing information education programs for security, data science, programming and other such areas of study but also conducting operations related to the provision of support for the operation and management of core campus information networks and the enhancement of information security.
- (3) The Center for Innovation in Education is in charge of operations related to the planning and management of faculty development, the promotion of active learning, the development of e-learning materials, the planning and design of an integrated undergraduate and graduate education program, and the planning of programs in the support of Pioneering Research Initiated by the Next Generation (SPRING) .



Education Research Building #3, a base for fundamental engineering education related to human resources development in science and engineering

The Center for Fundamental Education in Science and Engineering

This Center was established to define a system for responsibility within the liberal arts and basic science and engineering education programs as well as to examine and research the role and substance of common education for faculties and departments while simultaneously enhancing it. This Center is responsible for the following operations:

- (1) Matters relating to liberal arts education and basic science and engineering education
- (2) Matters relating to subject-specific education in cooperation with the local community
- (3) Matters relating to education for teacher training courses
- (4) Matters relating to education for the consortium of national universities in Hokkaido for liberal arts education
- (5) Matters relating to education for common subjects in the graduate courses
- (6) Matters relating to education for the MOT program
- (7) Other matters relating to basic science and engineering education

In addition, it has its own operating committee for the improvement of communication and coordination between departments.



Regional Cooperation Course and lectures by famous entrepreneurs and economic experts in Hokkaido

The Center for ICT Education

The Center for ICT Education consists of the ICT Education Section and Information Infrastructure Section. The Center provides ICT education, such as Information Security, Data Science, and Programming. The Center is actively leading the support of the engineering education and campus network and promoting information systems. The Information Infrastructure Section maintains ISMS and BCMS certification.



Exercise in Classroom C310

The Center for Innovation in Education

The Center is an organization that flexibly improves faculty teaching skills and promotes new educational activities. The Center has four sections: Faculty Development and Active Learning Section, Learning Material Development and Analysis Support Section, Integrated Bachelor's and Master's Program Section, and Support for Pioneering Research Initiated by the Next Generation Program Section (SPRING).



Textbooks written by professors in the Learning Material Development and Analysis Support Section

The Office for Society-Academia Collaboration

We will comprehensively promote collaborative activities with society and contribute to the sustainable development of local societies. In addition, we aim to initiate education and research activities at the University.

Three Centers in the office are working toward the realization of the future image of Hokkaido, which is shown in “MuroranIT Research Strategy 2060—From Simple Manufacturing to “Creating Value” —”.

- The Center for Cooperative Research and Development (construction of industry-government-academia joint research system)
- The Center for Creative Collaboration (promotion of solution-oriented research and academic foundations for informatized science and technologies by laboratories system)
- The Center for Regional Education and Cooperation (community education activities and continuing education)



Signing of MOUs for comprehensive cooperation

The Center for Regional Education and Cooperation

The Center not only offers education (as non-regular courses) in cooperation with the wider regional community, such as lifelong learning including open lectures and an educational program based on industry-academia collaboration, but also develops collaborative activities with regional governments and industry. The Center is comprised of a number of departments.

The Regional Education Promotion Department conducts planning and the implementation of open lectures and campus tours for elementary and junior high school students. The Regional Cooperation and Symbiosis Department promotes collaborative activities with local governments, support for local companies, engineers, and re-education for working people. The Industry-University Collaborative Education Promotion Departments works on the promotion of regional internships and the development of industry-university collaborative education systems. The preceding departments are operating with the cooperation of the entire university.



Campus Tour for elementary school students

The Center for Cooperative Research and Development

The Center contributes to research and development related activities to solve regional issues, including the promotion of research through industry-academia-government-finance collaboration, the commercialization of research results, and management of intellectual property.

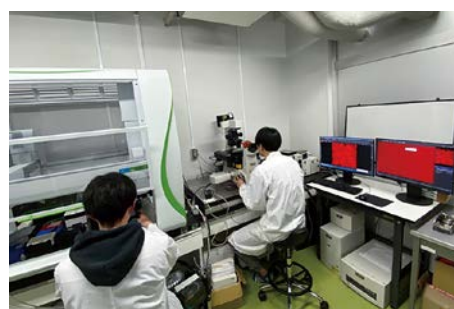


CRD Center (upper)
Exhibition and Technology Seminars (lower)

The Center for Creative Collaboration

The Center for Creative Collaboration contributes to local problem-solving and development at a high level by fusing information, materials, civil engineering, and machinery. This Center aims to promote science and technology development to realize a sustainable and prosperous society as described in “Hokkaido MONO Manufacturing Vision 2060” through creative collaborations.

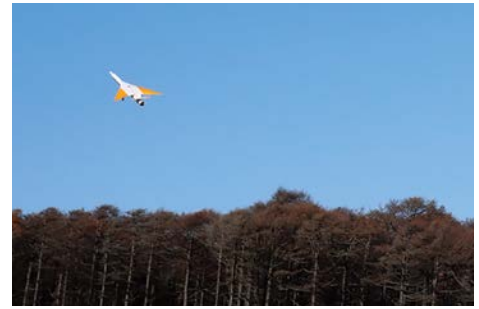
With the key concept of “information-oriented MONO manufacturing” as a driver, there are currently 8 operational Center laboratories, AI Lab, Emerging Networks and Systems Lab, Hokkaido Natural Materiom Research Lab, Super-multicasting Alloy Lab, Urban Informatics Lab, Structural Mitigation Research Lab, Natural Disaster Prevention Research Lab, and Disaster Waste Research Lab.



High-Throughput Evaluation System applying bionanoimaging technology

The Aerospace Plane Research Center (APReC)

The Aerospace Plane Research Center (APReC) was established to produce basic core technologies for flying at high speed and high altitude in the atmosphere. The APReC has some test facilities for aerospace field research such as rocket engine firing test equipment, a supersonic wind tunnel and, the only high-speed rocket sled track in Japan. Many collaborative research projects are being conducted using these facilities at the Center.



Flight test of a 1/3 scale small unmanned supersonic experimental aircraft (total length about 2 m) (November 2019, Taiki-cho Runway)

The Center for Rare Earths Research (Muroran Materia)

The Center conducts research on the effective utilization of rare earths. Furthermore, this Center is the driving force behind an education program. This program is designed to provide graduate students from various disciplines with a well-developed professional education and advanced professional skills. Besides this, the Center engages in the following activities, 1) establishing research collaborations with external research institutes and 2) hosting lectures and workshops on rare earths.



MuroranIT Rare Earth Workshop 2018

The Center for Shared Research Facilities

The Center was established with the objective of supporting science and engineering education and research at Muroran Institute of Technology. Equipment in the Center includes electron microscopes, a nuclear magnetic resonance device, an X-ray diffraction device, mass spectrometers, physical property measurement devices, and others.



Field Emission Transmission Electron Microscope.

Manufacturing and Engineering Design Center

The Center provides support for practical lessons in manufacturing and engineering and extracurricular activities. It also promotes research in leading-edge manufacturing technology and regional cooperation regarding manufacturing. The Center, established in 2006, consists of three groups: Education Support Group, Fundamental Manufacturing Research Group, and Regional Cooperation Group. It is equipped with a seminar training room which students can use freely, a multi-purpose workshop, a machining workshop, a welding workshop, a casting and forging workshop and a “*tatara*” workshop where an ancient style of iron making can be experienced.



Front view of the Center

Health Administration Center

The Health Administration Center was established in 1970 by the Ministry of Education, Science and Culture, as a facility to promote health, to prevent and help in the early detection of diseases, and to provide first-aid treatment for students and faculty of the University. Medical staff consisting of a doctor, a school nurse, a counselor and administrative staff work here.

Operations:

- (1) Conduct annual and unscheduled health check-ups
- (2) Conduct health consultations and provide first-aid treatment
- (3) Conduct research studies on health management and advice for health care
- (4) Conduct mental health consultations and provide counseling
- (5) Issuance of physical examination reports



The front of Health Administration Center

Center for International Relations

The Center for International Relations has been in charge of organizing and facilitating MuroranIT's international activities and cooperation for its students as well as its faculty and staff since it was established in 2007. The Center offers comprehensive services regarding a wide range of international relations such as sending Japanese students abroad for their international studies, accepting foreign students with suitable care and support, and promoting international collaborations in research and education with overseas universities.



Ski tour for international students

Career Support Center

The Career Support Center provides a variety of support to help students achieve their desired career paths. In addition to lectures to support student's career formation, the Center hosts a number of events such as job search guidance seminars and job fairs. Furthermore, it gives individualized work consultation advice to students. The Center's employment information room also allows students to find out about more 3,000 active job listings. We always look forward to visits from students and providing them with expert career advice.



Career Support Center

Robot Arena

The Robot Arena is a facility open to the general public. It promotes education, research and makes contributions to the region in the robotics field. The activities in the Robot Arena include exhibiting and operating robots, monthly hands-on workshops for local youth, familiarizing the community with robotic technology, training highly educated human resources via project-based learning (PBL), and developing robot related technology in accordance with local needs.



Robot Exhibition Space

The Admissions Office

The Admissions Office was established in April, 2011, for the purposes of planning and implementing admissions policies, facilitating smooth and appropriate public relations for entrance examinations, and developing relationships and co-operating with high schools. This office consists of two sections: the section for planning and implementing admissions policies and the section for facilitating public relations for entrance examinations.



Iburi-Hidaka High School-University Collaboration Conference

Office for Promotion of Gender Equality

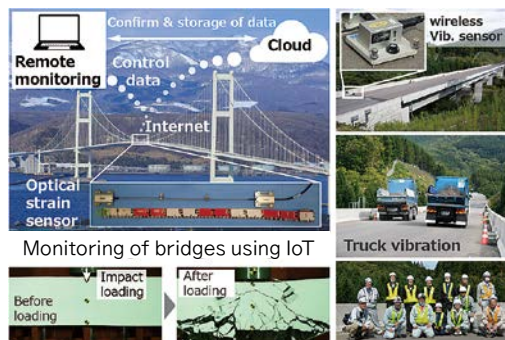
The Office for Promotion of Gender Equality is working to create an environment where faculty, staff, and students, regardless of gender, can utilize their abilities and play an important role in various fields. Our main tasks are to provide support to faculty and staff members who are raising children or caring for family members, to hold seminars to raise the general awareness of gender equality, and to disseminate information inside and outside the university through our website and newsletters.



Lunchtime seminar for career development

Infrastructure Management Engineering Course

This endowed course, established in April 2018, promotes research on issues related to the prolongation of lifespan of infrastructure constructed in cold and snowy regions.



Test for strengthened beam with FRPs In situ vibration test

Endowed Research Laboratory of Un-mined Mineral Resources and Energy Engineering

This endowed course was established in April 2019 with the goals of conducting verification testing on Hybrid Underground Coal Gasification (H-UCG) which would lead to regional revitalization. Based on a safe, high gasification efficiency and environmentally friendly UCG system already developed by the laboratory, new technologies on H₂ production, CO₂ utilization and storage, and biomass combined gasification are progressed for H-UCG. These innovative technologies are expected to build a new business model applying to the coal field regions worldwide.



Front view of the Research Facility at Mikasa City (upper)
The UCG Study Tour for junior high school students (lower)

Tokyo Office

Muroran Institute of Technology has its Tokyo Office to facilitate the acquisition of external funds for collaborative research and other initiatives, to support industry-academia-government collaboration, and to provide assistance to the University's current and prospective students. It also serves as a center of public relations activities for the University's entrance examinations and liaises with its alumni associations.

Address: Aios Nagatacho Room 314, 2-17-17, Nagatacho, Chiyoda-ku, Tokyo, 100-0014
Tel.: 81-(0)3-6206-6703
Fax: 81-(0)3-6206-6704



Tokyo Office Building

Satellite Office (Sapporo)

The office not only serves as a base for industry-academia-government collaboration, but also provides space for conferences and seminars.

Address: HiNT, R&B Park Sapporo Odori Satellite
7F Showa Building, (directly connected to Exit No. 1 of Odori Subway Station) 8, Odori Nishi 5-chome, Chuo-ku, Sapporo, Hokkaido 060-0042
Tel: 81-(0)11-219-3359
Fax: 81-(0)11-219-3351



Picture of a seminar at the office

Taiki Satellite Office

The purpose of this satellite office is to strengthen cooperation with Taiki-cho and other areas in the Tokachi region. This cooperation works towards the realization of the spaceport concept, provides support and cooperation for educational aerospace events held by municipalities and industries as community contribution initiatives, and promotes joint research with the space launch company, Interstellar Technologies Co., Ltd.



Signboard of Taiki Satellite Office



Future image of Muroran City in 2060

■ Undergraduate School

Integrated Bachelor's/Master's Program

(1) Overview

The Integrated Bachelor's/Master's Program is a special educational program designed to produce highly-skilled master's degree graduates via three approaches. Specifically, this program enables undergraduates to start research for their senior thesis ahead of time as a basis for their research in the master's course, to complete classes in the bachelor's and master's courses within four years and to realize interdisciplinary collaboration with innovative enterprises, which is difficult to imagine in conventional master's programs.

(2) Program description

The Integrated Bachelor's/Master's Program includes the following educational approaches:

- (A) Research lab assignment in the second semester of the third year of the bachelor's course and early start with preparation for the bachelor's thesis
- (B) Taking master's course classes ahead of time while engaged in the bachelor's course
- (C) Local Partnership PBL
- (D) Overseas Internship

Program for Regional Community Revitalization

(1) Overview

Under the basic philosophy of "Making Dreams Come True Through Creative Science and Technology," our institute aims to offer comprehensive science and technology education and contributes to the advancement of local and international knowledge to help develop a well-rounded society.

With the objective of developing human resources who can create local industries and become regional leaders, the Program for Regional Community Revitalization offers educational activities utilizing local resources in cooperation with local governments, companies and other organizations to help students develop skills that can contribute to regional revitalization.

(2) Program description

The Program for the Promotion of Regional Revitalization covers subjects related to regional education and education on specific regional issues.

- ① Subjects related to regional education
- ② Subjects related to education on regional issues

Mathematical and Data Science Education Program

(1) Overview

The "Mathematical and Data Science Education Program" aims to develop human resources with mathematical and information fundamentals. This will be achieved by enhancing mathematical data science skills in science and engineering education at Hokkaido University. This program will be promoted in collaboration with Hokkaido University's mathematical data science education.

(2) Program description

The "Mathematical and Data Science Education Program" consists of three categories of courses:

- i) Information Fundamentals
- ii) Mathematical Foundations
- iii) Data Science

■ Graduate School

Management of Technology Program

(1) Overview

Management of technology (MOT) involves the sustainable development of companies and organizations in technological fields by assessing the potential of technology, commercializing it and creating economic value.

MuroranIT launched the MOT Educational Program in FY 2006 for master's degree students to foster engineers with solid management skills in order to meet social expectations and demand for a new human resource development program that gives engineers opportunities to learn about management.

(2) Program description

The program is also open to front-line workers (as credited auditors) in addition to graduate students on master's courses. Those gaining the required number of credit hours will receive completion certificates. Students will learn:

- ① how various corporations and other organizations pursue technological advancement to promote sustainable development as part of their business activities;
- ② how to plan, design and manage development work so that technologies and innovations can be used to create new products and projects; and
- ③ how to formulate future strategies based on cases of success and failure by various corporations and other organizations.

Program of Environmentally Friendly Materials Engineering

(1) Overview

This program offers a specialist (fundamental) subject in environmentally friendly materials, into which Master's Course students are accepted from multiple courses. Notably, as part of the practical internship in Japan module, students are required to gain experience and training under a teacher other than their main supervisor. In addition, short- and long-term internships are offered, in which research guidance can be received at research institutes in Japan and overseas. This provides students the chance to receive research guidance from several teachers and researchers. This program is based on a lecture course, with the aim of nurturing the skills needed in active research, and offers the opportunity to expand one's knowledge, leading to increased levels of understanding of specialist fields and increased technical ability.

(2) Program description

The program has the three characteristics outlined below, and students gaining the required number of credit hours will receive completion certificates.

- ① Introductory courses to give students an overview of the current situation and future trends
- ② Short training courses at laboratories in other fields
- ③ Internships at relevant institutions in Japan and elsewhere

Practical education program through development of a novel functional index of food to prevent brain aging (Brain-Food PGP)

(1) Overview

- ① This program is open to approved doctoral course students only.
- ② This program is financially supported by MEXT (Japanese Government).
- ③ This program provides education and/or research through the development of novel functional index for foods that contribute to the prevention of dementia, a global health priority.
- ④ In this program, a multidisciplinary and practical education is conducted with the support of

companies related to agriculture and food.

(2) Program description

Students finishing the program as outlined below with the required credits will receive a certificate of completion.

- i) Special subject in the program: Advanced Topics in Analytical Technology
- ii) Systematic subjects from other programs
- iii) Long-term Internship “Innovation Challenge”
- iv) Learning and research progress seminars

Project based AI learning program utilizing the cooperation of private corporations (PBL-AI PGP)

(1) Overview

This program is available only to doctoral students of the graduate school who have been approved in advance. Students learn about practical applications of artificial intelligence (AI) technology by working on some of the joint research projects with companies that have cooperative relationships with Tohoku University. This program will foster researchers with advanced knowledge and application skills in AI, which is currently required in many fields.

(2) Program description

- i) Program subject: Advanced Artificial Intelligence Studies
- ii) Innovation Challenge (long-term internship)
- iii) Research progress report meeting

Mathematical and Data Science Education Program

(1) Overview

In this program, we will develop human resources with mathematical and information fundamentals. This will be achieved by enriching mathematical data science skills in science and engineering education in our university. This program will be promoted in collaboration with Hokkaido University’s mathematical data science education

(2) Program description

This program consists of courses in the three categories of Information Fundamentals, Mathematical Fundamentals, and Data Science.

- i) Information Fundamentals
- ii) Mathematical Foundations
- iii) Data Science

Lifelong Education

■ Lifelong Education

Muroran Institute of Technology offers the following programs as part of its contribution to lifelong education.

Open Lectures

We hold public lectures for the purpose of providing learning opportunities to local residents. About 20 public lectures are scheduled to be held in 2022. Due to COVID-19 pandemic, they may be canceled depending on the future situation, so we will inform you of the schedule on the website as public health matters develop.

Non-degree Student System

The Non-degree Student System is a program of courses that adults take, and for which they earn credits as auditing students in undergraduate or graduate schools.

Exceptional Curriculum for Adult Engineers and Researchers

An education system in which adult engineers and researchers who wish to enter master's or doctoral courses can attend lectures and receive research guidance at night or other specified times if deemed educationally necessary.

Long-term Student System

This system allows engineers and researchers for whom the regular-term curriculum at the graduate school is impractical due to work or other reasons to earn master's/doctoral degrees via systematic study beyond the course term.



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University Officials

■ Number of University Officials

Board Members

(As of May 1, 2022)

| Classification Job Title | President | Full-time Regent | Part-time Regent | Full-time Auditor | Part-time Auditor | Total |
|-----------------------------|-----------|------------------|------------------|-------------------|-------------------|----------|
| President | 1 | | | | | 1 |
| Executive Director | | 3 | | | | 3 |
| Auditor | | | | | 2 | 2 |
| Total | 1 | 3 | | | 2 | 6 |

Faculty Members

(As of May 1, 2022)

| Classification Department | Vice President/ Center Director | Professor | Associate Professor | Lecturer | Assistant Professor | Subtotal | Staff/ Technician | Total |
|---|------------------------------------|---------------|---------------------|--------------|---------------------|-----------------|----------------------|-----------------|
| Vice President | (4) | | | | | (4) | | (4) |
| College of Design and Manufacturing Technology | | 29 | 29 | 2 | 16 | 76 | | 76 |
| College of Information and Systems | | 20 | 26 | | 15 | 61 | | 61 |
| College of Liberal Arts | | 12 | 13 | 2 | 2 | 29 | | 29 |
| Library | (1) | | | | | (1) | | (1) |
| Health Administration Center | (1) | | | | | (1) | 1 | 1 (1) |
| Center for International Relations | (1) | | (2) | | | (3) | | (3) |
| Career Support Center | (1) | | | | | (1) | | (1) |
| Aerospace Plane Research Center | (1) | | (1) | | (1) | (3) | | (3) |
| Manufacturing and Engineering Design Center | (1) | | | | | (1) | | (1) |
| The Center for Rare Earths Research | (1) | (1) | (1) | | | (3) | | (3) |
| The Center for Shared Research Facilities | (1) | | | | | (1) | | (1) |
| The Office for Society-Academia Collaboration | (1) | | | | | (1) | | (1) |
| The Center for Regional Education and Cooperation | (1) | | | | (1) | (2) | | (2) |
| The Center for Cooperative Research and Development | (1) | | (1) | | | (2) | | (2) |
| The Center for Creative Collaboration | (1) | | (1) | | (1) | (3) | | (3) |
| The Science and Engineering Office for Human Resource Development | (1) | | | | | (1) | | (1) |
| The Center for Fundamental Education in Science and Engineering | (1) | | | | | (1) | | (1) |
| The Center for ICT Education | (1) | | | | | (1) | | (1) |
| The Center for Innovation in Education | (1) | | (1) | | (2) | (4) | | (4) |
| Technical Division | (1) | | | | | (1) | 22 | 22 (1) |
| Administration Bureau | | | | | | (0) | 76 | 76 |
| Total | (21) | 61 (1) | 68 (7) | 4 (0) | 33 (5) | 166 (34) | 99 | 265 (34) |

Note: Numbers in parentheses indicate the number of additional positions.

Specially-appointed Professors

(As of May 1, 2022)

| Classification | Professor | Associate Professor | Lecturer | Assistant Professor | Total |
|-------------------------------|-----------|---------------------|----------|---------------------|-------|
| Specially-appointed Professor | 7 | 2 | 1 | 1 | 11 |

■ Number of Researchers Employed

(2021 School Year)

| Classification | Qualification | Number Employed |
|-------------------------|--------------------------|-----------------|
| Teaching Assistant (TA) | Master's Course Students | 360 |
| Research Assistant (RA) | Doctoral Course Students | 34 |
| Part-time Researcher | Post-Doctoral | 8 |
| Guest Professor | — | 12 |
| Other Researcher | — | 2 |
| Total | — | 416 |

Student Capacity and Enrollment

Student Capacity and Current Enrollment

Undergraduate School

(As of May 1, 2022)

| | Departments / Courses | | Admission Capacity | Transfer admission Capacity | Total Capacity | Current Enrollment | | | | | Total |
|------------------------------------|---|----------------|--------------------|-----------------------------|---------------------|---------------------|---------------------|----------------------|------------------------|------------------------|------------------------|
| | | | | | | Freshmen | Sophomores | Juniors | Seniors | Subtotal | |
| Faculty of Science and Engineering | Department of Engineering | Daytime Course | 325 | 25 | 1,350 | 333 (33) <8> | 332 (45) <9> | 353 (38) <10> | 348 (49) <16> | 1,366 (165) <43> | 1,539 (178) <43> |
| | | Evening Course | 40 | — | 160 | 41 (1) | 42 (5) | 45 (4) | 45 (3) | 173 (13) | |
| | Department of Sciences and Informatics | Daytime Course | 235 | 15 | 970 | 249 (36) <5> | 239 (35) <1> | 267 (47) <8> | 252 (40) <9> | 1,007 (158) <23> | 1,007 (158) <23> |
| Faculty of Engineering | Civil Engineering and Architecture | Daytime Course | — | — | — | — | — | — | 24 (2) <6> | 24 (2) <6> | 24 (2) <6> |
| | Mechanical, Aerospace and Materials Engineering | Daytime Course | — | — | — | — | — | — | 37 (3) <4> | 37 (3) <4> | 44 (3) <4> |
| | | Evening Course | — | — | — | — | — | — | 7 (0) | 7 (0) | |
| | Applied Sciences | Daytime Course | — | — | — | — | — | — | 31 (5) <6> | 31 (5) <6> | 31 (5) <6> |
| | Information and Electronic Engineering | Daytime Course | — | — | — | — | — | — | 73 (4) <6> | 73 (4) <6> | 82 (5) <6> |
| | | Evening Course | — | — | — | — | — | — | 9 (1) | 9 (1) | |
| Subtotal | Daytime Course | 560 | 40 | 2,320 | 582 (69) <13> | 571 (80) <10> | 620 (85) <18> | 765 (103) <47> | 2,538 (337) <88> | | |
| | Evening Course | 40 | — | 160 | 41 (1) | 42 (5) | 45 (4) | 61 (4) | 189 (14) | | |
| Total | | 600 | 40 | 2,480 | 623 (70) <13> | 613 (85) <10> | 665 (89) <18> | 826 (107) <47> | 2,727 (351) <88> | | |

※ Numbers in parentheses indicate the number of female students in the total. Numbers in angle brackets indicate the number of International students in the total.

※ Departments were reorganized in April 2019.

Graduate School

(As of May 1, 2022)

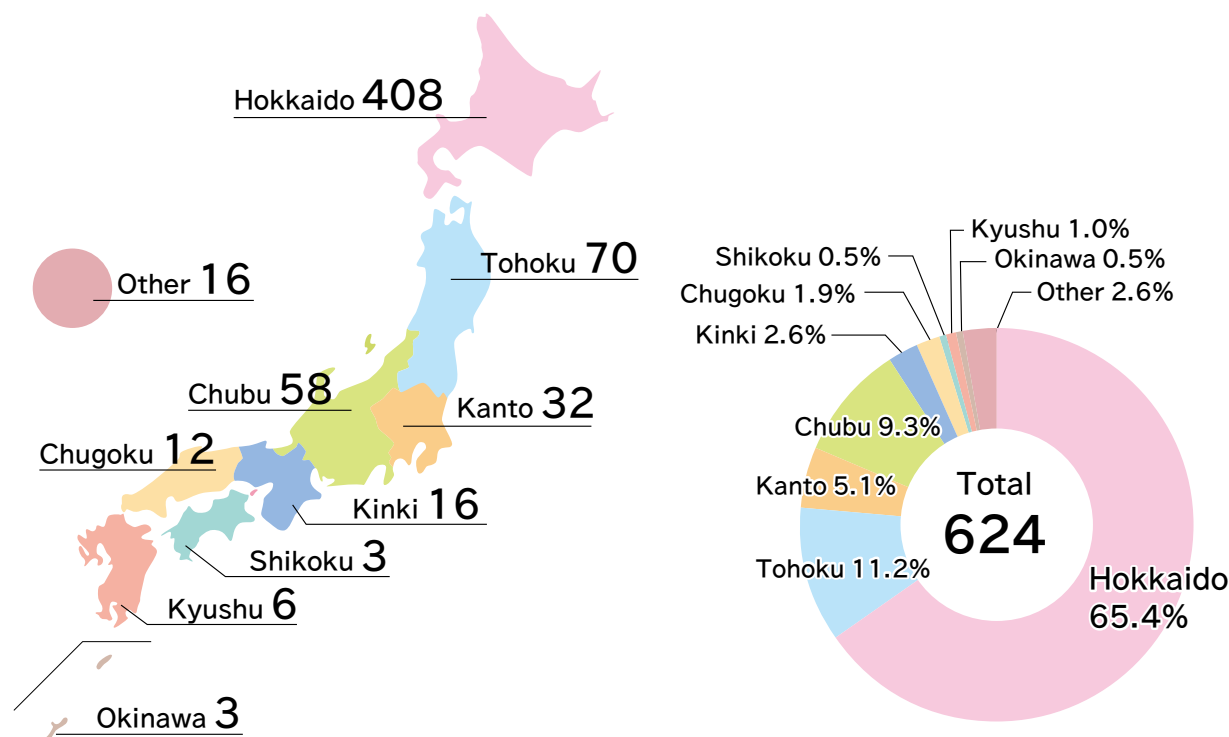
| Divisions | | Admission Capacity | Total Capacity | Current Enrollment | | | |
|-----------------|---|--------------------|----------------|----------------------|----------------------|----------------------|---------------------|
| | | | | 1 st Year | 2 nd Year | 3 rd Year | Total |
| Master's Course | Division of Sustainable and Environmental Engineering | 73 | 146 | 92 (14) <7> | 83 (16) <6> | — | 175 (30) <13> |
| | Division of Production Systems Engineering | 84 | 168 | 84 (9) <2> | 86 (6) <2> | — | 170 (15) <4> |
| | Division of Information and Electronic Engineering | 67 | 134 | 78 (5) <14> | 81 (7) <12> | — | 159 (12) <26> |
| | Subtotal | 224 | 448 | 254 (28) <23> | 250 (29) <20> | — | 504 (57) <43> |
| Doctoral Course | Division of Engineering | 15 | 45 | 22 (5) <13> | 20 (1) <13> | 30 (8) <19> | 72 (14) <45> |
| | Subtotal | 15 | 45 | 22 (5) <13> | 20 (1) <13> | 30 (8) <19> | 72 (14) <45> |
| Total | | 239 | 493 | 276 (33) <36> | 270 (30) <33> | 30 (8) <19> | 576 (71) <88> |

※ Numbers in parentheses indicate the number of female students in the total. Numbers in angle brackets indicate the number of International students in the total.

※ In addition to the above students, there are 25 non-degree students, 5 auditing students and 20 research students including 6 special research students.

Admissions

Location of Admissions



Applications and Actual Admissions

① Undergraduate Freshmen

| Department | | 2022 School Year | |
|----------------|--|------------------|----------|
| | | Applied | Admitted |
| Daytime Course | Department of Engineering | 1,105 (137) | 325 (32) |
| | Department of Sciences and Informatics Engineering | 739 (117) | 245 (36) |
| | Subtotal | 1,844 (254) | 570 (68) |
| Evening Course | Department of Engineering Engineering | 161 (10) | 41 (1) |
| | Subtotal | 161 (10) | 41 (1) |
| Total | | 2,005 (264) | 611 (69) |

Note: Numbers in parentheses indicate the number of female students in the total.

② Privately Funded Foreign Students (Special admission, not included in the enrollment limit)

| Department | | 2022 School Year | |
|----------------|--|------------------|----------|
| | | Applied | Admitted |
| Daytime Course | Department of Engineering | 33 | 8 |
| | Department of Sciences and Informatics Engineering | 15 | 4 |
| Total | | 48 | 12 |

③ Malaysian Government Sponsored Students (Not included in the enrollment limit)

| Department | | 2022 School Year |
|----------------|--|------------------|
| | | Admitted |
| Daytime Course | Department of Engineering | 0 |
| | Department of Sciences and Informatics Engineering | 1 |
| Total | | 1 |

■ Number of Degrees Awarded

Undergraduate Course (Engineering)

| | | Establishments | 2021 School Year | Cumulative number |
|---|---------------------------|---|------------------|-------------------|
| Daytime Course | April, 2009 | Civil Engineering and Architecture | 140 | 1,142 |
| | | Mechanical, Aerospace and Materials Engineering | 147 | 1,396 |
| | | Applied Sciences | 128 | 1,275 |
| | | Information and Electronic Engineering | 178 | 1,738 |
| | April, 1990 | Civil Engineering and Architecture | — | 2,109 |
| | | Mechanical Systems Engineering | — | 1,852 |
| | | Computer Science and Systems | — | 1,835 |
| | | Electrical and Electronic | — | 1,891 |
| | | Materials Science and Engineering | — | 1,886 |
| | | Applied Chemistry | — | 1,711 |
| Evening Course | April, 2009 | Mechanical, Aerospace and Materials Engineering | 21 | 198 |
| | | Information and Electronic Engineering | 18 | 199 |
| | April, 1990 | Mechanical Systems Engineering | — | 352 |
| | | Computer Science and Systems | — | 194 |
| | Electrical and Electronic | — | 201 | |
| Subtotal | | | 632 | 17,979 |
| 1st Undergraduate Department (After March 1953) | | | — | 13,223 |
| 2nd Undergraduate Department (After March 1969) | | | — | 1,663 |
| Total | | | — | 32,865 |

Note: Numbers in the 1st Undergraduate Department and 2nd Undergraduate Department indicate the number of graduates before the departments were reorganized on April 1, 1990.

Master's Course (Engineering)

| | | Establishments/Divisions | 2021 School Year | Cumulative number |
|--|-------------------|---|------------------|-------------------|
| April, 2014 | | Division of Sustainable and Environmental Engineering | 79 | 529 |
| | | Division of Production Systems Engineering | 74 | 582 |
| | | Division of Information and Electronic Engineering | 63 | 446 |
| April, 2009 | | Civil Engineering and Architecture | — | 148 |
| | | Mechanical Systems and Materials Engineering | — | 278 |
| | | Applied Sciences | — | 233 |
| April, 2008 | | Information and Electronic Engineering | — | 357 |
| | | System Engineering for Public Works | — | 35 |
| | | Aerospace Engineering | — | 96 |
| April, 1990 | | System Engineering for Mathematics | — | 8 |
| | | Civil Engineering and Architecture | — | 629 |
| | | Mechanical Systems Engineering | — | 692 |
| | | Computer Science and Systems Engineering | — | 586 |
| | | Electrical and Electronic Engineering | — | 638 |
| | | Materials Science and Engineering | — | 575 |
| | Applied Chemistry | — | 539 | |
| Subtotal | | | 216 | 6,371 |
| Degrees awarded prior to Reorganization (1990) | | | — | 1,227 |
| Total | | | — | 7,598 |

Doctoral Course (Engineering)

| | | Establishments/Divisions | 2021 School Year | Cumulative number |
|---------------------------|--|--|------------------|-------------------|
| April, 2014 | | Division of Engineering | 18 | 99 |
| April, 2009 | | Civil and Environmental Engineering | — | 15 |
| | | Production and Information Systems Engineering | — | 24 |
| | | Aerospace Engineering | — | 4 |
| April, 2000 | | Chemical and Materials Engineering | — | 15 |
| | | Engineering for Composite Functions | — | 13 |
| | | Engineering for Composite Functions | — | 34 |
| April, 1990 | | Civil and Environmental Engineering | — | 72 |
| | | Production and Information Systems Engineering | — | 149 |
| | | Chemicals and Materials Engineering | — | 70 |
| Subtotal | | | 18 | 495 |
| Doctorate by Dissertation | | | 0 | 81 |
| Total | | | 18 | 576 |

■ Scholarship Students (Japanese)

(As of March 1, 2022)

| Classification | | JASSO (Japan Student Services Organization) | | | | |
|------------------------------------|-----------------|---|------------------|-------------------|-------------|----------------|
| | | Category 1 Loans | Category 2 Loans | Scholarship-Grant | Total | Allotment Rate |
| Faculty of science and Engineering | Freshmen | 128 (10) | 127 (9) | 83 (5) | 338 (24) | 55% |
| | Sophomores | 130 (8) | 155 (8) | 75 (6) | 360 (22) | 57% |
| | Juniors | 140 (12) | 144 (8) | 84 (11) | 368 (31) | 56% |
| Faculty of Engineering | Seniors | 156 (14) | 120 (9) | 98 (9) | 374 (32) | 45% |
| Subtotal | | 554 (44) | 546 (34) | 340 (31) | 1,440 (109) | 53% |
| Graduate School | Master's Course | 1st Yr. | 97 | 7 | 104 | 45% |
| | | 2nd Yr. | 92 | 15 | 107 | 44% |
| | Doctoral Course | 1st Yr. | 3 | 0 | 3 | 13% |
| | | 2nd Yr. | 2 | 1 | 3 | 12% |
| | | 3rd Yr. | 2 | 0 | 2 | 7% |
| | Subtotal | | 196 | 23 | 219 | 40% |
| Grand Total | | 750 (44) | 569 (34) | 340 (31) | 1,659 (109) | 51% |

Note: Numbers in parentheses indicate the number of evening course students.

■ Career Placement

Undergraduate School (Daytime Course)

(As of May 1, 2022)

| Classification | | Civil Engineering and Architecture | Mechanical, Aerospace and Materials Engineering | Applied Sciences | Information and Electronic Engineering | Total |
|------------------|---|------------------------------------|---|------------------|--|----------|
| Employment | Graduate School | 51 (7) | 72 (7) | 60 (12) | 63 (4) | 246 (30) |
| | Agriculture/Forestry Industry | | 2 | 1 | | 3 (0) |
| | Fishing Industry | | | 1 | | 1 (0) |
| | Mining, Quarrying, Gravel Extraction Industry | | | | | 0 (0) |
| | Construction Industry | 53 (11) | 5 (1) | 6 (1) | 6 | 70 (13) |
| | Manufacturing Industry | 1 | 37 (2) | 22 (10) | 10 | 70 (12) |
| | Natural Resource Industry | 1 | 1 | 3 (1) | 5 | 10 (1) |
| | Information and Communication Industry | 2 | 4 | 6 (2) | 61 (8) | 73 (10) |
| | Transport and Postal Industry | 2 | 1 | | 2 (1) | 5 (1) |
| | Wholesale and Retail Industry | 1 | 3 | 2 | 1 | 7 (0) |
| | Financial and Insurance Industry | | | | 1 | 1 (0) |
| | Real Estate and Lease Industry | 2 (1) | | | | 2 (1) |
| | Academic Research/Technical Services | 6 (2) | | 2 | 3 | 11 (2) |
| | Hotel and Restaurant Industry | | | | | 0 (0) |
| | Services for Daily Living/Amusement Industry | | | 1 | 1 | 2 (0) |
| | Education/Study Support Services | | | 1 (1) | 1 | 2 (1) |
| | Medical and Welfare Services | | | 1 (1) | | 1 (1) |
| | Multi-faceted Service Industry | | 2 | | | 2 (0) |
| | Service Industry | | 6 | 6 (3) | 3 | 15 (3) |
| | Public Service | 18 (2) | 3 | 4 (2) | 5 (1) | 30 (5) |
| Other | 1 | 3 | 1 | | 5 (0) | |
| Subtotal | 87 (16) | 67 (3) | 57 (21) | 99 (10) | 310 (50) | |
| Other Activities | 2 | 8 (1) | 11 (2) | 16 (2) | 37 (5) | |
| 2021 Graduates | 140 (23) | 147 (11) | 128 (35) | 178 (16) | 593 (85) | |

Note: Numbers in parentheses indicate the number of female students.

Undergraduate School (Evening Course)

(As of May 1, 2022)

| Classification | | Mechanical, Aerospace and Materials Engineering | Information and Electronic Engineering | Total |
|------------------|---|---|--|--------|
| Employment | Graduate School | 2 | 8 (1) | 10 (1) |
| | Agriculture/Forestry Industry | | | 0 (0) |
| | Fishing Industry | | | 0 (0) |
| | Mining, Quarrying, Gravel Extraction Industry | | | 0 (0) |
| | Construction Industry | 1 | | 1 (0) |
| | Manufacturing Industry | 11 (1) | | 11 (1) |
| | Natural Resource Industry | 1 | | 1 (0) |
| | Information and Communication Industry | | 6 (1) | 6 (1) |
| | Transport and Postal Industry | | | 0 (0) |
| | Wholesale and Retail Industry | | | 0 (0) |
| | Financial and Insurance Industry | | | 0 (0) |
| | Real Estate and Lease Industry | | | 0 (0) |
| | Academic Research/Technical Services | | | 0 (0) |
| | Hotel and Restaurant Industry | 1 | | 1 (0) |
| | Services for Daily Living/Amusement Industry | | | 0 (0) |
| | Education/Study Support Services | | | 0 (0) |
| | Medical and Welfare Services | | | 0 (0) |
| | Multi-faceted Service Industry | | | 0 (0) |
| | Service Industry | 2 | | 2 (0) |
| | Public Service | | 2 | 2 (0) |
| Other | | | 0 (0) | |
| Subtotal | 16 (1) | 8 (1) | 24 (2) | |
| Other Activities | 3 | 2 | 5 (0) | |
| 2021 Graduates | 21 (1) | 18 (2) | 39 (3) | |

Note: Numbers in parentheses indicate the number of female students.

■ Graduate Employment

Location of Placement (Undergraduate School)

| | | | | | | | | | |
|----------|-----|-------|-----|---------|----|---------|---|----------|-----|
| Hokkaido | 153 | Kanto | 126 | Kinki | 15 | Shikoku | 2 | overseas | 1 |
| Tohoku | 15 | Chubu | 21 | Chugoku | 0 | Kyushu | 1 | Total | 334 |

Graduate School (Master's Course)

(As of May 1, 2022)

| Classification | Employment | | | |
|---|---|--|--|----------|
| | Division of Sustainable and Environmental Engineering | Division of Production Systems Engineering | Division of Information and Electronic Engineering | Total |
| Graduate School | 2 (1) | 4 | 2 | 8 (1) |
| Agriculture/Forestry Industry | | | | 0 (0) |
| Fishing Industry | | | | 0 (0) |
| Mining, Quarrying, Gravel Extraction Industry | | 1 | | 1 (0) |
| Construction Industry | 12 | | 1 | 13 (0) |
| Manufacturing Industry | 32 (7) | 55 (3) | 20 (1) | 107 (11) |
| Natural Resource Industry | 3 (1) | 2 | 5 (1) | 10 (2) |
| Information and Communication Industry | | 2 | 29 (3) | 31 (3) |
| Transport and Postal Industry | 2 | 1 | | 3 (0) |
| Wholesale and Retail Industry | 2 | | | 2 (0) |
| Financial and Insurance Industry | | | | 0 (0) |
| Real Estate and Lease Industry | 1 | | | 1 (0) |
| Academic Research/Technical Services | 11 (2) | 1 | | 12 (2) |
| Hotel and Restaurant Industry | | | | 0 (0) |
| Services for Daily Living/Amusement Industry | | | | 0 (0) |
| Education/Study Support Services | | | 1 | 1 (0) |
| Medical and Welfare Services | | | | 0 (0) |
| Multi-faceted Service Industry | | 1 | | 1 (0) |
| Service Industry | 3 | 4 | | 7 (0) |
| Public Service | 6 | | | 6 (0) |
| Other | | | | 0 (0) |
| Subtotal | 72 (10) | 67 (3) | 56 (5) | 195 (18) |
| Other Activities | 5 (2) | 3 (1) | 5 (1) | 13 (4) |
| 2021 Graduates | 79 (13) | 74 (4) | 63 (6) | 216 (23) |

Note: Numbers in parentheses indicate the number of female students.

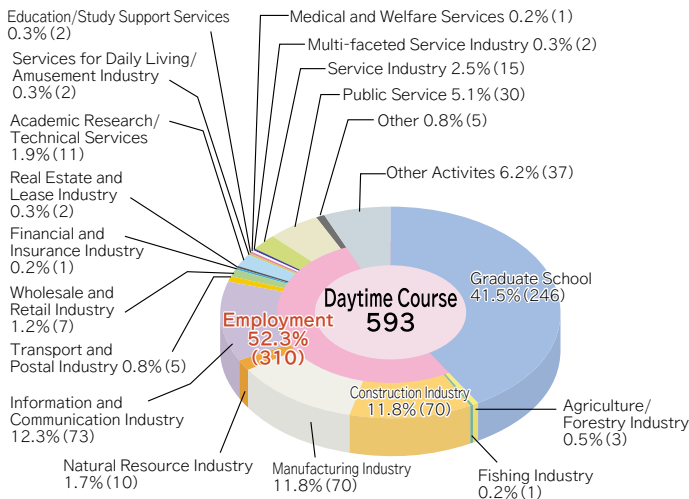
Graduate School (Doctor's Course)

(As of May 1, 2022)

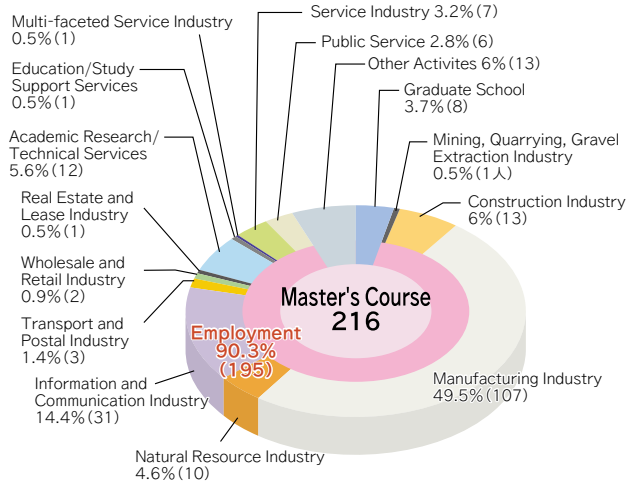
| Classification | Employment | |
|---|-------------|--------|
| | Engineering | Total |
| Graduate School | | 0 (0) |
| Agriculture/Forestry Industry | | 0 (0) |
| Fishing Industry | | 0 (0) |
| Mining, Quarrying, Gravel Extraction Industry | | 0 (0) |
| Construction Industry | 2 | 2 (0) |
| Manufacturing Industry | 2 | 2 (0) |
| Natural Resource Industry | | 0 (0) |
| Information and Communication Industry | | 0 (0) |
| Transport and Postal Industry | | 0 (0) |
| Wholesale and Retail Industry | | 0 (0) |
| Financial and Insurance Industry | | 0 (0) |
| Real Estate and Lease Industry | | 0 (0) |
| Academic Research/Technical Services | 4 (1) | 4 (1) |
| Hotel and Restaurant Industry | | 0 (0) |
| Services for Daily Living/Amusement Industry | | 0 (0) |
| Education/Study Support Services | 4 (2) | 4 (2) |
| Medical and Welfare Services | | 0 (0) |
| Multi-faceted Service Industry | | 0 (0) |
| Service Industry | | 0 (0) |
| Public Service | | 0 (0) |
| Other | | 0 (0) |
| Subtotal | 12 (3) | 12 (3) |
| Other Activities | 6 (2) | 6 (2) |
| 2021 Graduates | 18 (5) | 18 (5) |

Note: Numbers in parentheses indicate the number of female students.

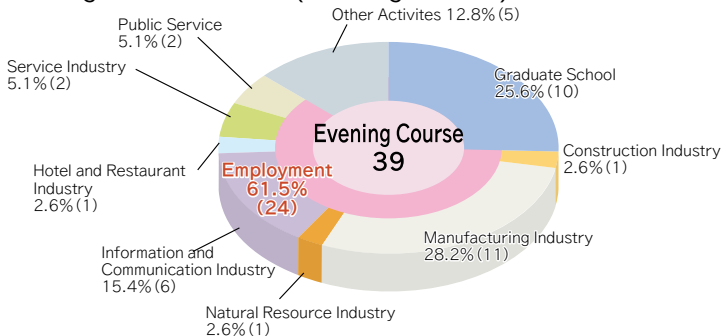
Undergraduate School (Daytime Course)



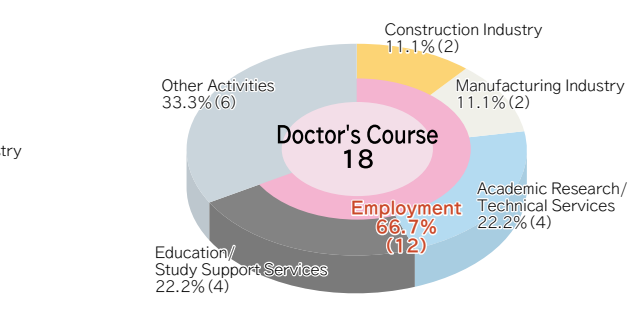
Graduate School (Master's Course)



Undergraduate School (Evening Course)



Graduate School (Doctor's Course)



Coalition Agreements

Comprehensive Coalition Agreements

| Partner University | Date of Conclusion |
|--|--------------------|
| Otaru University of Commerce | Sep. 4, 2007 |
| Sapporo Medical University | Nov. 20, 2007 |
| Tokyo City University (Former Musashi Institute of Technology) | Dec. 13, 2007 |

Agreements on Academic Exchange

| Partner University and College | Date of Conclusion |
|---|--------------------|
| Hakodate National College of Technology, Tomakomai National College of Technology, Kushiro National College of Technology, Asahikawa National College of Technology | Mar. 29, 2010 |
| Future University-Hakodate | Aug. 2, 2011 |

Agreements on Credit Transfer (Faculty of Engineering, Faculty of Engineering and Science)

| Partner University and College | Date of Conclusion |
|--|--------------------|
| Tomakomai National College of Technology | Jan. 28, 2004 |
| Otaru University of Commerce | Mar. 23, 2007 |
| Hokkaido University, Hokkaido University of Education, Otaru University of Commerce, Obihiro University of Agriculture and Veterinary Medicine | Feb. 28, 2014 |
| Hokkaido University School of Engineering | Mar. 16, 2021 |

Agreements on Credit Transfer (Graduate School)

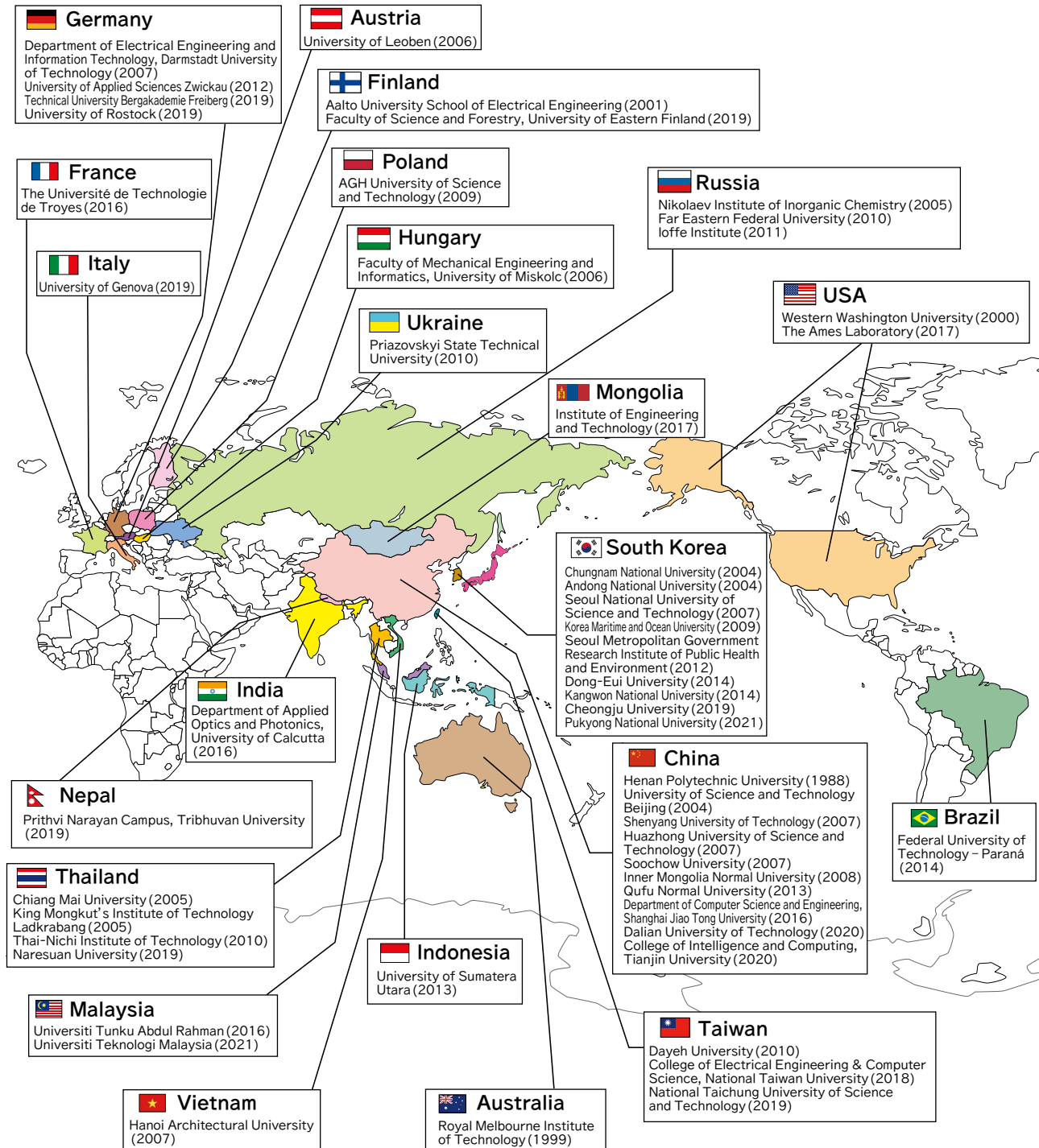
| Partner University | Date of Conclusion |
|--|--------------------|
| Hokkaido University Master's Course in Engineering | Nov. 28, 1983 |
| Hokkaido University Master's Course in Science | Dec. 20, 1983 |
| Kitami Institute of Technology | Mar. 26, 2001 |
| Hokkaido University Master's Course in Information Science | Dec. 26, 2005 |
| University of Electro-Communications, Akita Prefectural University | Mar. 30, 2012 |
| Hokkaido University Graduate School of Engineering | Mar. 16, 2021 |

International Exchange Activity

International Agreements on Academic Exchange

Agreements with Universities or Institutes

(As of May 1, 2022)



■ Number of Students who Study Abroad

| School Year | Classification | Number of Students in total | Host University and Country (Number of students) |
|-------------|--|-----------------------------|--|
| 2017 | Short-term Exchange Program (Sponsored) | 5 | National Taichung University of Science and Technology, Taiwan (1) Chungnam National University, South Korea (1) University of Lapland, Finland (1) University of Technology of Troyes, France (1) Far Eastern Federal University (1) |
| | Language Study Tour | 41 | Royal Melbourne Institute of Technology, Australia (8) Western Washington University, USA (14) Huazhong University of Science and Technology, China (13) University of Applied Sciences Zwickau, Germany (6) |
| 2018 | Short-term Exchange Program (Sponsored) | 6 | Royal Melbourne Institute of Technology, Australia (1) Faculty of Computer Science and Electrical Engineering, Rostock University, Germany (1) Chiang Mai University, Thailand (1) University of Technology of Troyes, France (1) University of Applied Sciences Zwickau, Germany (1) National Taichung University of Science and Technology, Taiwan (1) |
| | Language Study Tour or overseas training | 55 | Western Washington University, USA (4) Thai-Nichi Institute of Technology, Thailand (4) Royal Melbourne Institute of Technology, Australia (11) Chiang Mai University/ Thai-Nichi Institute of Technology, Thailand (3) University of Applied Sciences Zwickau, Germany (13) Institute of Engineering and Technology, Mongolia (4) Huazhong University of Science and Technology, China (6) Universiti Tunku Abdul Rahman, Malaysia (5) National Taichung University of Science and Technology, Taiwan (5) |
| 2019 | Short-term Exchange Program (Sponsored) | 8 | Royal Melbourne Institute of Technology, Australia (1) University of Rostock, Germany (2) Technical University Bergakademie Freiberg, Germany (1) University of Lapland, Finland (1) Huazhong University of Science and Technology, China (2) Hanoi Architectural University, Vietnam (1) |
| | Language Study Tour or overseas training | 27 | Western Washington University, USA (6) Royal Melbourne Institute of Technology, Australia (15) Prithvi Narayan Campus, Tribhuvan University, Nepal (5) Eastern Institute of Technology, Hawke'bay, New Zealand (1) |
| 2020 | Short-term Exchange Program (Sponsored) | 0 | *All programs of study abroad were cancelled due to COVID-19. |
| | Language Study Tour or overseas training | 0 | |
| 2021 | Short-term Exchange Program (Sponsored) | 0 | *All programs of study abroad were cancelled due to COVID-19. |
| | Language Study Tour or overseas training | 0 | |

■ Current Enrollment of International Students

(As of May 1, 2022)

| Nationality | Under-graduate | Graduate | | Research Student | Non-degree Student | Special Research student | Special Non-degree Student | Total |
|--------------|----------------|-----------------|-----------------|------------------|--------------------|--------------------------|----------------------------|------------|
| | | Master's Course | Doctoral Course | | | | | |
| China | 58 | 31 | 27 | 6 | | 5 | | 127 |
| Malaysia | 19 | 4 | | | | | | 23 |
| South Korea | 8 | 0 | 1 | | | | | 9 |
| Vietnam | 1 | 2 | 5 | | | | | 8 |
| Bangladesh | | 1 | 4 | | | | | 5 |
| Indonesia | | 1 | 2 | | | | | 3 |
| Thailand | 1 | | 2 | | | | | 3 |
| India | | | 2 | | | | | 2 |
| Nepal | | 2 | | | | | | 2 |
| Pakistan | | | 2 | | | | | 2 |
| Hungary | | 1 | | | | | | 1 |
| Laos | 1 | | | | | | | 1 |
| Mongolia | | 1 | | | | | | 1 |
| Taiwan | | | | | | 1 | | 1 |
| Total | 88 | 43 | 45 | 6 | 0 | 6 | 0 | 188 |

■ Current Employment of Foreign Researchers

(As of fiscal year 2021)

| Classification | | Employed |
|---|---|----------|
| Purpose | Research or Educational Instruction | 0 |
| | Lectures/Debates | 0 |
| | Observation/Investigation | 0 |
| Total | | 0 |
| Cost Burden | Funded by Muroran Institute of Technology | |
| | Faculty | |
| | Project Professor | |
| | Part-time lecturers | |
| | Postdoctoral fellows | |
| | Other | |
| | Scientific research grants | 0 |
| | MEXT* projects | 0 |
| | Ministry projects other than MEXT | 0 |
| | JSPS** | 0 |
| | JICA*** | 0 |
| | (Commissioned International Researchers) | 0 |
| | Other domestic funding | 0 |
| International governments/research institutes | 0 | |
| Privately funded | 0 | |
| Total | | 0 |

* Ministry of Education, Culture, Sports, Science and Technology

** Japan Society for the Promotion of Science

*** Japan International Cooperation Agency

■ Transition of International Students Numbers

(As of May 1, each fiscal year)

| School Year | 2018 | 2019 | 2020 | 2021 | 2022 |
|------------------------------------|------------|------------|------------|------------|------------|
| Japanese Government Sponsored | 11 | 11 | 12 | 13 | 12 |
| International Government Sponsored | 28 | 25 | 19 | 19 | 11 |
| Privately Funded | 144 | 174 | 184 | 182 | 165 |
| Total | 183 | 210 | 215 | 214 | 188 |

Transition of Foreign Researchers

| Academic Year | Employed |
|---------------|----------|
| 2015 | 57 |
| 2016 | 60 |
| 2017 | 80 |
| 2018 | 58 |
| 2019 | 58 |
| 2020 | 28 |
| 2021 | 0 |

Library-Number of Books in Stock and Others

■ Number of books in stock

(As of April 1, 2022)

| Categories | Japanese | Foreign | Total |
|-----------------|----------|---------|---------|
| General | 14,000 | 1,466 | 15,466 |
| Philosophy | 8,986 | 2,316 | 11,302 |
| History | 10,028 | 709 | 10,737 |
| Social Science | 34,507 | 1,930 | 36,437 |
| Natural Science | 53,275 | 16,698 | 69,973 |
| Engineering | 53,289 | 15,264 | 68,553 |
| Industry | 3,979 | 445 | 4,424 |
| Art | 7,118 | 759 | 7,877 |
| Languages | 7,169 | 4,223 | 11,392 |
| Literature | 18,500 | 4,109 | 22,609 |
| Bound journals | 8,040 | 19,573 | 27,613 |
| Total | 218,891 | 67,492 | 286,383 |

■ Number of journals in stock

(As of April 1, 2022)

| Number of journals | | | Number of accessible electronic journals |
|--------------------|---------|-------|--|
| Japanese | Foreign | Total | |
| 3,877 | 2,191 | 6,068 | 4,096 |

■ Record of usage

(As of fiscal year 2021)

| Category | | Number of usage | Total |
|------------------------------|----------|-----------------|--------|
| Number of visitors | Students | 31,538 | 32,510 |
| | Faculty | 540 | |
| | Others | 432 | |
| Circulation | Students | 18,596 | 20,402 |
| | Faculty | 1,038 | |
| | Others | 768 | |
| Number of references handled | | 313 | |

■ Hours and holidays

| | | | |
|-------|--|----------|---|
| Hours | During school weekdays: 9 AM - 9 PM During school weekends: 11 AM - 7 PM During examinations all days: 9 AM - 10 PM During school holidays weekdays: 9 AM - 5 PM During school holidays weekends: 11 AM - 5 PM | Holidays | During school holidays, National holidays, some Sundays and Winter break (Dec. 28 - Jan. 4) |
|-------|--|----------|---|

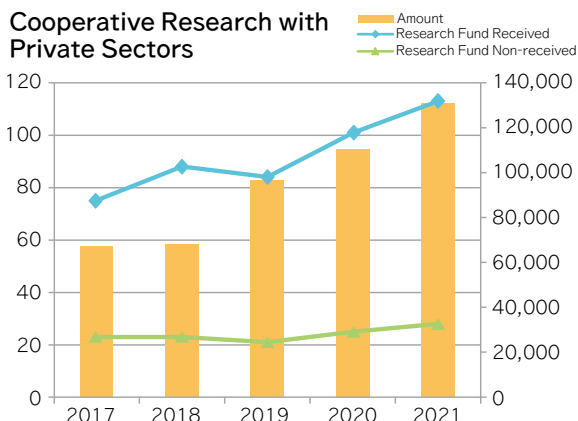
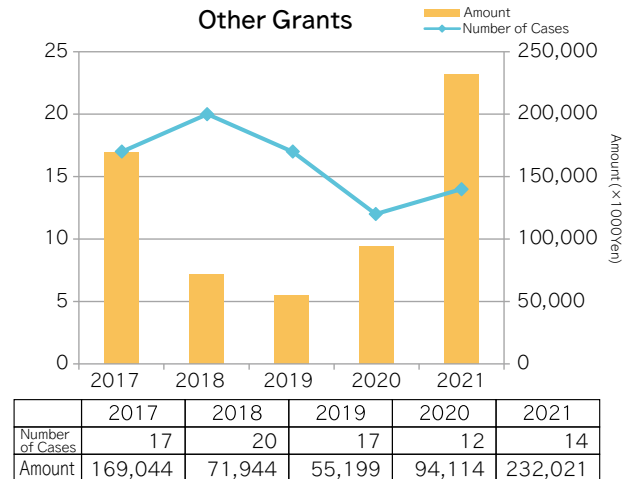
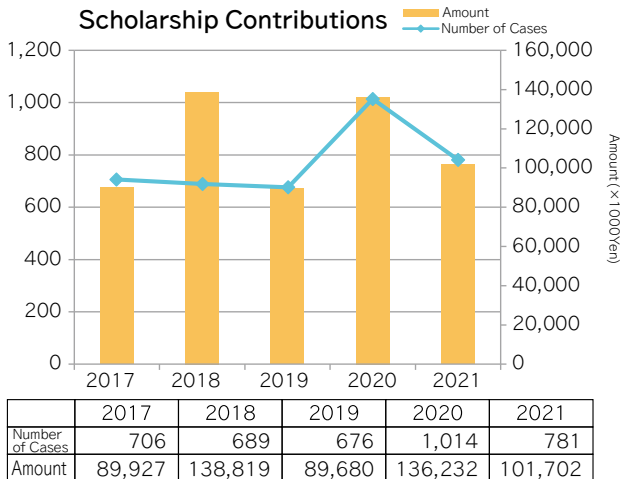
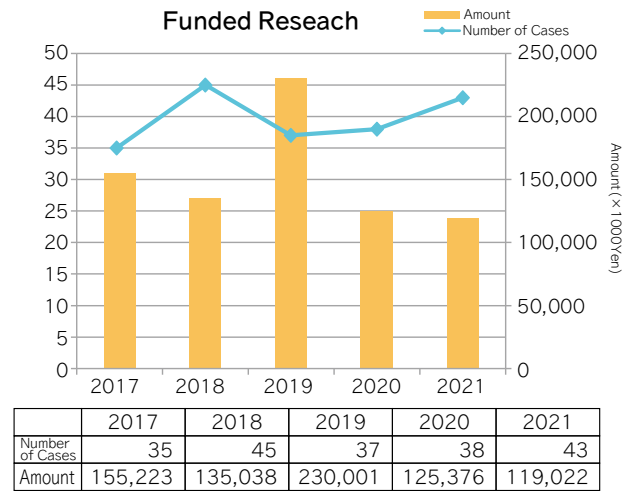
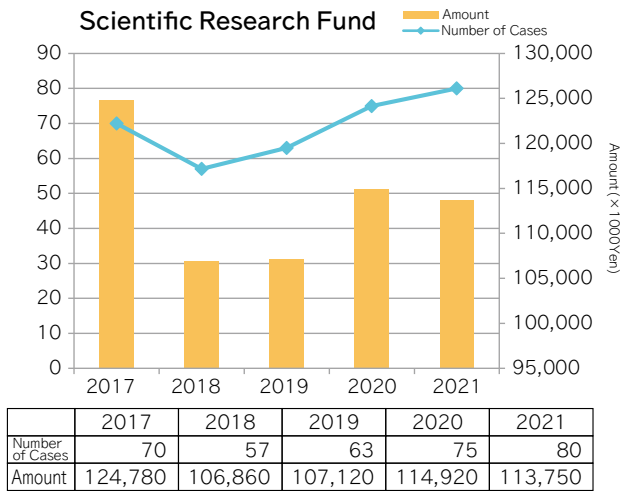
External Funds

External Funds

(As of fiscal year 2021)

| Classification | Number of Cases | Amount (Unit: Thousand Yen) |
|---|-----------------|-----------------------------|
| Scientific Research Fund | 80 | 113,750 |
| Funded Research | 43 | 119,022 |
| Cooperative Research with Private Sectors | 141 | 130,836 |
| Scholarship Contributions | 781 | 101,702 |
| Other Grants | 14 | 232,021 |
| Total | 1,059 | 697,331 |

Transition of Research Funds in the Last Five Years



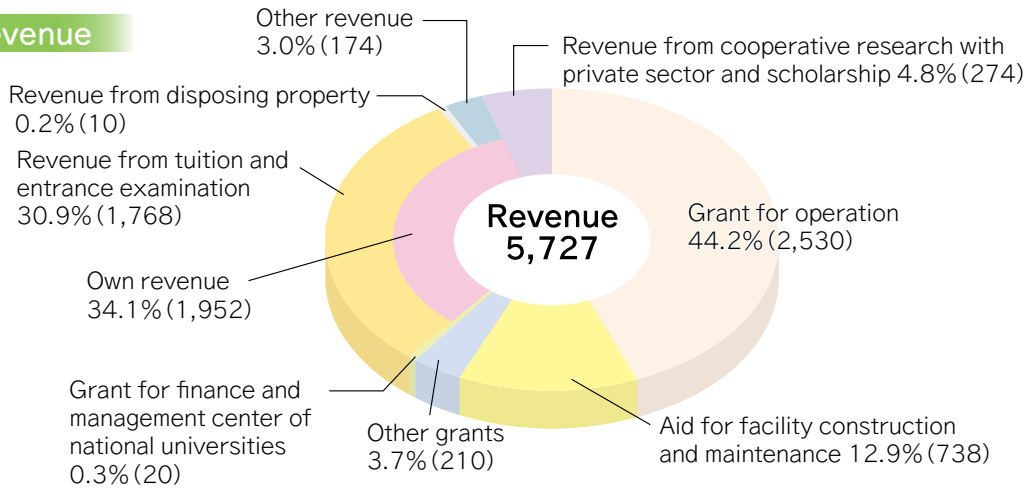
| | 2017 | 2018 | 2019 | 2020 | 2021 |
|----------------------------|--------|--------|--------|---------|---------|
| Research Fund Received | 75 | 88 | 84 | 101 | 113 |
| Research Fund Non-received | 23 | 23 | 21 | 25 | 28 |
| Amount | 67,389 | 67,904 | 96,395 | 110,541 | 130,836 |

Finances

Budget

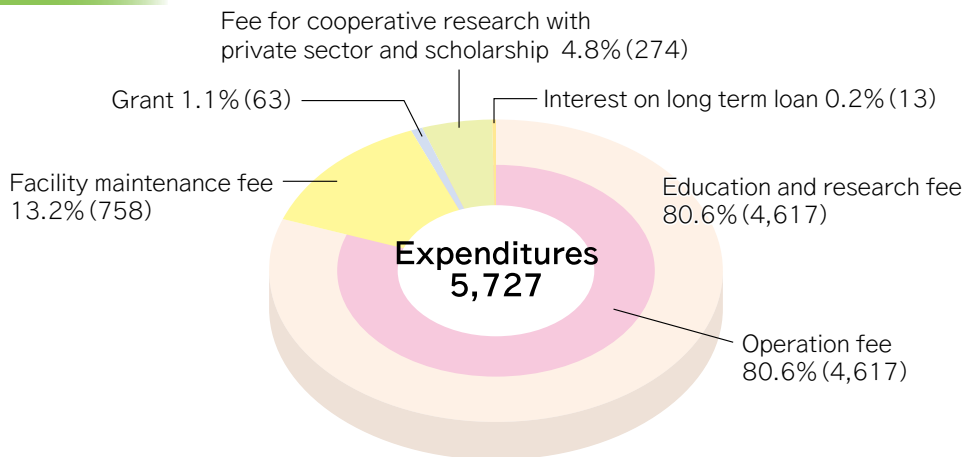
Budget for FY2022 (Unit: Million Yen)

Revenue



| Category | Amount |
|---|--------------|
| Grant for operation | 2,530 |
| Aid for facility construction and maintenance | 738 |
| Other grants | 210 |
| Grant for finance and management center of national universities | 20 |
| Own revenue | 1,952 |
| Revenue from tuition and entrance examination | 1,768 |
| Revenue from disposing property | 10 |
| Other revenue | 174 |
| Revenue from cooperative research with private sector and scholarship | 274 |
| Use of allowance | — |
| Revenue from long term loan | — |
| Use of reserve fund | — |
| Total | 5,727 |

Expenditures



| Category | Amount |
|--|--------------|
| Operation fee | 4,617 |
| Education and research fee | 4,617 |
| Facility maintenance fee | 758 |
| Grant | 63 |
| Fee for cooperative research with private sector and scholarship | 274 |
| Loan | — |
| Interest on long term loan | 13 |
| Total | 5,727 |

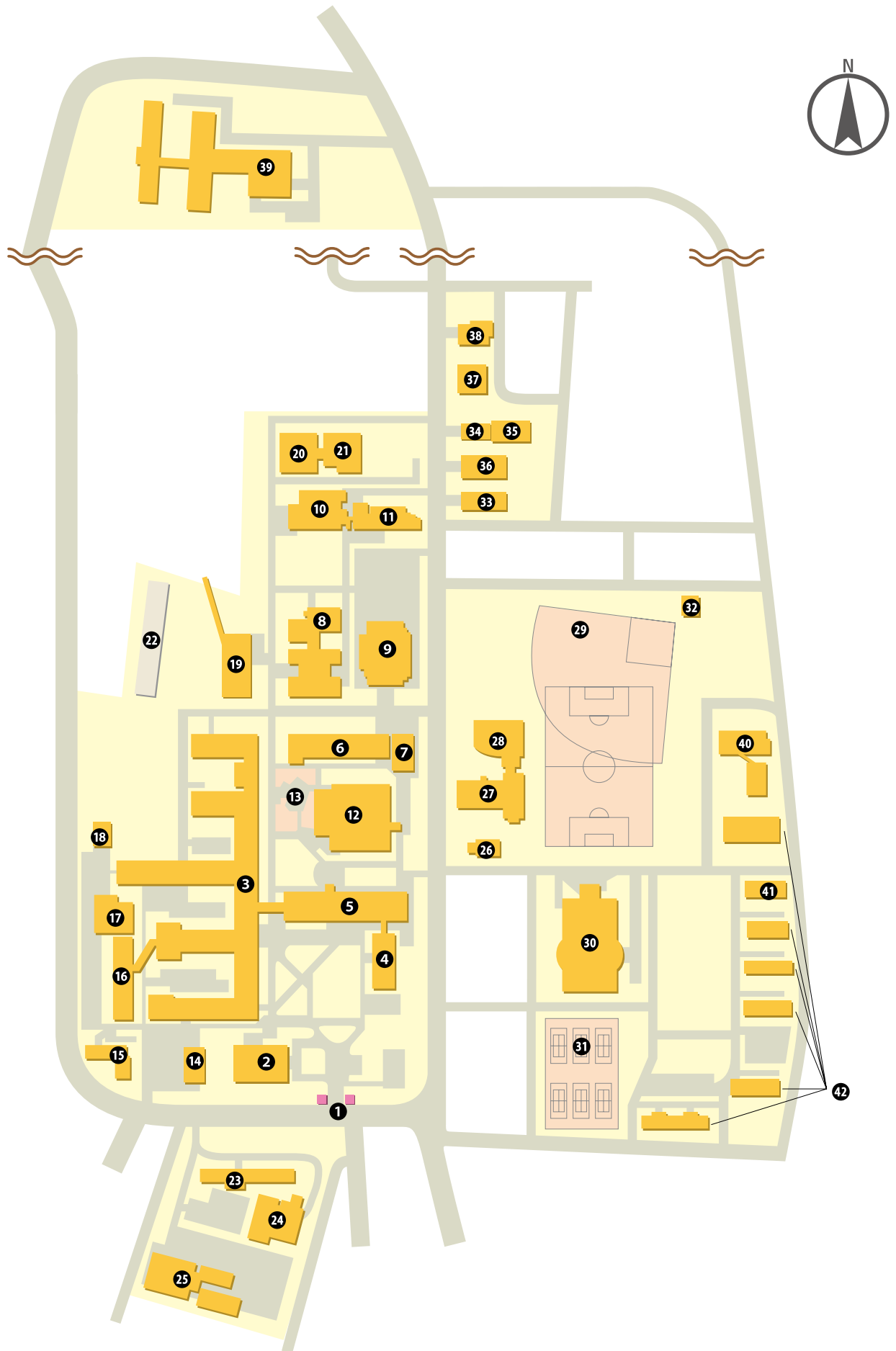
Campus and Facilities

■ Land and Buildings

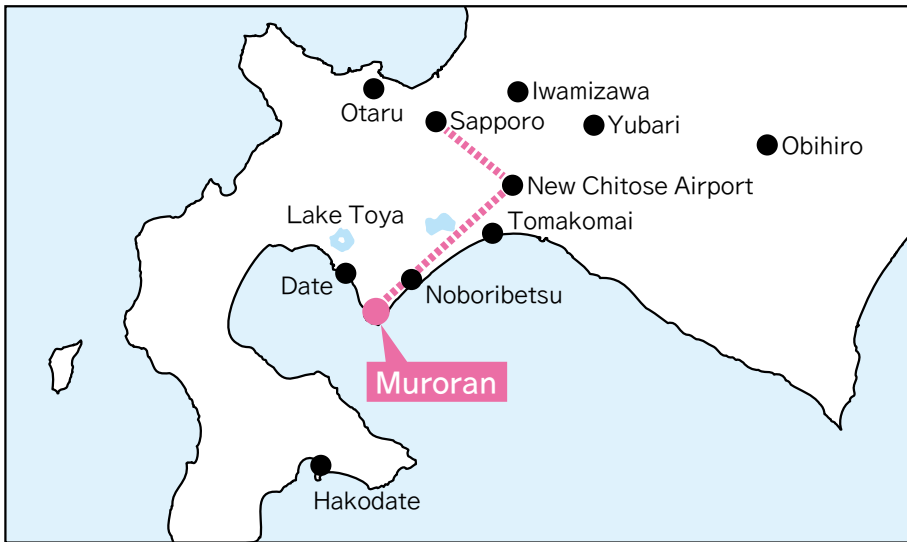
(Unit: m²)

| No. | Abbreviation | Name of Building | Area of Land | Area of Building | Year of Construction (Year of Renovation) | |
|-------|--------------|--|-----------------|------------------|--|-----------|
| 1 | | Main Gate | | | | |
| 2 | | Administration Building | | 2,314 | 1987,2001 | |
| 3 | Bldgs. A-F | Education research building #1 | 89,588 | 20,560 | 1961-1968, 83, 94, 09 (2006, 2009, 2010) | |
| 4 | Bldg. Q | Education research building #2 | | 3,014 | 1978 (2009) | |
| 5 | Bldg. N | Education research building #3 | | 6,079 | 1976, 1989,2020 (2018,2019) | |
| 6 | Bldg. H | Education research building #4 | | 5,471 | 1962, 63, 69, 85, 2013 (2013) | |
| 7 | Bldg. U | Education research building #5 | | 4,749 | 1979 (2014) | |
| 8 | Bldg. K | Education research building #6 | | 6,553 | 2002 | |
| 9 | Bldg. Y | Education research building #7 | | 5,364 | 1981, 83, 89, 93, 2008 (2008) | |
| 10 | Bldg. R | Education research building #8 | | 4,141 | 1971, 94 (1994) | |
| 11 | Bldg. V | Education research building #9 | | | | |
| 12 | | Library | | | | |
| 13 | | 25 th Anniversary of University Establishment Memorial Plaza | | | | |
| 14 | | Garage | | | 321 | 1987,1996 |
| 15 | | International Exchange House (Dormitory for Foreign Researcher, Dormitory for International Students 1) | | 737 | 1980, 82 (2012) | |
| 16 | | Manufacturing and Engineering Design Center | | 726 | 1966 (2006) | |
| 17 | | Laboratory for Structural Analysis | | 706 | 1983 | |
| 18 | | Laboratory for Shock Test on Structures | | 145 | 1996 | |
| 19 | | Power Center | | 950 | 1980 | |
| 20 | | The Creative Collaboration Center | | 1,224 | 1999 | |
| 21 | Bldg. X | Education research building #12 | | 1,600 | 1999 | |
| 22 | | Archery Field | | | | |
| 23 | Bldg. S | Education research building #10 | 13,224 | 1,738 | 1961 (1999) | |
| 24 | Bldg. J | Education research building #11 | | 1,459 | 1974 (2008) | |
| 25 | | The Center for Cooperative Research and Development | | 2,035 | 1990, 94, 2003 | |
| 26 | | Health Administration Center | 10,534 | 247 | 1971, 2000 (2017) | |
| 27 | | University hall | | 2,704 | 1962, 71, 2000 (2000) | |
| 28 | | Cafeteria | | | | |
| 29 | | Athletic field | 33,456 | | | |
| 30 | | Gymnasium | | 2,856 | 1996 | |
| 31 | | Tennis courts | | | | |
| 32 | | Japanese archery hall | | 89 | 1983 | |
| 33 | | Former Storehouse for gymnastic equipment | 7,652 | 271 | 1968, 72 | |
| 34 | | Facility for training camps | | 202 | 1980 | |
| 35 | | Building #1 for club activities | | 771 | 1984 | |
| 36 | | Building #2 for club activities | | 397 | 1974 | |
| 37 | | Building #3 for club activities | | 495 | 2008 | |
| 38 | | Shared experiment facility | | 220 | 1976, 79, 81 | |
| 39 | | Men's dormitory "Meitoku-Ryo" | 15,981 | 6,661 | 1973, 2009 (2009, 10) | |
| 40 | | Women's dormitory "Meirinkan" | 2,300 | 1,612 | 1973,2011, 2016 (2011) | |
| 41 | | Former Dormitory for International Students 2 | 791 | 618 | 1965 | |
| 42 | | Faculty housing | 22,031 | 5,515 | 1964- 80 | |
| | | Boathouse | 200 (leased) | 100 | 1996 | |
| | | Aerospace Plane Research Center | 17,744 (leased) | 310 | 2008, 2018,2019,2020, 2022 | |
| | | Potential Coal Energy Research Lab. at Mikasa | 1,213 (leased) | 229 (leased) | | |
| | | Dormitory for Foreign Students | | 158 (leased) | | |
| | | Tokyo Office | | 33 (leased) | | |
| | | Taiki Satellite Office | | 105 (leased) | | |
| | | Other | 349 (leased) | 442 | | |
| Total | | | 215,063 | 93,921 | | |

■ Campus Map

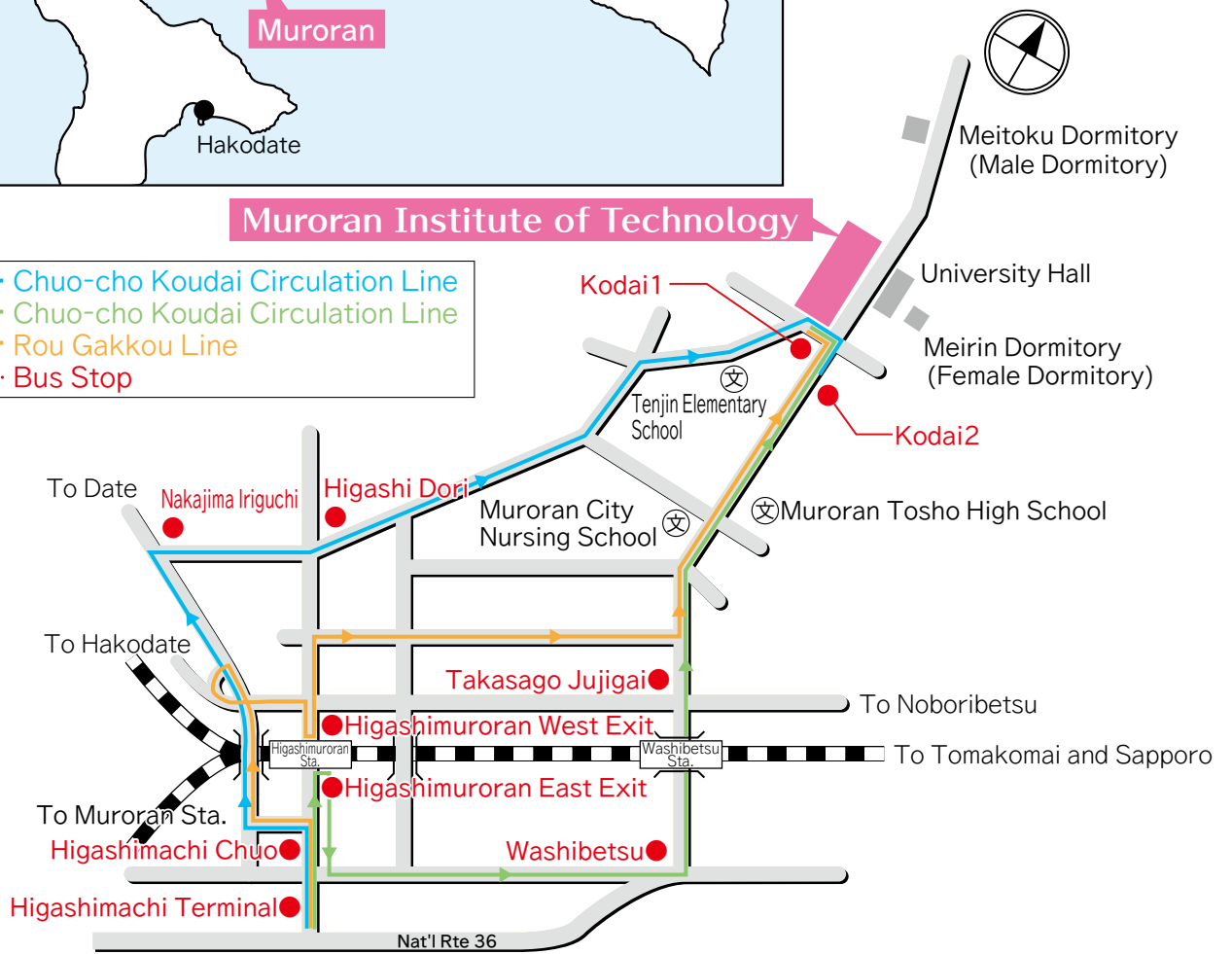


Access Map



Murooran Institute of Technology

- Chuo-cho Koudai Circulation Line
- Chuo-cho Koudai Circulation Line
- Rou Gakkou Line
- Bus Stop



Access

| | | | |
|---------------------|---|---------------------|----------------------------------|
| Sapporo Sta. | by JR limited express train about 1 hour 30 min. | Higashimuroran Sta. | Murooran Institute of Technology |
| | by express bus about 1 hour 50 min. | | |
| New Chitose Airport | transfer to JR limited express train at Minami Chitose Sta. about 1 hour | Higashimuroran Sta. | Murooran Institute of Technology |
| | by express bus about 1 hour 30 min. | | |

by bus
about 20 min.

by taxi
about 10 min.



Monument “New Breeze”

This monument was constructed in 1989 commemorating the 100th anniversary of the University’s establishment in Sapporo and the 50th anniversary in Muroran. The monument is 5m in height, 8m in width, 2m in depth and 6 tons in weight, and is made of “COR-TEN” steel, as Muroran is known as a city of steel. It symbolizes “youth,” “energy,” “soaring” and “infinity.”



New Logo for Muroran Institute of Technology

To commemorate the 60th anniversary of the founding of the university, a call was put out to design a new logo for the school. In 2009, this symbol was chosen. “M” stands for the first letter of the university’s name, and the shape of the letter portrays the symbol for infinity “∞”. The design of a fresh, young bud expresses the endless potential of the students at Muroran Institute of Technology.



MuroranIT Character

Similar to the logo, it was chosen from suggestions from the public when we celebrated the 60th anniversary in 2009. Capital “M” for Muroran Institute of Technology was impersonated as a star antenna, expressing the realization of our dreams with creative science and technology, and the dynamic first step towards a bright future.



Hokkaido Environment Management System Standard (HES)

MuroranIT acquired the Hokkaido Environment Management System Standard (HES) Step 2 certification in March 2009. Currently, activities related to conservation and improvement of the environment are being carried out while maintaining the HES Step 2 level.

Registration
No. HES2:0005

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MURORAN INSTITUTE OF TECHNOLOGY

Educational capabilities based on well-established research expertise