

### STUDENT ADMISSION INFORMATION FOR 2024 October

## Special Selection Examination for International Students

# DOCTORAL PROGRAM (GRADUATE SCHOOL OF MEDICINE) MEDICAL SCIENCES

Application period	Nov 1(Wed), 2023 – Nov 8(Wed), 2023	Prescreening
	Dec 1(Fri), 2023—Dec 15(Fri), 2023	Web site, Documents
Entrance examination (Oral examination)	To be conducted from December 25th, 2023 to January 11th, 2024 in each department you applied for.	
Announcement of successful applicants	February 8th(Thu), 2024	
Registration for admission	October 1, 2024	

# TOHOKU UNIVERSITY GRADUATE SCHOOL OF MEDICINE

October 2023

The English translations are provided only for reference purposes to aid in the understanding of the Japanese originals. In the case of a discrepancy between the Japanese original and its English translation, the former shall take precedence.

### Purpose of Our School

The Tohoku University Graduate School of Medicine aims to nurture worldclass outstanding researchers and professionals with a high level of specialized knowledge and skills in the field of medicine, a strong spirit of inquiry, a strong sense of mission and ethics, and the ability to specifically promote solutions to problems in the medical field in an advanced, interdisciplinary, and creative manner.

Specifically, we seek students who aspire to become researchers, advanced professionals, or educators possessing rich humanity that contribute to new developments in the medical field with the aim of improving the health and welfare of people in Japan and around the world through specialized knowledge and skills supported by a strong spirit of inquiry and a strong sense of mission and ethics.

For this reason, we conduct entrance examinations through general admission, special admission for working adults (only for the PhD Degree Program (4-year course)), special admission for international students (only for the PhD Degree Program (3-year course)) and special admission (only for some courses in the Master's Degree Program of School of Public Health), and select students based on whether or not they have the high ability and qualities necessary for conducting research in accordance with these educational principles and goals.

### **Admissions Policy**

Medical Sciences (PhD Degree Program (4-year course)

In the general selection examination, special selection examination for working adults and special selection examination for international students, we select students based on English proficiency evaluated using the applicants' scores on external examinations and oral examinations evaluating their specialized knowledge, thinking ability, motivation, and aptitude, with special emphasis on those who aim to become medical researchers with the advanced research skills necessary to conduct research activities independently or engage in professional work. English proficiency equivalent to that of a graduate of a six-year university or master's degree course, basic advanced-specialized knowledge and thinking ability in relation to the applicant's major and field of study, specific motivation, and aptitude for study are necessary to exceed the criteria set by the Graduate School, and the results of the oral examination are especially important in the selection process.

Note that students are expected to have acquired basic advancedspecialized knowledge and English language skills prior to admission. Tohoku University Graduate School of Medicine is seeking students for the Doctoral Program [Major of Medical Sciences] according to the following guidelines:

### NUMBER OF OPENINGS FOR STUDENTS: A few

(Including the Quantum Biology and Molecular Imaging Course, Tumor Specialists Training Course, Medical Physics Course, Comprehensive Medicine Course, Medical AI Course, Disaster Medicine and Health Care Research Course, Network Medicine Course)

### 2. MAJOR: MEDICAL SCIENCES

\*For offered fields (education and research field), please refer to the Tohoku University Graduate School of Medicine website.

https://www.med.tohoku.ac.jp/english/about/laboratory

### 3. ADMISSION REQUIREMENTS

Applicants for the Special Selection Examination for International Students of the doctoral program (Major of Medical Sciences) must be non-Japanese nationals whose status of residence is "Student" or who expect to obtain "Student" status at the time of admission, and satisfy one of the following conditions:

Note that applicants who have multiple nationality between Japan and other countries, or who have obtained a permanent residence permit from Japan are not eligible to apply.

- (1) Those who have graduated from a school of medicine, dentistry, pharmacology, or veterinary medicine (including those who are expected to graduate by September 2024).
- (2) Those who have completed 18 years of education in a foreign country (including those who are expected to complete such education before September 2024).
- (3) Those who are specified by the Ministry of Education, Culture, Sports, Science and Technology (Ordinance of the Ministry of Education, No. 39 of April 8, 195 5), such as those who have obtained or are expected to obtain by September 202 3 a degree equivalent to a master's degree, first-stage doctoral degree (2-year p rogram), or professional degree after completing the necessary coursework, and are recognized to have academic abilities equivalent to persons who have grad uated from an undergraduate school of medicine, dentistry, pharmacology, or v eterinary medicine by this graduate school, or who will obtain such recognition by September 2024.
- (4) Those who have completed 18 years of education in a foreign country through correspondence courses provided in Japan by a foreign school of said country or who are expected to complete said courses by September 2024.
- (5) Those who have completed or are expected to complete by September 2024 a program in an educational facility in Japan designated separately by the Ministry of Education, Culture, Sports, Science and Technology that provides courses from a foreign university within the school system of a foreign country (This applies solely to those who have completed 18 years of education in said foreign country)
- (6) Students who have been conferred a degree equivalent to a bachelor's degree upon completion of a curriculum that has a course term of five 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) (including those who are expected to acquire a Bachelor degree by September 2024)
- (7) Those who have been enrolled in a university's medical, dental, pharmaceutical, or veterinary medicine course for more than four years, those who have completed 16 years of formal education (limited to those that included a medical, dental, pharmaceutical, or veterinary science course; hereafter, the same shall apply in this item), those who have completed 16 years of education in a foreign country through correspondence courses provided in Japan by a foreign school of said country, or those who have completed a program in an educational facility in Japan designated separately by the Ministry of Education, Culture, Sports, Science and Technology that provides courses from a foreign university within the school education system of a foreign country (this applies solely to those who have completed 16 years of education in said foreign country) and who have been recognized by this graduate school as having acquired the specified credits with outstanding performance by September 2024.
- (8) Those who entered another graduate school (school of medicine, dentistry, pharmacology, or veterinary medicine) in compliance with the provisions of Article 102, Paragraph 2 of the Law and who are recognized by this graduate school as having academic ability appropriate for receiving postgraduate education.
- (9) Those over 24 years old by September 2024 whom this graduate school has authorized, through individual screening of entrance qualifications, as having abilities that are at least equivalent to those who have graduated from a university.

### (EXPLANATORY REMARKS)

- 1. Please make sure you fully understand the research content of the department you wish to apply for and contact the professor of the department directly before applying to obtain his/her approval for your application.
- 2. In the case of a foreigner, please confirm the entrance qualification to the Graduate Academic Affairs Section, Graduate School of Medicine before submitting the application form.
- 3. A university listed in item (1), (7) and (9) refers to a 6-year university in Japan.
- 4. 18 years of education in item (2) should include 6-yaer university as a last educational background.
- 5. A "master's degree, doctoral degree (first two years of the doctoral program, i.e., master's program) or professional degree" listed in item (3) above refers to a Japanese university master's degree, doctoral degree (first two years of the doctoral program, i.e., master's program) or professional degree.
- 6. Applicants who satisfy the conditions for item (6), (7), (8) or (9), must pass the preliminary screening for admissions.
  - a. Application Period for preliminary screening Nov 1(Wed),2023 Nov 8(Wed), 2023
  - b. Those who wish to take the preliminary screening should contact the Graduate Academic Affairs Section, Graduate School of Medicine before applying.

<sup>\*</sup> Refer to the Tohoku University Graduate School of Medicine website "Concerning the Application for Examination of Qualifications for Admission".

### 4. APPLICATION PROCEDURE

### (1) ONLINE APPLICATION PROCEDURE

Applicants are required to complete the application procedures by the online application system, The Admissions Office (hereinafter referred to as TAO), within the application period. The outline is as follows.

1 Confirmation of application guidelines and obtaining necessary documents



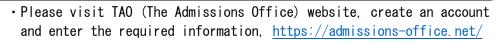
- Please carefully check this application guideline for application qualifications (pages 2 to 3) and necessary documents for application (pages 5 to 7).
- Please ask your university or college to issue certificates of gradu ation (or expected graduation), transcripts and other documents for your application in advance.
- 2 Payment of examination fee

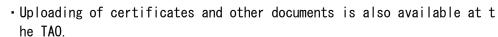


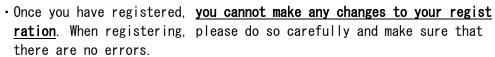
- Please follow the instructions on page 6 of this application guideline and transfer the money to the designated bank account using an ATM (fin ancial institution, convenience store), Internet banking, etc. A handling fee will be charged (to be borne by the applicant).
- After transferring the money, please upload a PDF or image file of the ATM statement or Internet banking transfer completion screen that shows the payee information, amount and transfer date on the TAO (application website).

[NOTE] Application registration or payment of the application fee is notenough to complete the application procedure.

3 Apply on the TAO application website







• The temporary save function is available, please use it effectively for checking.



The application procedure is completed by both paying the application fee and registering the application information on the Internet.

Please note that the application procedure is not completed only by paying the examination fee or registering the application information on the Internet.

In addition, please submit the "English Score Sheet" as described on page 7 within the application period.

#### (2) APPLICATION PERIOD

### From December 1 (Fri), 2023 to December 15 (Fri), 2023 [Strict Deadline]

### (3) CONTACT INFORMATION:

Graduate Academic Affairs Section, Academic Affairs Office Tohoku University Graduate School of Medicine 2-1 Seiryo-machi, Aoba-ku, Sendai 980-8575 Japan

Tel: (+81) 22-717-8010

Email Address: m-daigakuin@grp.tohoku.ac.jp

### (4) APPLICATION DOCUMENTS

• Applicant information registration on the TAO.

DOCUMENTS	PARTICULARS
PHOTOGRAPH DATA OF THE APPLICANT	Upload a photo of the applicant by TAO.  *The photo must be taken within 3 months prior to the application, with the upper half of the body, without a headband, facing front.  *Available data must be in jpeg or png format and between 100 KB and 5 MB in size.
TRANSCRIPT OF ACADEMIC RECORDS	Prepared by the Dean of your home university (faculty). Please convert it to PDF or image data and upload it by TAO. *Those who have graduated from a course other than medicine, dentistry, pharmacy or veterinary science and have completed a master's course, or a professional degree course of a graduate school in Japan should upload a transcript of the graduate school in addition to a transcript of the university (undergraduate school) from which you graduated. *For those who graduated from School/ Graduate School of Medicine, transcript of Tohoku University is not required.
CERTIFICATE OF COMPLETION (EXPECTED COMPLETION), ETC.	Certificate of the completion (expected completion) of a bachelor's degree or a certificate of the conferral (expected conferral) of a bachelor's degree.  Please convert it to PDF or image data and upload it by TAO.  *For those who graduated from the School/ Graduate School of Medicine, the certificate of Tohoku University is not required.
EXAMINATION INFORMATION	Please check the information on the TAO and enter the pledge date, name, and other necessary information.
A COPY OF RESIDENCE CARD (ONLY FOR INTERNATIONAL STUDENT)	Applicants who stay in Japan (whose stay is over 90 days) must submit your copy of residence card (both front and back) at the application.  Please convert it to PDF or image data and upload it by TAO.

APPLICATION FEE, ¥30,000	The application fee is ¥30,000. Please transfer the examination fee to the bank account below using an ATM (financial institution, convenience store) or Internet banking. *The applicant must register his/her own name as the payee of the bank transfer. *The transfer fee is to be paid by the applicant. Application Fee: ¥30,000  Due Date: December 15 【Strict Deadline】 Bank: 三菱UFJ銀行 (Bank Code: 0 0 0 5) Branch: わかたけ支店 (Branch Code: 8 0 9)  Deposit Type: Savings Account Account Number: 2 2 5 9 1 3 1  Account Holder: 国立大学法人東北大学 Katakana Name: ダイ)トウホクダイガク  ①Those who are expected to complete a master's course or a professional degree course of Tohoku University in September 2024 are not required. ②MEXT Scholarship students are not required to pay the examination fee. ③Those who apply for the application fee exemption for the victims of disasters occur 2023 in Japan are not required. Those who are eligible should complete the procedures at the following website. https://www.tnc.tohoku.ac.jp/exempt.php ④Applicants who live overseas can pay by credit card. Please contact the Graduate Academic Affairs Section before applying.
CONFIRMATION DOCUMENT OF PAYMENT	After the transfer, please convert the ATM statement, Internet banking transfer completion screen, etc., which shows the payee account information, amount, transfer date, etc., into PDF or image data and upload it by TAO.  *Those who are expected to complete a master's course or a professional degree course of Tohoku University in September 2024 are not required.  *MEXT Scholarship students are not required.  *Those who apply for the application fee exemption for the victims of disasters occur 2023 in Japan are not required.

### • Necessary documents:

DOCUMENTS	PARTICULARS
ASPIRATIONS, MOTIVES, REASONS AND AMBITIONS	A Graduate School prescribed form.(Download from the website) *Approximately 500 words long Please submit the document to the prospective supervisor before the document screening (December 25(Mon), 2023 to January 11(Thu), 2024).

Educational Please output the date of Educational Background, work and Background, work research experience, etc from TAO and submit the document and research to the prospective supervisor before the document screening experience, etc (December 25(Mon), 2023 to January 11(Thu), 2024). Please submit the official document(s) verifying that the result(s) of your TOEIC® Listening & Reading Test, TOEFL iBT®, TOEFL iBT® Home Edition, IELTS or Duolingo English Test you have taken after December 1, 2021 to (3) CONTACT INFORMATION. \*We don't return your score sheets submitted in principle. Only the TOEFL® Test Taker Report will be returned if requested at the time of application. \*Result from non-public tests will not be accepted.(ex:TOEFL ITP®, TOEIC IP®) \*In case of TOEIC® taken after April 2023, please submit a English score record. PDF file of the official digital certificate via TAO. In case of \* < Your foreign TOEIC® taken before March 2023, please submit the original language (English) official certificate. In case of IELTS, please submit the proficiency is original copy of your official result transcript. In case of evaluated on TOEIC®, TOEFL®, submit the original Test Taker Report or original TOEFL®, IELTS or Official Score Report. Duolingo English Test \*Our DI Code of the TOEFL® is "3332". \*In case taking the Duolingo English Test, you will be asked <Must arrive by to select the school to which you want to apply, please select December 15> our Graduate school in that section. Sometimes it will take a long time to get a result or the test may not be approved, so please take the test with enough time to spare. \* If it is difficult to submit the original official score certificate by deadline, we accept a copy, such as web-caption of the score etc, as a special measure. However, all applicants MUST submit the original score certificate (must be paper-printed) when it becomes available. \*We do not accept any updates/ replacement of the score of the English test once it's submitted.

### (5) IMPORTANT REMINDER

- ① Any blank spaces or irregularities found in applications may result in rejection of the application so applicants should exercise great care when filling out the application form.
- ② If any of the information in an application is found to be false, it may result in cancellation of admission if the applicant is initially accepted.

(TOEFL®, TOEFL iBT®, TOEFL ITP® and TOEIC® are

registered trademarks of Educational Testing Service (ETS).)

③ If an applicant has committed serious misconduct before enrollment, the school may cancel acceptance or revoke admission even after the applicant has been enrolled.

- ① The application fee is non-refundable under any circumstances.
- ⑤ Applicants who have satisfied the conditions for entry through preliminary screening should convert the acceptance notification to PDF or image data and upload it by TAO.
- (6) The University does not accept the application withdrawal after the reception and the modification of contents of applications.

### 5. SCREENING

- (1) Applicants will be evaluated based on the following perspectives.
  - ① The official score certificate of the English proficiency test (TOEIC®, TOEFL®, IELTS etc.) official score certificate
  - 2)Oral examination score

In the oral examination, the applicant's professional knowledge, ability to think, motivation for application, and aptitude will be evaluated.

(2) Entrance examination date/ time & subjects

TYPE OF TEST	Examination Contents
Oral examination	To be conducted from December 25, 2023 to January 11, 2024 in each department you applied for.

\* We do NOT hold a written exam.

Oral examination will be conducted in each department you applied for. For details on examination dates and content, etc., please confirm with the department you applied for after December 25 by yourself.

List of departments https://www.med.tohoku.ac.jp/english/about/laboratory/

### (3) EVALUATION OF FOREGIN LANGUAGE (ENGLISH)

The score of TOEIC®, TOEFL®, IELTS etc. submitted at the application is converted into the normal score. If several score records are provided, the higher record is used for evaluation.

### 6. ANNOUNCEMENT OF SUCCESSFUL APPLICANTS & PROCEDURE FOR ADMISSION

- (1) The identification numbers of the successful applicants will be published on the website at 10:00 on February 8 (Thu), 2024. The results of examination will be noticed on the TAO as well. We cannot answer the examination result on the phone or via email.
- (2) Admission documents will be mailed to successful applicants around early September 2024. Original of transcripts, graduation certificates, etc. must be submitted at the time of admission procedure.
- (3) Fees for admission are as follows:
  - ①Admission fee: ¥282,000 (expected)
  - ②First semester tuition: ¥267,900 (annual tuition: ¥535,800) (expected) (Explanatory Remarks)
    - 1. The amounts mentioned above may change if the fees are revised at school entry or during the period of the applicant's enrollment, in which case the new payment system will be applicable.
    - 2. Information on exemptions from payment of admission or tuition fees or deferment of fees will be provided in the admission procedure document

packet.

- 3. Those who are expected to complete a master's course or a professional degree course of Tohoku University in September 2024 are not required.
- (4) Applicants who are employed at the time of admission must submit a letter of consent from their employer.
- (5) In order for international students to obtain "Student" visa and stay in Japan, they must submit an application for Certificate of Eligibility (COE) to the Sendai Immigration Bureau. The examination period at the Immigration Bureau usually takes one to three months, so please proceed with the procedures as soon as you receive the "Acceptance Letter"
- (6) The date of registration for admission is October 1, 2024.

### 7. OTHER INFORMATION

- (1) Handling of personal information
  - 1) Personal information held by the University will be handled in compliance with the "Act on the Protection of Personal Information. (Law No. 57 of 2003)" and other laws and regulations, as well as in accordance with the relevant regulations of Tohoku University, such as "Regulations on Protection of Personal Information at National University Corporation Tohoku University" to ensure the protection of personal information.
  - 2) Personal information, such as examination results used for the selection of applicants, will be used for the selection of applicants, admission procedures, pre-enrollment education, surveys such as follow-up surveys etc., post-enrollment student support (scholarships, tuition exemptions, health care, etc.), educational purposes such as academic guidance, tuition collection, etc., and surveys and research (improvement of entrance examinations, survey and analysis of applicant trends, etc. For enrolled students, this includes analysis along with personal information after enrollment.).
  - 3) Work related to admissions and educational affairs may be performed by contractors entrusted by Tohoku University (hereinafter referred to as "contractors"). When outsourcing work, in case all or part of the personal information are provided to the contractors, we will take necessary measures to ensure that personal information is handled appropriately in accordance with the relevant regulations of Tohoku University, such as "Regulations on Protection of Personal Information at National University Corporation Tohoku University".
  - 4) Applicants to the Tohoku University Graduate School of Medicine are understood to be in agreement with the content of the statement above.
- (2) Applicants requiring special care during the examination procedures and subsequent schooling should request advice in advance by contacting the Graduate Academic Affairs Section, Graduate School of Medicine. Please submit your "special care" requirement with prescribed form to Academic Affairs Section during November 1 and November 8, 2023.

(3) Those who apply for the PhD Program Special Selection Examination for International student for the academic year 2024 October cannot apply for the PhD Program for the academic year 2024 to be held on the same day.

### TOHOKU UNIVERSITY GRADUATE SCHOOL OF MEDICINE

Graduate Academic Affairs Section 2-1 Seiryo-machi, Aoba-ku, Sendai 980-8575 Japan

Tel: (+81) (0)22-717-8010

Email Address: m-daigakuin@grp.tohoku.ac.jp

### DESCRIPTION OF GRADUATE SCHOOL PROGRAM

### 1. OBJECTIVE AND MISSION

The main objective of our Graduate School is to train medical researchers to achieve a high standard of independent research activities. With their acquisition of superior research skills and the necessary fundamental knowledge, they will eventually be able to contribute to the development of medicine and improve the welfare of society.

### 2. COURSE OF STUDY AND CURRICULUM

To complete a course of study at our graduate school, students must be enrolled for at least four years and attain 30 or more credits in fundamental knowledge lecture courses, training courses in experimental skills and advanced lecture courses. Also, students will receive the necessary research guidance so that they may complete a doctoral dissertation and successfully pass the review and final examination.

However, students who have acquired the necessary credits and been highly evaluated for their achievements by the Graduate Research Review Committee may complete the course in three or more years.

### 3. RESEARCH SUPERVISION

All students who are admitted into the graduate program will be given research guidance in accordance with the research themes of the departments the students belong to.

Please refer to the Tohoku University Graduate School of Medicine website. (Note) Fields marked with "%" in the "List of Department" below will not be accepting applications this time. If you have any questions, please contact the Graduate Academic Affairs Section.

List of departments https://www.med.tohoku.ac.jp/english/about/laboratory/

### 4. ADMISSION FEE/TUITION EXEMPTIONS

### (1) Exemption of Admission Fee

Students recognized as being in severe financial difficulties are eligible to apply for exemption from payment of the admission fee (complete or part exemption).

### (2) Exemption of Tuition

Students recognized as being in severe financial difficulties are eligible to apply for tuition exemption (complete or part exemption) if they have an excellent academic record.

\*Please refer to the Tohoku University website "The application for admission fee waiver" and "The application for tuition fee waiver". http://www2.he.tohoku.ac.jp/menjo/

### 5. INTRODUCTION OF THE PROGRAMS

#### (1) General Course

The Major Medical Sciences trains students to take on the challenge of solving critical issues in the field of medicine. In order to conduct cuttingedge medical research, it is important not only to acquire highly specialized knowledge and an understanding of world-class research, but also to have a strong desire to take on important challenges that no one else in the world has solved. In the Major of Medical Sciences, in order to nurture human resources in the field of medicine with diverse perspectives while making the most of the individuality and talents of each student, we have built an environment in which graduate students can actively promote their research by enhancing the multifaceted guidance system, such as the "multiple faculty advisory system" and the "graduate school retreat". In addition, there are facilities to support research, such as a common equipment room, which allows students to conduct research using state-of-the-art research equipment beyond the boundaries of the laboratory. On the other hand, it is possible to attend many lectures at the Internet School of Tohoku University (ISTU) from outside the university, so working people can pursue their degree while continuing to work.

(2) Quantum Biology and Molecular Imaging Course Molecular imaging examines behaviors of in-vivo biological systems including genes and proteins. It is involved with new boundary/interdisciplinary areas of medicine, pharmaceutical sciences and engineering. Molecular imaging uses positron emission tomography (PET), magnetic resonance imaging (MRI), optical imaging, etc. Molecular imaging allows viewing changes of biological systems on a molecular base and understanding them dynamically and quantitatively. It is anticipated as a measure to diagnose cancer and dementia such as Alzheimer's disease in a very early stage.

To establish an extremely early diagnosis method based on molecular imaging, there are various technological challenges, e.g., developing equipment and devices in an engineering area, molecular probes in an area of pharmaceutical sciences, and diagnostic modalities in areas of medicine and dentistry.

The course on "molecular imaging" deals with research and education relating to molecular imaging. It targets developing advanced diagnostic modalities by integrating molecular imaging with up-to-date science and technology through not only advanced medicine including radiology, nuclear medicine, pharmacology, oncology, psychiatry, etc., but also through interdisciplinary approaches in the fields of pharmaceutical sciences, engineering and dentistry.

Some programs of this course are conducted in collaboration with the National Institute of Radiological Sciences (NIRS).

### (3) Cancer training course

Cancer is the leading cause of death in Japan, and it is estimated that about one in two Japanese will develop cancer during their lifetime. Now it has become a serious social issue for the life and health of Japanese. In this course, the following sub-courses will be established:

- 1. Human resources who can respond to issues that are becoming apparent in the field of cancer treatment.
- 2. Human resources who promote cancer prevention.
- 3. Human resources who can develop new treatment methods.

We aim to train human resources. In all sub-courses, students will take general and detailed clinical oncology necessary for cancer treatment in the systematic lecture course and will gain practical clinical experience for a certain period in the training course on specialized treatment in each area. Furthermore, in addition to writing research papers related to clinical oncology as part of thesis research, students deepen their knowledge of the latest cancer treatments through cancer professional joint seminars in the advanced lecture course.

Applicants for the oncologist training course should fill in the name of the sub-course listed below in the designated space on the application form.

- ① Palliative medicine specialist training course
- 2 Medical Oncologist (genomic medicine, hereditary tumor) course
- ③ Next-generation surgical oncologist course
- 4 Gynecologic Oncologist Course
- ⑤ Radiation Oncologist Course
- ⑥ Pediatric Oncologist Course
- Regional pathologist training course

### (4) Medical Physicists Training Course

Advanced large medical machines are used in areas of diagnostic radiology and radiation therapy. Medical physicists are involved in the development of new instrumentation and technology for use in such fields and in the accurate measurement of the radiation output from radiation sources employed in cancer therapy to contribute clinical and scientific advice and resources to solve the numerous and diverse problems that arise continually in many specialized medical areas. Medical physicists are required to get credits in medicine, physics and clinical experience. Graduates of the Department of Radiation Technology in the Health Science Course and those of the Physical or Engineering Faculty are entered into this course. Medical physicists trained in research, education and medical treatment as team members with other medical specialists are trained.

### (5) Comprehensive Medicine Course

In this course, advanced clinical medical education, practical general practice training and medical management learning, which have traditionally been conducted independently by university hospitals and community hospitals, will be integrated with university hospitals and community hospitals. Through this program, you can develop your career as a family medicine specialist, cultivate your knowledge of advanced

clinical medicine, and promote clinical research while conducting on-thejob training at a community hospital (community education center). Our goal is to train "conductor-type general practitioners" who have the latest knowledge to triage patients by judging the necessity of advanced medical care, demonstrate leadership to manage community comprehensive care consisting of medical care, nursing care and welfare, and promote community-based clinical research.

### (6) Medical AI Course

Japan is facing many medical issues such as an aging/aging society, uneven distribution of medical personnel and labor reform. In order to overcome these issues, this course promotes a doctoral human resource development program in cooperation with universities, research institutes, companies and local governments throughout the country aiming to "cultivate human resources who can curate a wide range of medical issues unique to each region and design AI solutions."

The curriculum begins with lectures on cutting-edge AI research and development, and students will learn how to best utilize the AI knowledge to address real-world medical issues. The goal of this course is to train students to become "leading-edge AI research and development personnel" with the ability to solve "global and local medical issues" by exchanging lectures on medical AI at other universities.

\*Make sure to understand fully the research contents of desired department and inform the Clinical AI Management Office of your intention to take the examination before submitting your application. Contact: https://www.shp.hosp.tohoku.ac.jp/Clinical\_AI/#cu\_sec

(7) Disaster Medicine and Health Care Research Course
Due to the increasing frequency of disasters like the Great East Japan
earthquake accompanied by the Fukushima Nuclear Power Plant accident,
research on Disaster Medicine and Health Care has become imperative.
This course is designed to provide the opportunity to scientifically study
disaster medicine and health care during and after disasters, such as
earthquakes, tsunamis, pandemics, and disasters involving chemical
agents, biological agents, radiation/nuclear attacks, or explosives
(CBRNE). This course is open mainly to medical doctors, dentists, nurses,
pharmacists, medical administrative officers, and other medical
professionals. Students in this course not only acquire knowledge of
disaster-related medical and scientific issues, but also the ability to
conduct medical research on disasters and humanitarian responses. This
course is designed mainly for Japanese students and is taught only in
Japanese.

### **Educational Content**

Disaster medicine and health care seminar, disaster medicine and health care training, disaster sciences, medical research on disasters

<u>Career Plans after Graduation</u> Leaders in academic disaster research

### (8) Network Medicine Course

Teaching based on the New Medical Research Paradigm of Network Medicine

Network Medicine is a new medical research paradigm advocated by research groups working at Tohoku University, led by the Graduate School of Medicine. The aim of this novel approach is to develop innovative diagnostic, treatment and prevention strategies based on signal transduction networks and to promote the development of teaching and research applicable to different diseases and areas. Network Medicine has been designated as one of Tohoku University's Global Center of Excellence (COE) programs. The Network Medicine Course offers students the opportunity to be taught in English based on results from this latest frontier of medical research.