

2025 Academic Year

# **Guidelines for Fall Application in the Master's Program**

(Enrolled in April 2025)

**General Selection** 

June 2024

Tohoku University Graduate School of Biomedical Engineering

# Admission Policy of Graduate School of Biomedical Engineering

The Graduate School of Biomedical Engineering offers facilities and equipment that enable students to conduct cutting-edge research together with faculty members, under Tohoku University's traditional philosophy of ""Research First."" Our educational goal is to nurture human resources possessing creativity and high research ability, and engineers with advanced expertise. Our hope is that they will carry out research based on their ideas and play a role in developing and innovating science and technology in medicine and welfare to realize a prosperous society based on a broad perspective and deep knowledge in this interdisciplinary field that bridges medicine and engineering. We are looking for the following types of applicants.

- Those who have a strong passion for contributing to the medical and welfare fields by creating and innovating science and technology.
- Those who have a strong desire to transform society through innovation in medicine, health, and welfare.
- Those who have the basic academic skills necessary to study medical engineering and a solid desire to learn at Tohoku University.
- Those who have the creativity and the ability to open up new research areas.
- Those who have a strong sense of ethics and can act responsibly.

For this reason, the Graduate School of Biomedical Engineering conducts General Selection, Special Selection for Graduates of the Early Graduation System, and Special Selection for International Students, to select students with an emphasis on whether or not the applicant has a high level of ability and qualifications necessary to do research in line with the educational philosophy and goals of the Graduate School of Biomedical Engineering.

In the General Selection, the Special Selection for Graduates of the Early Graduation System, and the Special Selection for International Students, a written examination etc. is given to evaluate basic and specialized knowledge. The selection will be made by a comprehensive assessment, together with the evaluation of language proficiency. For international students, Japanese language proficiency may also be examined.

We hope that students will have acquired the basic academic skills necessary to conduct research and develop advanced knowledge in their field of specialization before admission.

# 1. Departments and Admission Quotas

Department	Course	Quota
	Basic Biomedical Engineering	
Biomedical Engineering	Applied Biomedical Engineering	39
	Medical Device Innovation	

Note: The quota above includes both the numbers of students enrolled in the Special Selection for Graduates of the Early Graduation System, and the Special Selection for International Students.

# 2. Application Qualifications

(1) Those who have graduated from university or are expected to graduate by March 2025.

(2) Those who have received a bachelor's degree from the National Institution for Academic Degrees and Quality Enhancement of Higher Education or expect to receive such a degree by March 2025.

(3) Those who have completed at least 16 years of school education overseas or are expected to complete such education by March 2025.

(4) Those who have completed at least 16 years of school education in Japan by taking correspondence courses offered by schools outside Japan or are expected to complete such education by March 2025.

(5) Those who have completed, or are expected to complete by March 2025, a course at an educational institution in Japan that is positioned in the school education system of the foreign country as having foreign university courses\* and is separately designated by the Minister of Education, Culture, Sports, Science and Technology.

\*Limited to those in which the course graduates are considered to have completed 16 years of school education in the relevant foreign country.

(6) Those who have received a degree equivalent to a bachelor's degree or expect to receive a degree equivalent to a bachelor's degree by March 2025, after completing a course of at least three years\*1 at a university or other foreign school\*2 in a foreign country or are expected to be conferred a degree equivalent to a bachelor's degree by March 2025.

\*1Limited to those that have been evaluated by a person accredited by the government of the relevant foreign country or a relevant organization about the overall status of their educational and research activities, etc., or those separately designated by the Minister of Education, Culture, Sports, Science and Technology as equivalent to it.

\*2Including completion of a course of study in Japan through correspondence courses offered by a school in a foreign country and completion of a course of study at an educational institution that is part of the school education system in a foreign country and has been designated under the preceding item.

(7) Those who have completed, or are expected to complete by March 2025, a special training course\* at a special training college, which is separately designated by the Minister of Education, Culture, Sports, Science and Technology, on or after the date specified by the Minister.

\*The study duration must be 4 years or more, and the applicant must meet other criteria specified by the Minister of Education, Culture, Sports, Science and Technology.

(8) Those designated as eligible by the Minister of Education, Culture, Sports, Science and

Technology under Ministerial Ordinance No. 5 of 1953.

(9) Those who have been admitted to the graduate school of another university in accord with Article 102 Paragraph 2 of the School Education Law and are recognized by this Graduate School as having the suitable academic ability for study in this program.

(10) Those who will reach 22 years of age by the end of March 2025 and are recognized by the graduate school as having academic ability equivalent to or superior to that of university graduates.

[Note 1] Applicants applying under conditions (6) or (9) - (10) should contact our Academic Affairs Section in advance and submit the documents specified by the Graduate School by Monday, June 17, 2024 for the verification of eligibility.

[Note 2] The Graduate School does not apply the condition of eligibility, "those who have been enrolled in a university for three years or more<sup>\*</sup> and are recognized as having earned credits designated by the Graduate School with excellent grades."

<sup>\*</sup>Including those specified by the Minister of Education, Culture, Sports, Science and Technology as equivalent.

# 3. Online Application Procedure and Application Period

The general flow of the online application is as follows.

- 1. Confirmation of application guidelines and acquisition of required documents
  - Confirm the application guidelines carefully for details on application qualifications (pages 2-3) and documents required for application (pages 6-9).
  - Request your university or college to issue certificates of graduation (or expected graduation), transcripts, and other certifying documents for the application in advance.

# 2. Payment of the examination fee

- Follow the instructions on page 8 of this application guideline and pay the examination fee to the designated bank account using ATMs (at financial institutions, convenience stores, etc.) or through Internet banking. The applicant should charge a handling fee.
- "Confirmation of Payment of Examination Fee" must be uploaded to the TAO application registration site. Prepare the "Confirmation of Payment of Examination Fee" by attaching a copy of the ATM statement or screenshot of Internet banking transfer completion showing the account information, amount, transfer date, and name of the payee.

# 3. Register your application at the TAO application registration website (must complete by July 11(Thu))

• Access The Admissions Office website, create an account and submit the necessary information about the applicant.

https://admissions-office.net/

- Upload certificates and other documents. Follow the instructions on page 6-9 of the application guidelines, make sure that you submit your application by mail or submit it to our Academic Affairs Section directly.
- Once you have registered, you will not be able to modify your registration. Double-check carefully and make sure that there are no errors.
- Use the temporary save function effectively for confirmation.
- Click on the "Complete Application" button to complete your application. After completing the application, confirm that the relevant selection appears in the "Completed" tab on the "Application List" screen of TAO.

# 4. Submission of application documents (must arrive by July 18 (Thu))

- Follow the instructions on page 5 of the application guidelines and submit your application by **"express/registered"** mail or submit it to our Academic Affairs Section directly.
- **Note:** The application is completed by paying the examination fee, registering the application information on the Internet, and submitting the required application documents to the university by express or registered mail by the deadline (They must be received at the university by the deadline).

Please note that payment of the examination fee and registration of application information on the Internet is insufficient to complete the application process.

Applicants must complete the application using the designated online application system, The Admission Office (hereafter referred to as TAO), within the application period. Follow the instructions below. The online application period is from 9:00 on July 3 (Wed) 2024, to 23:59 on July 11 (Thu) 2024 (Japan Standard Time). Only those applications submitted (registered) to TAO before the designated closing time on the last day will be accepted. Be sure to click on the "Complete Application" button to complete your application.

For some documents, the originals must be submitted by mail (or directly at the counter of the Academic Affairs Section) after uploading to TAO. Direct submission of the originals at the Academic Affairs Section is accepted between 9:00 and 16:00 (except 11:45 - 13:00) on weekdays during the period from July 3 (Wed) 2024, to July 18 (Thu) 2024. When the originals are submitted by mail, they must arrive by July 18 (Thu) 2024. Be sure to send them by express registered mail.

Address:

Academic Affairs Section, Graduate School of Biomedical Engineering, Tohoku University 6-6-12 Aramaki Aza Aoba, Aoba-ku, Sendai, Miyagi 980-8579, Japan

# **TAO Application Procedure**

- 1. Access the following URL and click "Account Registration" to create an account. https://admissions-office.net/portal
- 2. After creating an account, log in with your e-mail address and password from the URL above. Use the "Admission Schemes" menu to search for
  "Tohoku University | Graduate School of Biomedical Engineering |
  Two-Year Master's Program (April 2025 Enrollment)/ General Selection,"
  then follow the TAO system's directions and the directions below to apply.
- 3. Submit the documents listed below in PDF format by uploading them in the application form. If the certificate to be submitted is written in a language other than Japanese or English, attach a Japanese or English translation certified by the issuing authority. If you have difficulty in handling the above, please contact the Educational Records and Programs Section of the Graduate School of Biomedical Engineering before applying.
- Withdrawal of an application or replacement of application documents will not be accepted <u>under any circumstances.</u>
- \* Applicants who submitted falsified documents may have their admission revoked even after enrollment.
- For the documents indicated as "TAO and Mail (Counter)" in the list below, the originals must be submitted after uploading to TAO. (Photocopies of originals, electronic files, printouts from electronic files, etc., are not considered originals.)

Required documents	Method of submission	
Application form	Fill out the TAO application form.	TAO
Curriculum Vitae	Download and use the prescribed file from the URL below. https://www.bme.tohoku.ac.jp/english/admission/index.ht ml	ΤΑΟ
Survey of preference for assignment	Fill out the name of the primary laboratory (field) to which you wish to be assigned. Before selecting the primary laboratory (field), you <b>MUST</b> consult with the faculty member who will accept you. The category you wish to take exam in should also be consulted.	ΤΑΟ
Reason for application and aspirations	Download and use the prescribed file on reasons for application and aspirations from the URL below. https://www.bme.tohoku.ac.jp/english/admission/index.ht ml	ТАО
Undergraduate transcript	A transcript issued by the dean of the university, junior college, or college of technology, etc. For those who are enrolled in an advanced course of a college of technology, also submit a transcript of the period of enrollment in the regular course. The original should also be submitted.	TAO and Mail (Counter)
<b>Original score sheet</b> of TOEFL® Test or TOEIC® Listening & Reading Test (hereafter referred to as TOEIC® Public Test) Valid score sheets are those of TOEFL iBT® Test, or TOEFL ® Public Test TOEFL®, TOEFL iBT®, TOEFL ITP®, and TOEIC® are the registered trademarks of the Educational Testing Service (ETS).	The score sheet must be of a test conducted within two years before the first day of the entrance exam. Score sheets of TOEFL ITP <sup>®</sup> Test or TOEIC <sup>®</sup> IP Test for group examination are invalid. Score sheets to be sent directly from the testing organization to the university are not accepted. Submit the score sheet sent to the examinee. As it may take time before you receive the score sheet, take a test with time to spare. The submitted original will not be returned. If you wish to submit a score sheet of a test conducted outside Japan, consult the Academic Affairs Section. In the case of TOEFL iBT® test, only the Test Date score is accepted and the MyBest <sup>TM</sup> score is invalid. ◆ How to submit score sheet. Please submit your score sheet using one of the methods 1 to 3 below. 1. When submitting a Digital Official Score Certificate of the TOEIC® public test. Please submit (register) the TOEIC® Public Test Digital Official Score Certificate through the TAO system. If you select this submission method, you do not need to submit a paper score sheet. Please submit ing a paper-based Official Score Certificate of the TOEIC® Public Test. Please submit ing a paper-based Official Score Certificate of the TOEIC® Public Test. Please submit (register) a copy of the score sheet in the	TAO and Mail (Counter)

Section of the Graduate School of Biomedical Engineering by 16:00 on July 18 (Thu). (No applications will be accepted on Saturdays, Sundays, and holidays.)	
3. When submitting a score sheet of the TOEFL® test. Please submit (register) the PDF version of the Test Taker Score Report downloaded from the ETS website using the TAO system. After that, please submit the original (paper) Test Taker Score Report to the Academic Affairs Section of the Graduate School of Biomedical Engineering by 16:00 on July 18 (Thu). (No applications will be accepted on Saturdays, Sundays, and holidays.)	
For Methods 2 and 3 above, score sheets must arrive no later than July 18 (Thu), if you wish to submit them by mail. Please write "Score Sheet enclosed" in red on the envelope of your choice. When submitting the score sheet, please write the category (fields) you took the exam on the back of the score sheet.	
♦ When submitting a score sheet of the TOEIC® public test conducted in Japan on June 23 (Sun), 2024.	
① Please submit (register) all other application documents, except for the score sheet, by the application registration deadline on the TAO system stated in "3 Online application procedure and application period".	
② For the score sheet of the TOEIC® public test held in Japan on June 23 (Sun), please submit the Digital Official Score Certificate via the message function of the TAO system by 16:00 on July 18 (Thu).	
Note: Once a score sheet is submitted, replacement is not allowed. For example, once you submit a score sheet of the TOEIC® Public Test conducted on May 26 (Sun) 2024, you cannot replace it with a score sheet of another test such as the TOEIC Public Test conducted on June 23 (Sun) 2024.	
Note: The score sheet that can be submitted outside the application period is limited to the score sheet of the TOEIC® public test conducted in Japan on June 23 (Sun) 2024.	
For example, the TOEIC® public test score sheet or TOEFL® Test score sheet conducted by May 26 (Sun) 2024 cannot be submitted after the application period described in "3 Online application procedure method and application period".	
Note: For applicants whose native language is English or who have received higher education in English, prior consultation will be required. Contact the Academic Affairs Section of the Graduate School of Biomedical Engineering in advance, and submit the documents specified by the Graduate School by June 17 (Mon) 2024.	

Certificate of (expected) completion	Issued by the president or dean of the university from which the applicant graduated, the head of the last school from which the applicant graduated, or the National Institution for Academic Degrees and University Reform. The original must be submitted as well.	TAO and Mail (Counter)
Examination admission ticket and Photo ID form	Download and use the form of examination admission ticket and photo ID from the URL below. Paste a portrait photo (waist up, without a hat or cap) taken within three months before the application on the Photo ID form. The maximum file size is 20 MB. <u>https://www.bme.tohoku.ac.jp/english/admission/index.ht</u> <u>ml</u>	ΤΑΟ
Residence certificate	Only foreign nationals residing in Japan (whose period of stay exceeds 90 days) should submit this form. (Must be issued within three months before the date of application. The certificate should not include your Social Security and Tax Number (My Number), but clearly state your residence status.) The original must be submitted as well.	TAO and Mail (Counter)
Examination fee	<ul> <li>(1) Download the prescribed Confirmation of Payment of Examination Fee file from the URL below. https://www.bme.tohoku.ac.jp/english/admission/index.html</li> <li>(2) Pay the examination fee using ATMs (ATMs at financial institutions and convenience stores) or Internet banking as follows.</li> <li>※ The applicant's name must be registered as the payee's name in Katakana.</li> <li>※ Paste a photocopy of an ATM statement or a screenshot of the completion of Internet banking transaction (, which includes the account information, the amount, the date of transfer, and the name of the payee) on the form of payment confirmation of the examination fee, and upload the scanned data to TAO.</li> <li>※ Bank transfer fees should be paid by the applicant.</li> <li>Amount: 30.000 yen</li> <li>Payment deadline: July 11 (Thu) (Strict deadline)</li> <li>Bank: Mitsubishi UFJ Bank, Bank Code: 0005</li> <li>Branch: Wakatake Branch, Branch Code: 809</li> <li>Type of deposit: Ordinary</li> <li>Account number: 2259227</li> <li>Account name: Tohoku University</li> <li>Name: <i>y</i><sup>*</sup> (<i>)</i> \\ph\$<i>x</i>/<i>y</i><sup>*</sup> (<i>h</i><sup>*</sup> <i>y</i></li> <li>(3) Not required for foreign students with a Japanese government scholarship (<i>Monbukagakusho</i> scholarship) or those who have applied for a waiver of entry examination fees.</li> <li>For more information about the exemption of the entrance examination fee for victims of disasters, please refer to the following website: https://www.bme.tohoku.ac.jp/english/admission/index.ht ml</li> </ul>	ΤΑΟ

Envelope for receiving the examination admission ticket (only applicants residing in Japan)	Please write your name, address, and postal code on a standard-sized envelope (23.5 x 12 cm) and affix a postage stamp worth 84 yen.	Mail (Counter)
Addressee slip	Please fill out the TAO address slip form.	TAO
Confirmation letter	A form prescribed by the Graduate School of Biomedical Engineering and completed by a faculty member of the laboratory (field) of your choice or a faculty member who is prospective advisor, with whom you have consulted for the examination in advance. Download and use the form of Confirmation letter from the URL below. <u>https://www.bme.tohoku.ac.jp/english/admission/index.ht</u> <u>ml</u>	ΤΑΟ
Written consent to take an exam (only those who will be enrolled while still being employed)	Issued by the head of the organization, stating the period of employment, job description, and status. (with company seal, etc., in arbitrary form). The original must be submitted as well.	TAO and Mail (Counter)

# **If you are a foreign student or have received school education at a foreign university, submit the following document.**

Proof of Japanese language proficiency	Certificate of Japanese language proficiency test, etc., or certificate prepared by a Japanese instructor or (prospective) advisor (Any format).	TAO
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#### 4. Selection Process

Admission will be based on the results of the examination on the subjects listed in the attached table and the submitted documents.

Examination dates:	The examination will be held between August 27 (Tue) and August
	29 (Thu) 2024, according to the attached schedule.

Location:	Aobayama Campus, Tohoku University
	Applicants will be informed of the details separately.

#### 5. Results Announcement

The examination numbers of successful applicants will be listed on the Graduate School of Biomedical Engineering website (https://www.bme.tohoku.ac.jp/) at around 17:00 on September 2 (Mon) 2024.

Successful applicants will receive a letter of acceptance by mail. We will not respond to inquiries by phone.

#### 6. Enrollment Procedures

- (1) Admission procedures are scheduled to take place in mid-March 2025. Further details will be provided in the admission procedure documents sent in late-February 2025.
- (2) Required fees
  - (a) Entrance fee: 282,000 yen (tentative)
  - (b) Tuition (first semester): 267,900 yen (annual 535,800 yen) (tentative)

[Note 1]: The above amounts are tentative. If the admission or tuition fees are revised, the new fees will become applicable from the time of the revision.

[Note 2]: Information on the entrance fees and tuition payment will be provided in the enrollment procedures documentation sent in late-February 2025. For procedures related to waivers of admission or tuition fees, or permission to defer payment to a later date, etc., access the university's website at <u>https://www.tohoku.ac.jp/</u> and then click on "東北大学で学びたい 方へ" (Those wishing to study at Tohoku University) and then "入学料及び授業料等免除" (Entrance and tuition fee waivers).

# 7. Long-Term Study Program

Depending on the particular circumstances [Note 1 and Note 2], applicants may request permission to follow a planned course of study longer than the standard two years to receive their master's degree. This Graduate School offers such an option called the "Long-Term Study Program," to those who qualify based on an advanced screening. Long-term master's students pay the same amount over the length of their studies as those enrolled in the standard two-year program. Persons wishing to be considered should discuss the matter in advance with the Academic Affairs Section, Graduate School of Biomedical Engineering.

Applicants wishing for this program will be notified of the application procedure separately. Be sure to put a checkmark in the appropriate place on the admission application form. Note that this program applies only from the beginning of studies and cannot be switched from the standard two-year program after studies have begun.

[Note 1]: Eligible persons:

- (1) Those employed by a company or self-employed.
- (2) Those who require maternity leave or are engaged in a child or family care
- (3) Those otherwise determined by this Graduate School to be suitable for the program (excluding financial reasons).

[Note 2]: The study period may not be extended beyond four years, but it is possible to request that the period be shortened. In principle, no particular curriculum will be prepared for students in the Long-Term Study Program.

# 8. Handling of Personal Information

(1) Personal information held by Tohoku University is handled strictly following the "Personal Information Protection Regulations of Tohoku University National University Corporation" and other relevant regulations of the University. Tohoku University complies with the "Act on the Protection of Personal Information Held by Independent Administrative Institutions (Law No. 57 of 2003)" and other laws and regulations. Tohoku University takes all possible measures to protect personal information.

- (2) Examination results and other personal information obtained in the application process will be used for the selection of students for admission, enrollment procedures, follow-up surveys, student support after enrollment (e.g., scholarships, tuition waiver, health care), student guidance and other academic purposes, the collection of tuition fees, and survey/research (Improvement of entrance examinations, research and analysis of application trends, etc. For admitted students, this includes analysis together with personal information after admission.), etc.
- (3) About entrance examination and academic affairs, Tohoku University may outsource administrative work in educational affairs to third-party companies (after this, "contractors"). In the case that Tohoku University shall provide them with some or all or a part of the student's personal information, Tohoku University will take necessary measures to ensure that personal information is handled appropriately in accordance with the "Personal Information Protection Regulations of Tohoku University National University Corporation" and other relevant regulations of the University.

# 9. Utilization of Education and Learning Data

Tohoku University considers it important to analyze data including personal information accumulated in information systems and other systems for education and learning activities (after this, " education and learning data") using the latest data analysis and AI technology, and to conduct education based on evidence.

Tohoku University has established the "Declaration on the Utilization of Education and Learning Data," the "Eight Principles for Handling Education and Learning Data at Tohoku University," and the "Policy for Utilization of Education and Learning Data," and will effectively and appropriately utilize education and learning data to enhance and improve education and learning support at Tohoku University. We will contribute to the welfare of the people of Japan and humanity through the effective and appropriate use of education and learning data.

Personal information such as examination results used for admission selection will be integrated into education and learning data after admission.

URL: https://www.tohoku.ac.jp/japanese/studentinfo/education/08/education0801/

# 10. Points to Note

- (1) Applicants will not be automatically notified of the receipt of applications. Those who wish to receive notification should attach a postcard with their return address at the time of application.
- (2) Submitted application documents and examination fees will not be returned.
- (3) If you do not receive your examination admission ticket by ten days before the examination date, please contact the Academic Affairs Section, Graduate School of Biomedical Engineering.
- (4) All other questions about applications should be inquired to the Academic Affairs Section, Graduate School of Biomedical Engineering.
- (5) The Graduate School provides counseling for applicants who need special consideration for entrance examinations and study. Applicants who wish to receive consultation should submit a request (in arbitrary format) with the following information. The applicant will not be disadvantaged in any way because of the

submission of the request.

- \* Deadline for consultations: No later than July 4 (Thu) 2024.
- \* Information to be included in the request:
  - (A) Name, address, and phone number of the applicant
  - (B) University, etc. from which the applicant has graduated
  - (C) Special considerations desired when taking the examination
  - (D) Special considerations desired in the study environment
  - (E) Special considerations provided before
  - (F) Other relevant information about daily life circumstances
  - (G) Reference materials (if currently under treatment, enclose a medical certificate issued by a medical doctor)
- (6) The disclosure of information about entrance examination results will only be authorized if the examinee requests such disclosure in person, using the specified application form within the year in which the entrance examination was held.
- (7) The university does not send telegrams informing applicants of the result of exam.
- (8) Following the Foreign Exchange and Foreign Trade Act, Tohoku University has established the Tohoku University Security Export Control Regulations and conducts screening when accepting foreign students. If you fall under any of these restrictions, you may not be able to receive your desired education, or your research theme may be restricted.

June 2024

Graduate School of Biomedical Engineering, Tohoku University 6-6-12 Aramaki Aza Aoba, Aoba-ku, Sendai, Miyagi 980-8579, Japan Phone: (022) 795-4824 e-mail: bme-kyom@grp.tohoku.ac.jp https://www.bme.tohoku.ac.jp/

# Appendix

Applicants must select one of the following categories: Medical Science or Engineering.

# 1. Medical

Selec- tion	Exam subjects	Date and time	Description	Remarks
lection	English		A score sheet of the TOEFL® Test or TOEIC® Public Test taken within the past two years from the entrance examination date must be submitted with the application. TOEFL iBT® Home Edition scores are also acceptable. [Note 1] Applicants whose native language is English or who have received higher education in English should contact the Academic Affairs Section of the Graduate School of Biomedical Engineering in advance and submit the prescribed documents by June 17 (Mon) 2024.	<ol> <li>Written examination may be waived depending on the applicant's record as indicated on transcripts.</li> <li>For the scope of each subject, refer to the following website. https://www.bme.tohoku.ac.jp/ admission/</li> <li>Calculators or devices such as watches or mobile phones with calculation or communication functions are not allowed in the examination room.</li> </ol>
General Selection	Specialized subjects (Electives)	Aug. 27 (Tue) 10:00-12:00 Meeting time 9:40	Cell and molecular biology, Biochemistry, Anatomy, Physiology, Immunology, Public health, Pathology Select 2 subjects from the above 7 subjects (to be declared in advance)	
	Basic Mathematics	Aug. 27 (Tue) 13:00-15:00	Calculus, Ordinary Differential Equations, and Linear Algebra at the university's general education level (mathematics taught to undergraduate students in courses such as biology, medicine, health care, and pharmacy, in addition to the mathematical background required for entering university).	

[Note 1]: If originals of TOEFL<sup>®</sup>/TOEIC<sup>®</sup> score sheets are not submitted, the English score will be zero.

# 2. Engineering

Applicants who take the entrance examination in engineering are required to choose one of the following fields (Mechanical, Electrical and Information, and Materials) for the exam.

Selec- tion	Exam subjects	Date and time	Description	Remarks
General Selection	English		A score sheet of the TOEFL® Test or TOEIC® Public Test taken within the past two years from the entrance examination date must be submitted with the application. TOEFL iBT® Home Edition scores are also acceptable. [Note 1] Applicants whose native language is English or who have received higher education in English should contact the Academic Affairs Section of the Graduate School of Biomedical Engineering in advance and submit the prescribed documents by June 17 (Mon) 2024.	<ul> <li>(1) Written examination may be waived depending on the applicant's record as indicated on transcripts.</li> <li>(2) For the scope of each subject, refer to the website below https://www.mech. tohoku.ac.jp/</li> <li>(3) Calculators or devices such as watches or mobile phones with calculation or communication functions are not allowed in the examination room.</li> </ul>
General	Mathematics A (Required)	Aug. 27 (Tue) 9:30-10:30 Meeting time 8:50	Differential and Integral Calculus, Linear Algebra, Vector Analysis	
	Mathematics B (Required)	Aug. 27 (Tue) 13:00-14:00	Ordinary Differential Equations, Partial Differential Equations, Fourier Series and Fourier Transforms, Laplace Transforms	
	Specialized subjects (Electives)	Aug. 28 (Wed) 9:30-11:30 Meeting time 8:50	Thermodynamics, Fluid Dynamics, Strength of Materials, Dynamics of Mechanical Systems, Control Engineering *Choose any two of the above listed five subjects	

# A. Engineering (Mechanical)

[Note 1] If the original score sheet of the TOEFL<sup>®</sup> test or TOEIC<sup>®</sup> public test is not submitted, the English score will be zero.

Selec- tion	Exam subjects	Date and time	Description	Remarks
General Selection	English		examination date must be submitted with the application. TOEFL iBT <sup>®</sup> Home Edition scores are also acceptable. [Note 1] Applicants whose native language is English or who have	<ol> <li>Written examination may be waived depending on the applicant's record as indicated on transcripts.</li> <li>For the scope of each subject, refer to the following website. https://www.ecei.tohoku.ac.jp/ ecei_web/admission/</li> <li>Calculators or devices such as watches or mobile phones with calculation or communication</li> </ol>
	Basic and Specialized Subjects	Aug. 27 (Tue) 9:40-12:10 Meeting time 9:00	Choice of 3 questions from the following 6 areas: Electromagnetics, Electrical circuits, Computer hardware, Computer software, Physics, Basic mathematics.	functions are not allowed in the examination room.

[Note 1] If the original score sheet of the TOEFL® test or TOEIC® public test is not submitted, the English score will be zero.

# C. Engineering (Materials)

Selec-	Exam	Date and	Description	Remarks
tion	subjects	time	-	
General Selection	English		A score sheet of the TOEFL® Test or TOEIC® Public Test taken within the past two years from the entrance examination date must be submitted with the application. TOEFL iBT® Home Edition scores are also acceptable. [Note 1] Applicants whose native language is English or who have received higher education in English should contact the Academic Affairs Section of the Graduate School of Biomedical Engineering in advance and submit the prescribed documents by June 17 (Mon) 2024.	<ul> <li>(1) The written examination may be waived depending on the content of the transcript.</li> <li>(2) For the scope of each subject, refer to the following website. https://www.material.tohoku.ac. jp/ admission/index.html</li> <li>(3) Calculators or devices such as watches or mobile phones with calculation or communication functions are not allowed in the examination room.</li> <li>(4) The schedule will be informed individually.</li> </ul>
	Mathematics	Aug. 27(Tue) 13:00-14:00	Differentiation and integration, ordinary differential equations, linear algebra (vectors, matrices, determinants), vector analysis, complex function theory, Fourier series, Fourier transform, Laplace transform, etc.	
	Specialized subject	Aug. 28(Wed) 9:00-11:40	<ul> <li>Physics: Particle and rigid body dynamics, Electromagnetism,</li> <li>Vibration, Wave dynamics, etc.</li> <li>Chemistry: Atomic and molecular structure, Chemical bonding,</li> <li>Chemical reactions, Chemical thermodynamics, Fundamentals of organic chemistry, etc.</li> <li>Materials chemistry: Materials physical chemistry, Materials</li> <li>electrochemistry, Transfer phenomenology theory, Metal refining and purification, Applied material chemistry, Materials process engineering, etc.</li> <li>Materials microstructure, Electronic materials, Magnetic and dielectric materials, Materials design, etc.</li> <li>Materials processing: Mechanics of materials, Continuum dynamics, Materials testing, molding/powder/plastic forming, Welding and joining, Materials assessment, Processing analysis, etc.</li> <li>Choose any four questions from 10 questions in the five subjects.</li> </ul>	

[Note 1] If the original score sheet of the TOEFL® test or TOEIC® public test is not submitted, the English score will be zero.