



MIT
Maebashi Institute of Technology

An outline of
Maebashi Institute of
Technology



前橋工科大学

460-1, Kamisadori, Maebashi-City , Gunma, JAPAN



Maebashi Institute of Technology

Mission, Purpose, and Goals

01. Our Mission

By promoting the creation of intellectual infrastructure to establish a sustainable and recycling society for human to co-exist in harmony with nature, we strive to realize cultural and healthy civic life, and to advance technologies for contributing to the local community, the society and the welfare.

02. Our Purpose

Based on the fact that engineering technology is closely related to the civic life, we pursue education and research to solve the various issues human beings are confronted with in the 21st century such as social safety and security, energy, and environment, and to contribute to the local community, the society, and the welfare.

03. Our Goals

By intellectual fusion and integration, we endeavor to nurture creative engineers with rich sense of humanity, to promote research for enriching human life, and to create a vibrant community as an intellectual creation center.

Organization of Education and Research

Maebashi Institute of Technology is organized with a Faculty of Engineering and a Graduate School of Engineering.

Faculty of Engineering

The Faculty of Engineering consists of two divisions

- Division of Architecture, Civil Engineering
- and Design Engineering
- Division of Informatics, Bioengineering and Bioscience

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Graduate School of Engineering

Graduate School of Engineering has a Master's Program and a Doctoral Program.

Master's Program

- Division of Civil Engineering
- Division of Architecture
- Division of Life Science and Informatics
- Division of Systems Life Engineering
- Division of Biotechnology

Doctoral Program

- Department of Environment and Life Engineering

Features of Our Institute

01. Community-based Public Engineering Institute

Maebashi Institute of Technology (Establisher: Maebashi City) is one of the few Public Engineering Universities in Japan. As a public university rooted in local community, we constitute the departments aiming to improve and boost the comfortable life and health of residents. Meanwhile, we effort to cooperate with local community and industries to create safe and secure environment, develop and enrich the regional culture, contribute to town revitalization and to enhance local industries.

02. Possible Course Enrollment in Other Departments

In order to cope with the rapid advancement and diversification of today's science and technology, understanding the expertise areas but also the surrounding areas are necessary. Therefore, we make students possible to take specialized courses offered in other departments. The credits earned at other department are limited to a maximum of 20.

03. Project Study Program

In Departments of Civil and Environmental Engineering, Systems life Engineering, and Biotechnology, project study programs are introduced to deepen students' technical knowledge and skill. Through such project studies, students will be able to understand the details of the research carried in laboratories, and they are also expected to possess basic abilities to explore research problems in their future careers.

04. Practically continuing education program for working people

Department of Integrated Design Engineering offers courses primarily at night for local working people's continuing education to train them as practical engineers.

05. Graduate School of Engineering

Master's degree program and doctoral degree program were established respectively in April, 2001 and April, 2003 within the Graduate School of Engineering to cultivate highly specialized technical personnel and excellent researchers.

06. Cooperation in Education and Research among Three Regional Public Universities

We have mutual cooperation relationship in education, research, and etc. with other two public universities in Gunma Prefecture (Gunma Prefectural Women's University and Takasaki City University of Economics) in order to build international standard universities. As part of this effort, students are permitted to take courses in other two public universities and the earned course credits from there are accepted as credits for graduation.

07. Cooperation in Education and Research with Gunma University and Maebashi Chamber of Commerce and Industry

We have made the cooperation agreements with Gunma University and the Maebashi chamber of commerce and Industry aiming at the promotion of science and technology and further development of the local culture. Specifically, the mutual cooperation in areas of medical care, health, welfare, environment, interchange of constituent members, education for local culture development, and academic exchange are being progressed.

08. Education and Research Exchange with Gunma University

We have made cooperation agreement with Gunma University in information exchange about student exchange, mutual recognition of course credits, education, academic research, and etc.

09. International Exchange with Overseas Universities and Institutes

We also work on globalization of our university through prompting international exchange with overseas universities and institutes. Now we have made international exchange agreements with several foreign universities, and the student exchange with Beijing University of Technology has been carried out for many years.

Faculty of Engineering

Division of Architecture, Civil Engineering and Design Engineering



Civil Engineering and Environmental Study Program

Civil Engineering and Environmental Study Program provides students with the knowledge and practical skills necessary to solve problems related to the construction, development, and maintenance of a wide range of infrastructure that support our lives and society from the perspective of safety and sustainability. The program fosters engineers who can manage the construction and maintenance of society from a broad perspective, including infrastructure construction, aquatic and other environmental issues, and disaster prevention.



Architecture and Urban Design Program

Students in Architecture and Urban Design Program acquire knowledge from engineering, environmental, aesthetic, and social perspectives to appreciate the significance of architecture in the sustainable society we are creating and to pursue their own architectural expressions by working on various architectural subjects necessary for human life. The program fosters designers and engineers who are able to design, construct, maintain, and manage entire operation in architecture and urban design fields.

Areas of Education

- Subjects on Culture
- Building Design
- Architectural Planning
- Architectural Designing Architectural History
- Interior
- Structural Mechanics
- Building Structure
- Building Materials
- Reinforced Concrete Structure
- Steel Structure
- Urban Environmental Planning Building Biology
- Architectural Psychology
- Architectural Design and Components Building
- Foundation Structure
- Wooden Structure
- Structural Analyzing system Seismic Technology Hearing and Acoustics
- Indoor Air Environment Building Equipment Building Management

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Design Engineering Program

Students in Design Engineering Program learn the design of living and information spaces and expand knowledge of humans and their lives. Through the learning process, students acquire the foundation of design engineering, which can make human lives more comfortable and richer than ever in a sustainable society. The program fosters designers and engineers who are committed to the design of life and information based on engineering.

Areas of Education

Subjects on Culture
 Drafting for Architectural Buildings
 Theory of Architectural Plastic Art
 Interior Design
 Architectural History City Planning
 Urban Design
 Building Environmental Engineering
 Acoustics
 Building Equipment
 Community Design
 Landscape Design Products Design
 Graphic Design Illumination Design
 Furniture Design Engineering Design

Division of Informatics, Bioengineering and Bioscience

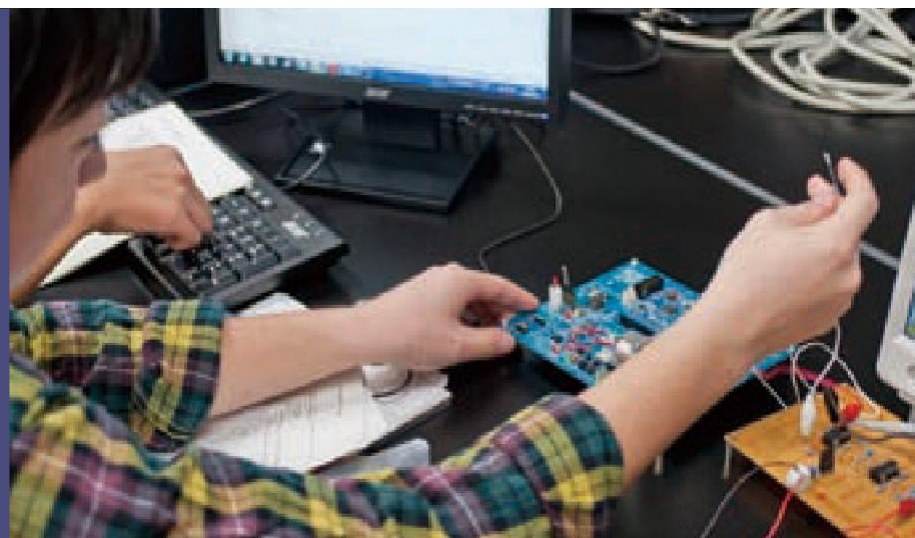


Information Systems Program

Students in Information Systems Program learn the fundamentals of information and data science, which are becoming increasingly important in all areas of modern society. In the course of learning, students also learn how to apply their knowledge to various cutting-edge fields such as bioinformatics and artificial intelligence. In addition, students acquire ethics and knowledge that will enable them to play an active role in various fields of society. The program fosters researchers and engineers who will actively engage in various fields of society based on information and data science.

Areas of Education

Subjects on Culture Information Literacy
 Theory of Computation
 Data Structures and Algorithms Computer
 Organization Database
 Programming Language Software
 Engineering Operating System
 Automata and Formal Language
 Compiler
 Computer architecture
 Parallel and Distributed Processing
 Simulation Engineering
 Computer architecture
 Parallel and Distributed Processing
 Simulation Engineering Information Network
 Operations Research Soft Computing Data
 Mining Computer Graphics
 Human Computer interaction Information
 Security
 Introduction to Life Science and Informatics
 Molecular Biology
 Medical Information System
 Numerical Analysis for Biochemical Systems
 Functional Genomics
 Proteomics Bioinformatics Evolutionary
 Informatics



Biomedical Engineering Program

Integrating the latest engineering technology and medical care, students in Biomedical Engineering Program acquire the knowledge and application skills necessary for the development of medical and nursing care equipment, serving for the rapidly aging society, which needs to be sustainable at the same time. The program fosters engineers who can link engineering and medicine and tackle issues in society, such as aging, from the perspective of both equipment engineering and elucidation of human functions.

Areas of Education

- Subjects on Culture
- Information and Communication Theory
- Electric Circuit
- Electronic Circuit
- Logical Circuit
- Electromagnetics
- Mechanics
- Control Theory
- Image Processing
- Introduction to Clinical Medicine
- Physiology
- Anatomy
- Ergonomics
- Bio-photonics
- Biological Instrumentation
- Biological Information Engineering
- Biological System Engineering
- Welfare Engineering
- Robotics
- Medical Engineering
- Neural Engineering
- Medical Equipmen



Applied Biology Program

Based on the broad field of biology, students in Applied Biology Program learn to elucidate the wondrous functions of living organisms, apply them to the development of safe and effective foods and pharmaceuticals, and learn technologies that contribute to the various activities of human life, and acquire the knowledge necessary for the formation of a sustainable society. The program fosters researchers and engineers who elucidate the various functions of living organisms and develop products that are indispensable to human life, such as food and pharmaceuticals.

Areas of Education

- Subjects on Culture Organic Chemistry
- Bioorganic Chemistry Analytical
- Chemistry Biochemistry Molecular
- Biology Physiology Microbiology
- Plant Physiology Plant Nutrition Food
- Biochemistry Food Processing
- Science of Functional Foods Microbial
- Physiology Applied Microbiology
- Biological Glyconomics Biochemical
- Engineering Immunology
- Proteomics
- Neural Engineering

Graduate school of Engineering

Master's Program of Engineering

In the master's program of engineering, we aim to train students to be highly specialized engineers and professional researchers. The knowledge and skill getting in this program lead to make a sustainable developing society. This program also leads to Doctoral Program in our graduate school.

Master's Program

◦ Divisions

Civil Engineering

Architecture

Life Science and Informatics

Systems Life Engineering

Biotechnology

Number of regular students 48



Doctoral Program of Engineering

Division of Environment and Life Engineering

The division consists of two main research areas, environmental design and life engineering. In our doctoral program, advanced technologies for the construction of sustainable society and life engineering for human welfare are studied with a variety of methods. Our main goal is to cultivate international leaders who can bridge these two different disciplines. Interdisciplinary approach of environment and life engineering would be effectively conducted in each field of research

Doctoral Program

◦ Department

Environment and Life Engineering

◦ Areas of Research

◦ Environmental Design

Fields of Research

Environmental and Civil Engineering

Architecture

◦ Life Engineering

Number of regular students 4

History

1952 Maebashi Junior college of Technology

◦ Civil Engineering

◦ Architecture

1997 Maebashi Institute of Technology

◦ Civil Engineering

◦ Architecture

◦ Information Engineering

2001 Graduate school

2007 Faculty Reconstruct

6 departments

2022 Faculty Reconstruct

2 divisions



Maebashi Institute of Technology is established by Maebashi city

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Introducing Maebashi

The City of Maebashi lies at the southern base of Mt. Akagi. The clear waters of the Tone River and the Hirose River flow through the city, which is rich in nature and has beautiful scenery throughout the year. Maebashi's catchphrase is "the City of Water, Greenery and Poetry", and it is also known as "the Home of Modern Poetry" since it produced a great number of modern poets like Sakutaro Hagiwara.

Since it became a city in 1892, Maebashi, the capital of Gunma Prefecture, keeps developing as a center of politics, economy and culture. In 2004, it merged with its three neighboring towns: Ogo-machi, Miyagi-mura and Kasukawa-mura.



The City of Water

The Tone River known as "Bando Taro (means a major river in the Kanto Plain)", which flows through the western part of the city, is the second longest river and has the largest basin area in Japan. In early summer, you can enjoy fishing sweetfish. Furthermore, Water Park is built on the riverbed of the Tone River as a part of Maebashi Park. It has a fountain, a pond and waterfall, and is a relaxing place where people can get close to water.

On either bank of the Hirose River, which flows through the center of the city, you can enjoy taking a walk along the walking trail, exploring seasonal flowers, trees, poetic and historical monuments. The river is beautifully illuminated at night from late autumn through winter.

The City of Greenery

Maebashi can be considered one of the cities with a lot of greenery in Japan. You will be surrounded with greenery everywhere you go in the city such as woods within a park and tree lined streets. Such places as the Zelkova Boulevard in front of the Maebashi Station, Shikishima Park and the weeping willows along the Hirose River represent Maebashi's greenery.

In Shikishima Park, lots of people visit the Rose Garden that grows about 7,000 roses with over 600 varieties. The park also has pine forest with around 2,700 pine trees, a botanical garden and a large green field, and you will never get bored spending time there all year round.



The City of poetry

Since Maebashi was blessed with nature and prospered as a silk city, many modern poets were stood out from this liberal background. There were such poets as Sakutaro Hagiwara who established Japanese free verse, the anarchist poet Kyojiro Hagiwara and Shinkichi Ito, known as a master of contemporary poetry.

On the banks of the Hirose River, there is the Maebashi Museum of Literature, which mainly exhibits works of poets from Maebashi. The city also encourages people to have an interest in poetry by giving the Sakutaro Hagiwara Literary Award for those who wrote a great work in the field of contemporary poetry.