

2016 ANNOUNCEMENT

**Graduate School of Engineering, Graduate School of Information Sciences,
Graduate School of Environmental Studies, Graduate School of Biomedical Engineering,
Tohoku University**

Tohoku University International Doctoral Program in Engineering, Information Sciences, Environmental Studies and Biomedical Engineering with elective courses in English

The Graduate School of Engineering, the Graduate School of Information Sciences, the Graduate School of Environmental Studies and the Graduate School of Biomedical Engineering are pleased to announce the Tohoku University International Doctoral Program in Engineering, Information Sciences, Environmental Studies and Biomedical Engineering and invite applicants for 2016 entry. The program was launched in 2001 and is now in its sixteenth year. In this program, a wide variety of elective courses are being offered in English. Also, students enjoy some of the world's best experimental facilities and study along with distinguished faculty and associates to develop creative and original research that is published in highly reputed international journals.

Candidates should submit application materials and choose a department for enrollment from the 25 departments listed below:

Table 1. List of departments

1. Mechanical Systems Engineering	11. Chemical Engineering	19. Computer and Mathematical Sciences
2. Finemechanics	12. Biomolecular Engineering	20. System Information Sciences
3. Aerospace Engineering	13. Metallurgy	21. Human-Social Information Sciences
4. Quantum Science and Energy Engineering	14. Materials Science	22. Applied Information Sciences
5. Robotics	15. Materials Processing	23. Environmental Studies for Advanced Society
6. Electrical Engineering	16. Civil and Environmental Engineering	24. Frontier Sciences for Advanced Environment
7. Communication Engineering	17. Architecture and Building Science	25. Biomedical Engineering
8. Electronic Engineering	18. Management Science and Technology	
9. Applied Physics		
10. Applied Chemistry		

Candidates should also choose one from the following course groups (A-C):

Group A: Life Science

Group B: Green Innovation

Group C: Safety and Security

Twenty-four students can be admitted per year into the program. Lectures in English are arranged in areas of students' research specialty. However, depending on the students' language ability, research supervision may be in English or Japanese. Students may also attend lectures given in Japanese to fulfill their requirements

DEGREE REQUIREMENTS

It depends on the rules of each Graduate School.

Students should complete the necessary credits according to degree requirements given by the department where they belong. Example: Graduate School of Engineering

(for students in the departments 1 through 18)

The main requirements for Ph.D. degree are (1) three years of residency, which may be shortened for special cases in which outstanding research performance is demonstrated; (2) successful completion of a minimum of 16 credits ; (3) submission of a Doctoral dissertation; and (4) oral defense of the dissertation.

Note that students should complete 2 or more credits of subjects provided by the course group (A/B/C) they chose, preferably by the department where they belong.

CANDIDATE ELIGIBILITY

Eligible candidates are:

- Those who have Master's degree, or master's students who are expected to hold a Master's degree before the admission date of the International Doctoral Program. The Master's degree acquired or to be acquired must be equivalent to the Master of Engineering degree, the Master of Information Sciences degree, the Master of Environmental Studies degree and the Master of Biomedical Engineering degree awarded by Tohoku University, which include both research and thesis components.
- Those who have been involved in research for a minimum of two years in internationally accredited College, University or Research Institute after acquiring a Bachelor's degree from a Japanese accredited College or University, or those who have the same or higher level of academic ability than a Master's degree holder.

APPLICATION

All application materials, as listed below, must be written in English or Japanese.

Candidates should submit all the materials except recommendation letters (items 6) together in a single envelope. The envelope should be addressed as given in the forward pages and should contain: three copies of items 7 and 10; originals of items 4 and 5; and one original plus two copies of all other items, except items 6. *GRE* and English test scores (items 4 and 5) should be provided in sealed envelopes as supplied by the responsible organization. The following are the materials to be submitted:

1. APPLICATION FOR ADMISSION (Form #1)
2. Certificates of Bachelor's Degree and Master's Degree
3. Undergraduate and graduate transcripts
4. Graduate Record Examination (*GRE*) scores. (*GRE General Test is preferable*)
5. Test of English as a Foreign Language (*TOEFL®Test*) or International English Language Testing Service (*IELTS*) score. The *TOEFL®Test* institution code of the Graduate School of Engineering, Tohoku University is 8958.
6. RECOMMENDATION LETTER #1 and #2 (Form #3)
7. Census register or other proof of citizenship
8. Copy of passport

9. *Curriculum Vitae* with passport photos (6×4cm) taken within the past 6 months. An original photo is required on each copy of the *curriculum vitae*.
10. Master's dissertation or equivalent (1000 words in English, 2000 characters in Japanese). A cover is required.
11. Personal statement on why the applicant desires to pursue the Doctoral Degree in Engineering, Information Sciences, Environmental Studies or Biomedical Engineering
12. Supporting material (optional) such as thesis, journal, conference, and submitted publications

NOTE: To be eligible for admission, please be sure to submit **ALL** of the above materials.

SELECTION AND ADMISSION

Selection is carried out by the *International Doctoral Program Evaluation Committee*, based on recommendations from the above-mentioned departments and scholastic aptitude of candidates, according to transcripts, *GRE* and English language test scores, direct or internet interview, and materials submitted. The program begins on October 1, 2016.

TUITION AND FEES

Entrance examination fee is 30,000 yen and admission fee is 282,000 yen. Tuition fee is 535,800 yen per academic year. Fees can be revised during the enrollment period. In that case, the new rates are applicable and become effective from the date of the revision.

IMPORTANT NOTES

- (a) Documents submitted become the property of Tohoku University and cannot be returned.
- (b) Candidates should locate a possible research advisor at Tohoku University before application.
- (c) All candidates for the program must have finished at least 16 years of primary and secondary education and must have graduated from a university or equivalent. In principle, a degree from another country should have corresponding number of years of formal education to be considered as equivalent to a Japanese degree. However, the Japanese government and universities, considering the differences in educational systems of different countries, have established criteria and schemes that allow international students to attain equivalence to Japanese educational system. Candidates are strongly advised to contact the Admission Office of the Faculty of Engineering with regards to matters on eligibility prior to application.

Candidates are encouraged to become acquainted with Japanese language, culture, and customs. Knowledge of Japanese is essential for daily life and will help to make the stay in Japan productive and also culturally enriching.

SCHEDULE AND CONTACT INFORMATION

Candidates should submit the required materials so that they arrive no later than May 31, 2016. Candidates will be notified of results of selection by the beginning of July, 2016. The application forms can be obtained from the office of college or university that have a signed academic agreement with Tohoku University, or the homepages listed below. Further information for the application may be requested by writing to:

International Doctoral Program in Engineering, Information Sciences, Environmental Studies and Biomedical Engineering

c/o Graduate School of Engineering, Tohoku University

Aramaki Aza Aoba 6-6-04, Aoba-ku, Sendai 980-8579

TEL: +81-22-795-5820

FAX: +81-22-795-5824

HOME PAGE: <http://www.eng.tohoku.ac.jp/english/admission/procedure/doctoral.html>

<http://www.eng.tohoku.ac.jp/english/academics/doctoral.html>

Tohoku University International Doctoral Program in
Engineering, Information Sciences, Environmental Studies and Biomedical Engineering
APPLICATION FOR ADMISSION

Please type or print neatly in English or Japanese.

PLEASE USE CAPITAL LETTERS.

Name in full Roman block capitals: _____
Family name First name Middle name

In Chinese character if any: _____
Family name First name Middle name

Date of birth: _____
19xx/month/day

Nationality: _____

Present status: (with name and address of university or employer)

Present mailing address:

Phone number: _____ Fax number: _____

E-mail address: _____

Permanent address: (if different from above)

Phone number: _____ Fax number: _____

E-mail address: _____

Academic record and activities

(a) Bachelor: _____

Degree

Major

Name of institution

from (Mo./Yr.) to (Mo./Yr.)

Address

Grade point average (avg/max possible, e.g. 3.5/4.0); Scholastic honors or prizes

(b) Master : _____

Degree

Major

Name of institution

from (Mo./Yr.) to (Mo./Yr.)

Address

Grade point average (avg/max possible, e.g. 3.5/4.0); Scholastic honors or prizes

Other academic experience or education:

Language proficiency. Please check the appropriate boxes:
evaluated by the candidate evaluated by a responsible language instructor (initials: _____)
English読(Reading) : Excellent Good Fair Poor書(Writing) : Excellent Good Fair Poor話(Speaking): Excellent Good Fair Poor聞(Listening): Excellent Good Fair Poor**日本語能力****(Japanese language proficiency ; For University information only)**読(Reading) : Excellent Good Fair Poor書(Writing) : Excellent Good Fair Poor話(Speaking): Excellent Good Fair Poor聞(Listening): Excellent Good Fair Poor

**DEPARTMENT, COURSE GROUP,
AND ADVISOR PREFERENCES**

Please choose one among the departments numbered 1 through 25 in Table 1 on the cover page. (Please write the full name of the department.)

Please choose one among the course groups A through C on the cover page. (Please write the full name of the course group.)

List the names of your prospective advisors (**Professor/Associate Professor**) to find prospective advisors, we recommend that you refer to the general pamphlets (English version), the university homepage (<http://www.eng.tohoku.ac.jp/english/>), or current journal publications in your chosen research field to obtain information on current faculty names and research areas.

You should contact the prospective advisors listed below before application.

1. _____
advisor's name and department **Previous contact?** **Yes** **No**

2. _____
advisor's name and department **Previous contact?** **Yes** **No**

3. _____
advisor's name and department **Previous contact?** **Yes** **No**

Please briefly provide your reasons for selecting these prospective advisors. Also, list dates of communication with them and keyword content.

**Tohoku University International Doctoral Program in
Engineering, Information Sciences, Environmental Studies and Biomedical Engineering**

RECOMMENDATION LETTER #1

(to be filled out *by a faculty member* familiar with applicant's aptitude)

Name of applicant: _____

Family name

First name

Middle name

The person named above is applying for admission to the International Doctoral Program in Engineering, Information Sciences, Environmental Studies and Biomedical Engineering at Tohoku University. We would appreciate your assessment of the applicant's ability to pursue doctoral research, particularly regarding the candidate's ability to develop a plan of study and to perform original research. We would also appreciate your comments regarding the candidate's study habits and ability to work with others. All information will remain confidential.

Please return this letter directly to: Director, International Doctoral Program in Engineering, Information Sciences, Environmental Studies and Biomedical Engineering,

c/o Graduate School of Engineering, Tohoku University, Aramaki Aza Aoba 6-6-04, Aoba-ku, Sendai 980-8579, JAPAN

Please use additional pages if necessary.

Please mail your recommendation so that it reaches our office no later than May 31, 2016.

Thank you very much for your cooperation.

I. Candidate ranking among students within the last five years. (please circle or check)

Outstanding	Unusual	Good	Somewhat above average	Average	Below Average	Inadequate Opportunity to observe
Exceptional 1%	Highest 10%	Next Highest 15%	Next 15%	Middle 20%	Lowest 40%	

II. Comments

Faculty Name: _____ Signature: _____ Date: _____

Affiliation: _____

Contact information: (Email/Telephone): _____

Tohoku University International Doctoral Program in Engineering, Information Sciences, Environmental Studies and Biomedical Engineering

RECOMMENDATION LETTER #2

(to be filled out *by a faculty member or employer* familiar with applicant's aptitude)

Name of applicant: _____

Family name

First name

Middle name

The person named above is applying for admission to the International Doctoral Program in Engineering, Information Sciences, Environmental Studies and Biomedical Engineering at Tohoku University. We would appreciate your assessment of the applicant's ability to pursue doctoral research, particularly regarding the candidate's ability to develop a plan of study and to perform original research. We would also appreciate your comments regarding the candidate's study habits and ability to work with others. All information will remain confidential.

Please return this letter directly to: Director, International Doctoral Program in Engineering, Information Sciences, Environmental Studies and Biomedical Engineering,

c/o Graduate School of Engineering, Tohoku University, Aramaki Aza Aoba 6-6-04, Aoba-ku, Sendai 980-8579, JAPAN

Please use additional pages if necessary.

Please mail your recommendation so that it reaches our office no later than May 31, 2016.

Thank you very much for your cooperation.

I. Candidate assessment among students graduating within the last five years. (please circle or check)

Outstanding	Unusual	Good	Somewhat above average	Average	Below Average	Inadequate Opportunity to observe
Exceptional 1%	Highest 10%	Next Highest 15%	Next 15%	Middle 20%	Lowest 40%	

II. Comments

Faculty or Employer Name: _____ Signature: _____ Date: _____

Affiliation: _____

Contact information: (Email/Telephone): _____

**Tohoku University International Doctoral Program in
Engineering, Information Sciences, Environmental Studies and Biomedical Engineering
2016–2018 Course Groups**

Numbers in parentheses “()” refer to departments offering the courses listed in page 1.

Group A: Life Science

- (6)(25) Advanced Bioelectromagnetics (生体電磁工学特論／電エ, 医工学),
- (19) Advanced Topics in Neuroscience (神経科学の進歩／情報),
- (5) (25) Advanced Bio-Mechanics (バイオメカニクス特論／ロボ),
- (12) Advanced Biomolecular Engineering (応用生命化学特論／バ工),
- (16) Advanced Environmental Hydraulics and Water Quality Engineering (水環境学特論／土木)
- (4) Medical Molecular Engineering (分子医工学／量子),

Group B: Green Innovation

- (9) Quantum Material Physics (量子材料物理／応物),
- (11) Advanced Process Analysis and Modeling (プロセス解析工学特論／化工),
- (17) CFD modeling for building environment design (建築環境デザインのための CFD モデリング／建築),
- (18) Advanced Energy Systems and Society (エネルギー社会システム特論／技術),
- (24) Advanced Functional Materials for Environment-friendly Systems (環境材料機能学特論／先端),
- (24) Advanced Eco-engineering Systems (環境物性化学特論／先端),
- (24) Advanced surface and subsurface measurements for environmental science (地球環境計測学特論／先端),
- (10) Advanced Course in Atoms and Molecules Control Engineering (原子・分子制御工学特論／応化),
- (13) Advanced Course on Materials Physical Chemistry (材料理化学特論／金フ), ,
- (14) Advanced Topics on Highly Sophisticated Materials (物性制御学特論／知材), ,
- (14) Advanced Topics on High Performance Materials (高機能材料学特論／知材)

Group C: Safety and Security

- (3) Shock Wave in Complex Media and their Interdisciplinary Applications
(複雑な媒体中の衝撃波とその応用／航空),
- (16) Advanced Civil Engineering Structures (社会基盤構造学特論／土木),
- (18) Advanced Topics in Technology Policy (実践技術政策特論／技術),
- (1) (2) Advanced Damage Tolerance and Design (損傷計測学特論／機械創成, ファイン),
- (7) (8) Advanced High-Speed Communication Engineering (先端超高速情報工学／通信, 電子),
- (13) Metallurgical Process Engineering (金属プロセス工学特論／金フ),
- (4) Advanced Quantum Science and Energy Engineering (量子エネルギー工学特論／量子),
- (8) Advanced Electronic Device Engineering (電子デバイス工学特論／電子),
- (15) Advanced Materials Processing (材料システム工学特論／材シ),
- (17) Geological Environment and Earthquake Disaster (地盤環境と地震災害／建築),

Note: Please refer to “DEGREE REQUIREMENTS” in the previous pages.