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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 six departments

- Department of Civil and Environmental Engineering
- Department of Architecture
- Department of Life science and Informatics
- Department of Systems Life Engineering
- Department of Biotechnology
- Department of Integrated Design Engineering

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 Maehashi 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

Department of Civil and Environmental Engineering

The educational philosophy of the department of civil and environmental engineering promotes the students who positively work on the regional development while considering public life as a base to the civil engineering and the environment engineering.

The field of the civil engineering consists of structural engineering, concrete engineering, material engineering, geotechnical engineering, and urban planning. The field of the environmental engineering consists of air pollution environmental engineering, water quality engineering, river engineering, hydraulics engineering , and landscape engineering.

Number of regular students 47

Areas of Education

- Subjects on Culture
- Structural Mechanics
- Steel Structure Engineering
- Construction Materials
- Concrete Engineering
- Earthquake Resistant Structure
- Construction Maintenance
- Hydraulics
- Hydrology
- Geotechnical Engineering
- Surveying
- Regional and Urban Planning
- Mathematical Planning
- Landscape Engineering
- Tourist and Recreation Planning
- Traffic Engineering
- Science of Environment
- Environmental Management Engineering
- Environmental Planning
- Air Environmental Engineering
- Water Quality Engineering
- Engineering of River Environment
- Engineering of Water Environment

Department of Architecture

In the Department of Architecture, we cultivate technicians and architects who create pregnant living space and urban space and have abilities to advance technological development which is coexisted with natural environment and human society.

Therefore, in the first and the second year, we educate basic and extensive knowledge as well as techniques.

From the third year, we divide student's specialized field such as subject of Design and Planning, Structure and Production, and Environment and Equipment, and train them depending on student's abilities and individualities, and cultivate the talents who address sophistication and diversification which are demanded in the architecture field by society.

Number of regular students 51

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
- Building Environmental Engineering

Department of Life science and Informatics

With advancement in life science, we now face enormous volume of data generated. For their analysis, we need to make use of computer, a product of information science. Bioinformatics is a new academic field created by the fusion of life science and information science.

The department of life science and informatics aims to acquire advanced intelligent information processing and thereby broaden applications of information science. The department also strives to expand the horizon of bioinformatics through analyses of life science data. Our curriculum trains scientists and engineers who daringly plow the novel field.

Number of regular students 43

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

Department of Systems Life Engineering

Systems Life Engineering is a new field to improve the quality of life in aging by means of fruitful collaboration between engineering and medical sciences. We seek to define the new discipline of biomedical engineering by concentrating on state-of-the-art research and training of undergraduate and graduate students to be the next leaders in this field.

Number of regular students 43

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 Equipment

Department of Biotechnology

Biotechnology is expected as the most important technology to solve the problems that we face with this century. The biotechnology contributes to the development of industries and medicine and to the solution for environmental problem by using the elaborate and various functions of living things effectively. The mission of the Department of Biotechnology is to educate and train the students to acquire the abilities, which can support high expertise in biotechnology, and to acquire strong will to contribute to our society. The Department of Biotechnology consists of four biotech fields, basic bioscience, plant engineering, microorganism engineering and food engineering, and performs the research in cutting-edge biotechnology.

Number of regular students 43

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

Department of Integrated Design Engineering

Department of Integrated Design Engineering offers classes at night time only in Maebashi Institute of Technology. Our lectures are scheduled from 18:00 to 21:10 on weekdays and Saturdays from 8:50 to 21:10.

We are on preparation of shifting to a new department with a new concept. There are three fields as its new philosophy of education. The first one is Mathematics and Technology, the second one is Materials and Structural Engineering, and the third one is Construction and Design Techniques. Our aim is to educate sensible designers with knowledge of basic engineering techniques and train them to be able to design on the basis of the three elements.

Number of regular students 40

Areas of Education

- Subjects on Culture
- Drafting for Architectural Buildings
- Architectural Design
- Architectural Planning
- Theory of Architectural Design
- Theory of Architectural Plastic Art
- Interior Design
- Architectural History
- City Planning
- Urban Design
- Building Environmental Engineering
- Acoustics
- Building Equipment
- Fundamental Mechanics
- Structural Mechanics
- Strength of Materials
- Foundation Structure
- Seismic Technology
- Community Design
- Landscape Design
- Products Design
- Graphic Design
- Illumination Design
- Furniture Design
- Engineering Design

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

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 sweet fish. 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.