Application Guidelines for
International Graduate Programs in Engineering
International Mechanical and Aerospace Engineering Course (IMAC-G)

**Master’s Degree Program**
Screening for Foreign Residents in Japan

**Doctoral Degree Program**
Screening for Foreign Residents in Japan

October 2018

Graduate School of Engineering
Tohoku University
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1. Admissions Policy

**Master's Course**

The Graduate School of Engineering welcomes prospective students who share our educational objectives and goals. They should have the following academic skills and abilities that are necessary to acquire knowledge and skills outlined in the curriculum policy:

1. Basic academic skills needed to learn engineering;
2. Logical thinking ability to solve problems; and
3. Linguistic proficiency to adapt to and leverage a global educational and research environment.

**Educational Objectives and Goals**

Staying true to the Tohoku University’s traditional spirit of “Research First,” “Open Doors,” and “Practice-Oriented Research and Education,” the Graduate School of Engineering is committed to achieving its educational objectives. One of these objectives is to develop researchers who act based on profound knowledge and broad perspective about nature and human beings, perform their research in an ethical, purposeful, and self-directed way to build safe, secure, and affluent society, and possess abundant creativity and high research skills that enable them to play a leading role in the future development and innovation of scientific technologies. Another educational objective of the School is to produce core technical experts who are equipped with not only a high-level of technical expertise but also a long-term vision and global viewpoint, and capable of making contributions to the sustainable development of our society.

Specifically, the educational goal of the Master's Degree Program is to endow students with a broad range of basic academic and language skills that are needed for the performance of research, as well as abilities to develop their research subjects by using unique ideas and present research theses at a public occasion. They are also expected to have basic skills and advanced techniques to perform a research or provide a research and technical guidance in their field of expertise.

**Diploma Policy**

The Graduate School of Engineering, Tohoku University will award a master’s degree in engineering to students who pass a review of master's thesis or research results on a particular subject as well as the final examination. Students are also required to remain enrolled for a specific period of time, study a set of subjects that are offered in accordance with the School's educational objectives and goals, earn a specified number of credits, and demonstrate a high-level of ethical awareness and sense of responsibility, in addition to the following knowledge and skills:

1. A broad range of basic knowledge and academic skills that help students understand and explore the essence of their research subjects;
2. Profound knowledge about their fields of expertise;
3. Interdisciplinary knowledge relating to their fields of expertise;
4. System design skills obtained through the integration of knowledge outside their fields of expertise;
5. Skills to determine a research subject and solve issues;
6. Advanced skills to perform, apply, and develop their research;
7. Linguistic proficiency necessary to perform their research; and
8. Basic skills to provide research or technical guidance.

○ Curriculum Policy
The Graduate School of Engineering, Tohoku University, provides education according to the following policy to ensure that its students can acquire knowledge and skills required under the diploma policy:
1. Help students acquire a broad range of knowledge, advanced technical expertise, and interdisciplinary knowledge relating to their field of expertise that are necessary to understand the essence of their research subjects and perform their research;
2. Enable students to acquire advanced skills to work on their research subjects and develop the subjects by using unique ideas; and
3. Provide students with linguistic skills that are necessary to perform their research and make a presentation of the research results.

● Doctoral Course
The Graduate School of Engineering welcomes prospective students who share our educational objectives and goals. They should have the following academic skills and abilities that are necessary to acquire knowledge and skills outlined in the curriculum policy:
1. A broad range of basic engineering knowledge, advanced expertise on their own research fields, and ability to develop them in a flexible manner; and
2. Ability to logically present and discuss the significance and outcome of their research.

○ Educational Objectives and Goals
Staying true to the Tohoku University’s traditional spirit of “Research First,” “Open Doors,” and “Practice-Oriented Research and Education,” the Graduate School of Engineering is committed to achieving its educational objectives. One of these objectives is to develop researchers who act based on profound knowledge and broad perspective about nature and human beings, perform their research in an ethical, purposeful, and self-directed way to build safe, secure, and affluent society, and possess abundant creativity and high research skills that enable them to play a leading role in the
future development and innovation of scientific technologies. Another educational objective of the School is to produce core technical experts who are equipped with not only a high-level of technical expertise but also a long-term vision and global viewpoint, and capable of making contributions to the sustainable development of our society.

The educational goal of the doctoral program is to nurture human resources performing not only subjective research in the relevant specialized field but also self-enlightenment to active worldwide as a leader in the future.

They are also expected to have a bird’s eye view based on social and international demands, having the ability to develop research project with their own ideas to summarize international level papers and to discuss and present at international conferences etc.

**Diploma Policy**

The Graduate School of Engineering, Tohoku University will award a doctoral degree in engineering to students who pass a review of doctoral thesis and the final examination. Students are also required to remain enrolled for a specific period of time, study a set of subjects that are offered in accordance with the School’s educational objectives and goals, earn a specified number of credits, and demonstrate a high-level of ethical awareness and sense of responsibility, in addition to the following knowledge and skills:

1. Skills to embark on a new research subject and perform a research from a panoramic perspective that takes social needs into account;
2. Skills to solve issues with unique ideas;
3. Thinking skills that allow for interdisciplinary application;
4. Linguistic proficiency sufficient to make presentations at international academic conferences, etc., research paper writing skills, and debating and communication skills;
5. Skills to provide research guidance; and
6. Basic skills to manage a research or project.

**Curriculum Policy**

The Graduate School of Engineering, Tohoku University, provides education according to the following policy to ensure that its students can acquire knowledge and skills required under the diploma policy:

1. Enable students to acquire skills to explore research subjects and perform researches from a panoramic perspective that takes social and international needs into account, skills to develop such research subjects by using unique ideas and compile the results into a world-class research paper, and thinking skills that allow for interdisciplinary applications;
2. Provide students with linguistic proficiency as well as debating and communication skills that
are sufficient to make presentations and participate in discussions at international academic conferences, etc.; and

3. Equip students with skills that allow them to provide research guidance in their field of expertise.

**International Mechanical and Aerospace Engineering Course (IMAC-G)**

The graduate program in the International Mechanical and Aerospace Engineering Course (IMAC-G) was established in October 2009. This course is one of the courses offered under the Global 30 program at Tohoku University, and is organized by the Graduate School of Engineering. The main aim of IMAC-G is to cultivate global-minded engineers and leaders who can take up active roles in the development of cutting-edge technologies based on mechanical engineering.

### 2. Outline of IMAC-G

The IMAC-G is one of the Future Global Leadership (FGL) Programs that were launched in fall, 2009, with the support of the “Global 30” project that was a Ministry of Education, Culture, Sports, Science and Technology (MEXT) program to further promote the internationalization of core Japanese higher education institutions and to turn them into world-class international education and research centers.

The IMAC-G is aiming at enthusiastic global-minded international students who aspire to assume key international leadership roles in the future. All lectures in the IMAC-G program are conducted in English.

The schematic career-path in IMAC-G is shown in the figure below. The academic calendar of IMAC-G starts in October. Students are screened via an entrance examination held in March in the enrollment year for foreign residents in Japan.

Students can enroll in the IMAC-G master’s or doctoral program. As the master’s program directly connects to the doctoral program in IMAC-G, students have the opportunity to conduct cutting-edge research throughout both graduate programs.

Candidates will choose one department to enroll in from the following four departments participating in IMAC-G:
○ Mechanical Systems Engineering
○ Finemechanics
○ Robotics
○ Aerospace Engineering

The total number of annually accepted students is approximately ten.

3. Qualifications for Admission

Applicants for the Master’s Degree Program for Foreign Residents in Japan

- Those who have received a university education in Japan as international students or in an overseas university are eligible to apply for the International Graduate Programs in Engineering.
- Applicants for the Master’s Degree Program must fulfill one of the following requirements and currently live in Japan.

The applicant must:

1. Have graduated from university or expect to graduate by September 2019.
2. Have received a bachelor’s degree under Article 104 Paragraph 4 of the School Education Law of Japan, or expect to receive such a degree by September 2019.
3. Have completed a 16-year curriculum of school education overseas, or expect to complete such education by September 2019.
4. Have completed a 16-year curriculum of school education in Japan by taking correspondence courses offered by schools outside Japan, or expect to complete such education by September 2019.
5. Have completed a university education by taking courses designated by the Minister of Education, Culture, Sports, Science and Technology in an educational institution in Japan recognized as adopting the educational system of a foreign country and having the curriculum of that country (only when the person completing that education is regarded as having completed 16 years of that country's education), or expect to complete such education by September 2019.
6. Have been conferred a degree equivalent to a bachelor's degree upon completion of a curriculum that has a course term of three years or longer at a university or other school (limited to schools whose overall educational and research activities have been evaluated by the relevant country's government or a government-approved individual, or are designated separately as having met this requirement by the Minister of Education) in a foreign country (including cases in which the student completed the curriculum by taking subjects conducted by said school via distance learning while the student resided in Japan, and cases in which the student has completed a curriculum at an educational facility that is positioned within that
country's educational system as per the previous item).

(7) Have completed a specialized course of a special training school designated by the Minister of Education, Culture, Sports, Science and Technology (only when the schooling is at least four years in length and other criteria stipulated by the Minister are met), on or after the date stipulated by the Minister, or expect to complete such a course by September 2019.

(8) Have been designated as eligible by the Minister of Education, Culture, Sports, Science and Technology under ministerial ordinance No. 5 of 1953.

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

Applicants for the Doctoral Degree Program for Foreign Residents in Japan

- Applicants applying for the Doctoral Degree Program must meet either one of the following requirements and currently live in Japan.

  The applicant must:

  (1) Have earned a master's degree or professional degree, or expect to earn such a degree by September 2019.

  (2) Have earned a degree equivalent to a master’s degree or professional degree, or expect to earn such a degree by September 2019, in the graduate school of a foreign university.

  (3) Have earned a degree equivalent to a master’s degree or professional degree, or expect to earn such a degree by September 2019, by taking correspondence courses in Japan offered by schools outside Japan.

  (4) Have earned a degree equivalent to a master’s degree or professional degree, or expect to earn such a degree by September 2019, by completing a course designated by the Minister of Education, Culture, Sports, Science and Technology in an educational institution in Japan recognized as adopting the educational system of a foreign country and having the curriculum of a graduate school in that country.

  (5) Have earned a degree equivalent to a master’s degree or professional degree, or expect to earn such a degree by September 2019, by graduating a program of the United Nations University.

  (6) Have been recognized as having achieved at least the academic equivalent of a master's degree through an educational program offered at following institutions (a) to (c), and have passed the equivalency examination and screening process as stipulated in Clause 2, Article 16 of the Standards for the Establishment of a Graduate School (Act No. 28, 1974).

(a) Foreign schools

(b) Educational institutions which have the curriculum of a graduate program
(c) The United Nations University

(7) Meet either of the following criteria for eligibility specified by the Minister of Education, Culture, Sports, Science and Technology:

(a) Have carried out research in a university or research institute, etc. for two or more years after graduating from university, and be recognized by this Graduate School as having achieved at least the equivalent academic abilities of someone with a master’s degree on the basis of those research accomplishments.

(b) Have carried out research in a university or research institute, etc. for two or more years after completing 16 years of course studies overseas, or after completing, in Japan, 16 years of foreign school course studies by means of correspondence courses conducted by foreign schools, and be recognized by this Graduate School as having achieved at least the equivalent academic abilities of someone with a master’s degree on the basis of those research accomplishments.

(8) Be aged 24 or above and, through individual admission qualification screening, be recognized by this Graduate School as having achieved at least the equivalent academic abilities of someone with a master’s degree or professional degree.

Note: Applicants who do not satisfy any of the above qualifications should contact the Graduate Academic Affairs Section (see 13. Contact Information).

4. Requirements for Admission

Applicants for both the Master’s Degree and Doctoral Degree Program must have taken one of the following on or after March 1, 2017: TOEFL iBT®, TOEFL® PBT, TOEIC® or IELTS (Academic Module). By the time of their application, applicants must have obtained a score equal to or greater than that required by the school of engineering as shown below.

<table>
<thead>
<tr>
<th>TOEFL®</th>
<th>iBT</th>
<th>79 or higher</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PBT</td>
<td>550 or higher</td>
</tr>
<tr>
<td>TOEIC®</td>
<td></td>
<td>730 or higher</td>
</tr>
<tr>
<td>IELTS</td>
<td></td>
<td>6.0 or higher</td>
</tr>
</tbody>
</table>

The applicants for the Master’s Degree Program advancing from IMAC-U Undergraduate Program and for the Doctoral Degree Program advancing from IMAC-G Master’s Program are waived to submit English proficiency test score. The applicants whose native tongue is considered to be English must make a contact with Graduate Academic Affairs Section (see 13. Contact Information) in advance, if they want to omit the submission of English proficiency test score. The evidence that the applicants have received formal education in English may be
required for the application.

5. Period for Submission of Applications

(1) Deadline: January 10, 2019.

(2) Submission

(a) By mail or in person

All application documents should be received by the deadline at the address below. Applicants who intend to submit their applications in person should go to the office during office hours from 9:00 a.m. to 4:30 p.m. (the office is closed from 11:45 a.m. to 1:00 p.m.).

Mailing Address:

Graduate Academic Affairs Section
Graduate School of Engineering
Tohoku University
6-6-04 Aramaki Aza Aoba, Aoba-ku, Sendai, Miyagi 980-8579, Japan
tel. +81-22-795-5820 (for mail and delivery service only)

6. Application Documents

- Applicants applying for the Master's Degree Program for Foreign Residents in Japan should prepare the following documents in English or Japanese and submit them by the above deadline.

  * Submit original certification documents. Photo copies, digital files, or printouts of digital files are not considered to be original documents.

  * If any false description would be found in application documents, entrance approval may be cancelled even after enrollment.

  * If your home institution does not issue certificates in English, you should contact our office (see 13. Contact Information) before the application period starts.

<table>
<thead>
<tr>
<th>Required documents</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application for admission</td>
<td>Use an official application form for the International Graduate Programs in Engineering.</td>
</tr>
<tr>
<td>(Application Form 1~3)</td>
<td></td>
</tr>
<tr>
<td>Letter of acceptance</td>
<td>Obtain a letter of acceptance from an expected supervisor.</td>
</tr>
<tr>
<td>(Application Form 4)</td>
<td></td>
</tr>
<tr>
<td>Selection vote of the oral examination, examination admission ticket, and address labels (Application Form 5~6)</td>
<td>Please fill in necessary information.</td>
</tr>
<tr>
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</tr>
<tr>
<td>Undergraduate transcript</td>
<td>Issued by the dean of the university from which the applicant has graduated.</td>
</tr>
<tr>
<td>Original TOEFL®, TOEIC® or IELTS score sheets</td>
<td>Submitted original TOEFL®, TOEIC® and IELTS score sheets will not be returned. The TOEFL® “Examinee Score Report” can be returned on the day of the entrance examination if requested at the time of application. Not necessary for applicants advancing from IMAC-U Undergraduate Program. The applicants whose native tongue is considered to be English must make a contact with Graduate Academic Affairs Section (see 13. Contact Information) in advance, if they want to omit the submission of English proficiency test score. The evidence that the applicants have received formal education in English may be required for the application. *TOEFL, TOEFL iBT, TOEFL ITP, and TOEIC are registered trademarks of Educational Testing Service (ETS).</td>
</tr>
<tr>
<td>Certificate of (expected) completion or of degree conferral</td>
<td>Issued by the dean of the university from which the applicant has graduated. Not necessary for applicants who expect to receive a bachelor’s degree from Tohoku University by September 2019.</td>
</tr>
<tr>
<td>Photo ID</td>
<td>Photo (5cm high × 4cm wide) must show upper body, facing front with no hat, and have been taken within three months of application. Attach photo to application Form 1.</td>
</tr>
</tbody>
</table>
Examination fee  
This must be paid at the time of enrollment.  
(See 9. Enrollment Procedures, etc.)

Other reference materials, if any  
Academic publications demonstrating academic ability.

- Applicants applying for the **Doctoral Degree Program** for Foreign Residents in Japan should prepare the following documents in English or Japanese and submit them by the above deadline.

  - Submit original certification documents. Photo copies, digital files, or printouts of digital files are not considered to be original documents.
  - If any false description would be found in application documents, entrance approval may be cancelled even after enrollment.
  - If your home institution does not issue certificates in English, you should contact our office (see 13. Contact Information) before the application period starts.

[1] For applicants advancing from IMAC-G Master’s Degree Program

<table>
<thead>
<tr>
<th>Required documents</th>
<th>Notes</th>
</tr>
</thead>
</table>
| Application for admission  
(Application Form 1~3) | Use an official application form for the International Graduate Programs in Engineering. |
| Letter of acceptance  
(Application Form 4) | Obtain a letter of acceptance from an expected supervisor. |

[2] For other foreign residents

<table>
<thead>
<tr>
<th>Required documents</th>
<th>Notes</th>
</tr>
</thead>
</table>
| Application for admission  
(Application Form 1~3) | Use an official application form for the International Graduate Programs in Engineering. |
| Letter of acceptance  
(Application Form 4) | Obtain a letter of acceptance from an expected supervisor. |
<table>
<thead>
<tr>
<th>Selection vote of the oral examination, examination admission ticket, and address labels (Application Form 5~6)</th>
<th>Please fill in necessary information.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Graduate school transcript</strong></td>
<td>Issued by the dean of the graduate school from which the applicant has graduated.</td>
</tr>
</tbody>
</table>
| **Original of TOEFL®, TOEIC® or IELTS score sheets** | Submitted original TOEFL®, TOEIC® and IELTS score sheets will not be returned. The TOEFL® “Examinee Score Report” can be returned on the entrance examination day if requested at the time of application. The applicants whose native tongue is considered to be English must make a contact with Graduate Academic Affairs Section (see 13. Contact Information) in advance, if they want to omit the submission of English proficiency test score. The evidence that the applicants have received formal education in English may be required for the application.  
*TOEFL, TOEFL iBT, TOEFL ITP, and TOEIC are registered trademarks of Educational Testing Service (ETS).* |
| **Certificate of (expected) completion or of degree conferral** | Issued by the dean of the university from which the applicant has graduated. |
| **Undergraduate transcript** | Issued by the dean of the university from which the applicant has graduated. |
| **Duplicate of master’s thesis** | If thesis cannot be submitted, summary of research (approximately 2,000 characters, 2 A4-size pages) is acceptable. |
| **Photo ID** | Photo (5cm high × 4cm wide) must show upper body, facing front with no hat, and have been taken within three months of application. Attach it to application Form 1. |
Examination fee | This must be paid at the time of enrollment.  
| (See 9. Enrollment Procedures, etc.) 

Other reference materials, if any | Academic publications demonstrating academic ability. 

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7. Examination and Selection

**Examination Dates:** Monday, March 4 to Wednesday, March 6, 2019  
**Examination Venues:**  
Graduate School of Engineering, Tohoku University, Sendai, Japan  
**Selection Method:**  
Preliminary screening will be made on the basis of the submitted documents and applicants will be notified of the result prior to the interview and the written examination. Only those who have passed the preliminary screening are eligible for the interview and the written examination (see Appendix). Successful applicants will be selected based on their overall scores in the interview and the written examination, language proficiency, and the submitted documents.

8. Announcement of Results

Results are scheduled to be posted around 5:00 p.m. on Monday, March 11, 2019, on the website (http://g30.eng.tohoku.ac.jp/imac). Notification of results will also be mailed to applicants on the above date. Please note that results cannot be given in response to telephone inquiries.

9. Enrollment Procedures, etc.

(1) Details of the enrollment procedures will be announced to the expected supervisor of the applicant and his/her laboratory in early September, 2019.  
(2) Fees to be paid at the time of enrollment  
   (a) Examination fee: 30,000 yen  
   (b) Admission fee: 282,000 yen (provisional)  
   (c) Tuition (first semester): 267,900 yen (annual 535,800 yen) (provisional)

**Note 1:** (b) and (c) are provisional. Should admission or tuition fees be revised, the new fees will become applicable from the time of change.  
**Note 2:** Information on the waiving of admission or tuition fees, or permission to defer payment to a later date, etc., will be provided in the enrollment procedure documents sent after notification of results.
Employment as a research assistant (RA) and teaching assistant (TA)

There are employment opportunities for the students in the doctoral program to be employed as RAs, and those in the master’s program to be employed as TAs. The details will be announced after enrollment.

Handling of Personal Information

(1) The Tohoku University Graduate School of Engineering handles personal information in strict compliance with regulations stipulated in the “Act on the Protection of Personal Information Held by Incorporated Administrative Agencies” and the “National University Corporation Tohoku University - Policy on the Protection of Personal Information”, and takes every precaution 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, and student support after enrollment (e.g., scholarships, tuition waiver, health care), student guidance and other academic purposes, as well as in collection of tuition fees, etc.

(3) After enrollment, the Graduate School may outsource administrative work in educational affairs to third-party companies and provide them, depending on needs, with some or all of the student's personal information in compliance with the “National University Corporation Tohoku University - Policy on the Protection of Personal Information”.

Important Notes

(1) Applications by post are to be sent via means whereby you can retain a record of sending (From Japan: Registered Express Mail, from overseas: FedEx, EMS, UPS, DHL etc.).

(2) Notification of the receipt of the application will not be provided automatically. Those desiring notification of receipt of their application should make the appropriate request to the office via e-mail.

(3) Submitted application documents and examination fees cannot be returned.

(4) If you do not receive your examination admission ticket by ten days prior to the examination date, please contact the Graduate Academic Affairs Section, Graduate School of Engineering (See 13. Contact Information).

(5) All other inquiries regarding application for admission should be made to the Graduate Academic Affairs Section, Graduate School of Engineering.

(6) Applicants desiring consultation regarding the need for special assistance or other considerations
in taking the examination or conducting their studies should create a written application indicating the items listed below (no special format). Be assured that such a request will in no way prejudice the outcome of the selection process, as all applicants will be treated fairly.

*Deadline for consultation: As a rule, no later than Wednesday, December 5, 2018.*

*Information to be indicated in creating the application:

A) Name, address, and phone number of applicant
B) University, etc. from which the applicant has graduated
C) Any special considerations desired regarding taking the examination
D) Any special considerations desired in the study environment
E) Nature of any special considerations provided up to now
F) Other relevant information about daily life circumstances
G) Reference materials (if currently receiving medical treatment, enclose a medical certificate issued by your physician)

13. Contact Information

Graduate Academic Affairs Section, Graduate School of Engineering, Tohoku University
6-6-04 Aramaki Aza Aoba, Aoba-ku, Sendai, Miyagi 980-8579, Japan
e-mail: eng-in@grp.tohoku.ac.jp
Homepage: http://g30.eng.tohoku.ac.jp/