



The year 2019 was the 100th anniversary of Hokkaido University, School of Medicine.

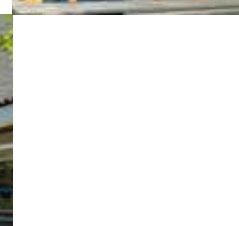
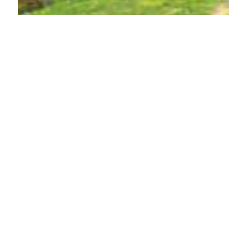
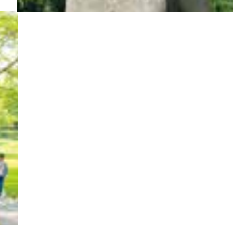
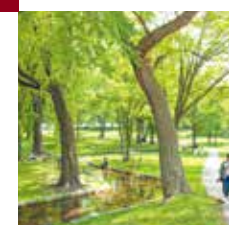
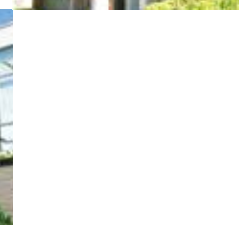
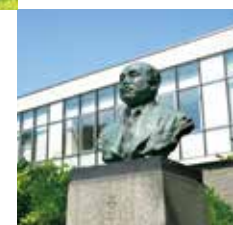
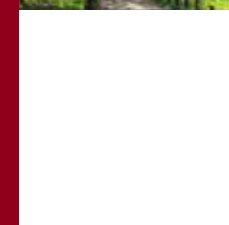
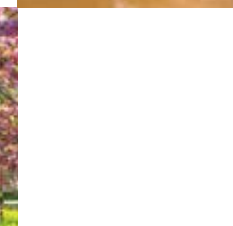
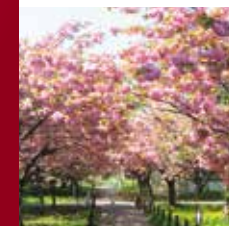
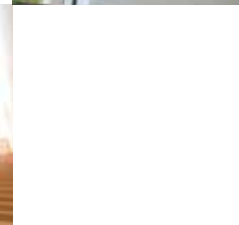
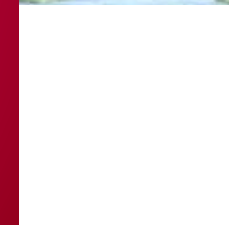


HOKKAIDO UNIVERSITY

Graduate School of Medicine

Guidebook of the Master's Program

2022



HOKKAIDO UNIVERSITY

Graduate School of Medicine

Guidebook of the Master's Program 2022

U R L <https://www.med.hokudai.ac.jp/en/>

Contact Student Affairs Office Kita 15, Nishi 7, Kita-ku, Sapporo, 060-8638, Japan
Tel: +81- (0)11-706-5018/5019 Fax: +81- (0)11-717-5286 d-tanto@med.hokudai.ac.jp

2022.7.14

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Philosophy and Objectives / Admissions Policy

Philosophy

The Graduate School of Medicine, Hokkaido University leads the world with cutting-edge research in medical science, and aims to equip the next generation of medical researchers and medical professionals with a strong sense of ethics and a well-rounded character to contribute to the health and welfare of humanity.

Educational and Research Objectives

To help students develop advanced levels of knowledge and research skills in the fields of medical and life sciences and gain profound insights that will help them meet the needs of society. To promote world-leading research in the school in its role as part of a major Japanese university and to advance knowledge frontiers for the prosperity of humanity.

Admissions Policy (Expectations of Students)

We are looking for

- Students who are eager to engage in the research tailored to clarify life phenomena, to overcome diseases, and to improve human health standards
- Students who have intellectual curiosity, show the ability to analyze things logically, persevere as a team, and have competence to work as international leaders in each medical field
- Students who have fundamental reading and writing skills in English

Message from the Dean for the Master’s Program 2022

Open to students from various academic backgrounds, including those from institutions other than the School of Medicine, the Master’s Program of the Hokkaido University Graduate School of Medicine aims to promote the integration of knowledge from different related fields and nurture medical researchers and highly specialized professionals with creativity and broad perspectives by providing students with an opportunity to gain knowledge and experience on the cutting edge of basic medicine, social medicine and clinical medicine.

The graduate school has a wealth of outstanding faculty members engaged in internationally recognized research projects in various medical fields. In basic medicine, a host of studies are under way on the physiology and pathology of the human body, including innovative research regarding the brain, cancer and immunity. In the field of social medicine, epidemiological studies are being conducted to solve various issues faced by modern societies. Further, the school’s Public Health Course offers students the opportunity to earn a Master of Public Health (MPH), an internationally recognized degree. In addition, a one-year course is in place for doctors, dentists, pharmacists and other medical professionals with practical experience to expeditiously provide society with personnel capable of dealing with local issues in Hokkaido, such as ongoing population aging and depopulation. In clinical medicine, outstanding studies are being conducted, including those intended to elucidate the causes and pathological conditions of diseases and to develop novel diagnostic and therapeutic methods, with a particular focus on developing state-of-the-art diagnostic and therapeutic apparatuses using biomedical science and engineering approaches and new therapies using highly functional novel materials.

Students who pursue leading-edge medical research at the Graduate School of Medicine will be required to help meet the needs of society by proactively working on creative knowledge practices and addressing social issues with high ethical standards as valued members of the scientific community. As we have built sufficient abilities and systems to meet the expectations of our students, we truly welcome those who are eager to do their part to support the future of medical science and medical care.

April 2022

HATAKEYAMA Shigetsugu, M.D., Ph.D.
Dean, Graduate School of Medicine, Hokkaido University

Students are accepted in the following departments.

(As of July 1, 2022)

Departments

【Division of Medical Science】

Physiological Science	Biochemistry	Molecular Biology** Medical Chemistry
	Anatomy	Anatomy and Embryology Histology and Cytology
	Physiology	Cell Physiology Systems Neuroscience
	Pharmacology	Neuropharmacology Cellular and Molecular Pharmacology
Pathological Science	Pathology	Pathology Cancer Pathology Diagnostic Pathology
	Microbiology and Immunology	Immunology Microbiology and Infectious Diseases
Social Medicine	Social Medicine	Hygiene Public Health Forensic Medicine Health Care Policy** Biostatistics Medical Education and General Medicine Regulatory Science Translational Research Management** Patient Safety Health Data Science Pharmaceuticals and Medical Devices Regulatory Science*
Internal Medicine	Internal Medicine	Respiratory Medicine Rheumatology, Endocrinology and Nephrology Gastroenterology and Hepatology Cardiovascular Medicine Medical Oncology Hematology Health Care Medicine** Clinical Cancer Genomics
	Radiology	Radiation Oncology Diagnostic Imaging Comprehensive Radiological Science*
Surgery	Surgery	Gastroenterological Surgery I Gastroenterological Surgery II Renal and Genitourinary Surgery Cardiovascular Surgery Breast Surgery Thoracic Surgery
	Anesthesiology and Critical Care Medicine	Anesthesia and Perioperative Medicine Acute and Critical Care Medicine
Specialized Medicine	Reconstructive Surgery and Rehabilitation Medicine	Orthopedic Surgery Plastic and Reconstructive Surgery Rehabilitation Medicine** Sports Medicine
	Reproductive and Developmental Medicine	Pediatrics Obstetrics and Gynecology
	Sensory Organ Medicine	Dermatology Otolaryngology - Head and Neck Surgery Ophthalmology
	Neurological Disorder	Psychiatry Neurosurgery Neurology
Interdisciplinary Medicine	Medical Biology	Neurobiology
	Immunology	Immunobiology Functional Immunology Molecular Psychoimmunology Biological Molecular Mechanisms
	Pathological Oncology	Stem Cell Biology Biomedical Oncology

* Collaborative Laboratory Established by Collaboration among Universities (No student enrollments)
** There will be no new enrollments for the 2023 academic year.

Course Outline

The Master's Program provides well integrated education, offering courses which may be chosen depending on the goals of individual students to meet social needs.

Medical Science Course

This course aims to produce specialists with a wide range of knowledge who will play active roles in medicine and life science.

In addition to required core subjects, students learn basic medical science research methods that provide the knowledge and skills required for medical research through experiential learning, as well as they study and practice oral and written research presentation skills. Basic general medicine and basic medical research are offered to facilitate the development of specialists with the necessary broadly based knowledge that is expected.

Public Health Course

Public Health Course aims to develop human resources who are capable of playing active roles in addressing the challenges of public health with broad knowledge and high skills for the maintenance and improvement of the entire society and people's health, life and security.

At this course, fundamental five disciplines (Epidemiology, Biostatistics, Social and Behavioral Sciences, Health Services Administration and Environmental Health Sciences), which comply with accreditation criteria of the Council on Education for Public Health in the United States, are provided as required subjects. Furthermore, by taking the elective subjects which would suit one's own interest, students acquire the ability required for experts.

Two-Year Course

This course is intended for medical doctors (i.e. licensed physicians), dentists, pharmacist and other professionals with certain amount of practical experience, and aims to train, in one year, highly specialized professionals who play active roles in medical and public health fields.

One-Year Course

This course enables completion of the course, which is practically the same as Two Year Course, in one year. Students should pass the qualifying review and examination of the research achievements of specific assignment to complete.

Admission to Master's Programs

Please consult the guidelines for applicants for the graduate school for further information.

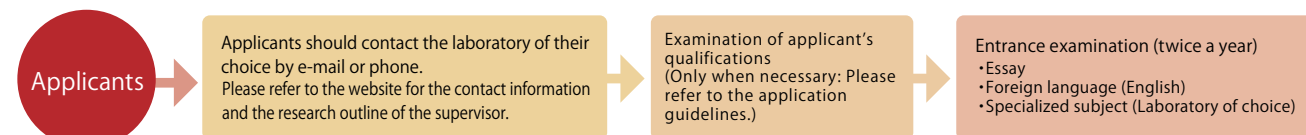
About the Entrance Examination

● **Number of students to be admitted** Medical Science: 20

● **Qualifications for applicants** Applicants should have a bachelor's degree (for Public Health Course <One-Year Course>, work experience of two years or more as physicians, dentists, or pharmacists is required)

● **Application Period** [Midyear examination] Tuesday, 5 July 2022 to Monday, 11 July 2022
[Year-end examination] Thursday, 1 December 2022 to Wednesday, 7 December 2022
Office hours: 9:00 AM to 5:00 PM (Japan Standard Time)
Send the application documents to Students Affairs Office by post using express registered mail.
Application documents must reach our Student Affairs Office within the application period.

Overview of admissions



● **Examination schedule** [Midyear examination] Tuesday, 16 August 2022
[Year-end examination] Tuesday, 17 January 2023
Even though announced this way, there is a possibility that the graduate school must subsequently revise the examination procedure or postpone/cancel the examination(s) as a measure against COVID-19.

Fees

● **Examination fee***: 30,000 yen ● **Admission fee***: 282,000 yen ● **Tuition**: 535,800 yen (per year)

Note: Admission and tuition fees may be changed at any time.

*Government-financed international students (persons receiving MEXT Scholarship grants) are exempted from this fee but must include a statement to this effect when submitting the application.

Long-Term Study Program (NOT eligible for Public Health Course <One-Year Course>)

Under the Long-Term Study Program, students who are employed or who have other compelling reasons can complete the Master's Programs in up to 4 years with tuition roughly equivalent to the 2-year tuition by applying for pre-enrollment approval of a plan to complete the Master's Program in a longer period than the standard 2-years.

Master's degree requirements

1. Students are required to pass a qualifying review and examination of a Master's thesis or the research achievements of specific assignments (only for the One-Year Public Health Course), and 2. acquire at least 30 credits in the field(s) of the major.

Messages from Students of the Master's Program

Fascinated by forensic analysis

2nd-year Master's Student
Medical Science Course, Department of Forensic Medicine
AKAGAWA Yuki

The reason why I entered the Department of Forensic Medicine was to study mass spectrometry in depth. Although it is a different major from what I studied in undergraduate school, I need it to join a police crime laboratory.

My research involves liquid chromatography mass spectrometry (LC-MS) to analyze blood and urine concentrations of 3-chlorotyrosine and 3,5-dichlorotyrosine, known markers of chlorine poisoning. MS is widely used in the field of forensics to analyze poisoning deaths, and has broad applications. It takes a long time to obtain expertise in MS technologies and I am still in the trial-and-error phase of research.

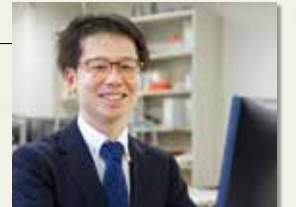


To protect many people from disease

2nd-year Master's student
Public Health Course (Two-Year Course), Department of Public Health
SAITO Hiroshi

I study public health while working as a local public officer. The three major diseases in Japan, cancer, heart disease, and stroke, are lifestyle related. Healthcare tends to focus on treating these diseases, but partly due to COVID-19, I realized the importance of disease prevention and scientific evidence-based behavior change, and decided to study further.

Due to the academic characteristics of public health, I learn various people's viewpoints through lectures and research activities, which is very exciting. Currently, I am conducting a community survey. I hope to contribute to community health by alerting people to the importance of daily life.



Message from a Graduate of the Public Health Course (One-Year Course)

Learn rather than get used to it

Public Health Course (One-Year Course), Department of Hygiene
(Master's degree completed in March 2020)
YAZAKI Hiroshi
Working as a Physician

I am currently working at a home-care clinic as a physician. Through a variety of experiences both in Japan and abroad, I became interested in Public Health issues. All the school days pass so fast with classes after work in the first half and intense meetings with the supervisor in the latter half. Though I belong to the Department of Hygiene, which is highly reputed for mathematical modelling of infectious diseases, my research topic was "Ambulance transport of patients with mild afflictions in Hokkaido, Japan". It seems to have nothing to do with mathematical models, but I conducted an epidemiological research study with statistical analysis. Whatever the topic, I learn methods to analyze facts, which it is worth investing my time in.



Information on the Honor and Scholarship

Honor

● The Graduate School of Medicine, Hokkaido University

Best Paper Award

Selected applicants receive a certificate and 100,000 yen.

Takakuwa Eimatsu Scholarship

Every year, 3 or 4 outstanding young researchers (including graduate students) are awarded this scholarship (80,000-100,000 yen per awardee as a one-time grant).

Scholarship

● The Graduate School of Medicine, Hokkaido University

Otowa Hiroji Scholarship Fund

Both Japanese and non-Japanese students are eligible. Every year, up to 10 Japanese students and 10 non-Japanese students receive this scholarship (150,000 yen per awardee as a one-time grant). Selection is based on both academic and personal excellence.

● Hokkaido University

Nitobe College for Graduate Students

The Honors Program offers a scholarship to selected students. Successful applicants will be selected based on a comprehensive assessment that includes the academic achievement in the Foundation Program and their motivation for applying as described in the application form.

● Other Scholarships

Hokkaido University has a range of scholarships available for both prospective and current students.

Scholarships for Prospective Students

Several competitive scholarships of differing amounts are available for students wishing to study at Hokkaido University. Please see the sections below for the scholarships you can apply for prior to leaving your home country.

- Japanese Government Scholarships (MEXT)
- Hokkaido University Scholarships
- Other Scholarships

Scholarships for Current Students

There are various scholarships available to self-supported international students, and either applied for through the University, or directly.

Check the website for details: [Hokkaido Univ. Scholarships](#) [Search](#)

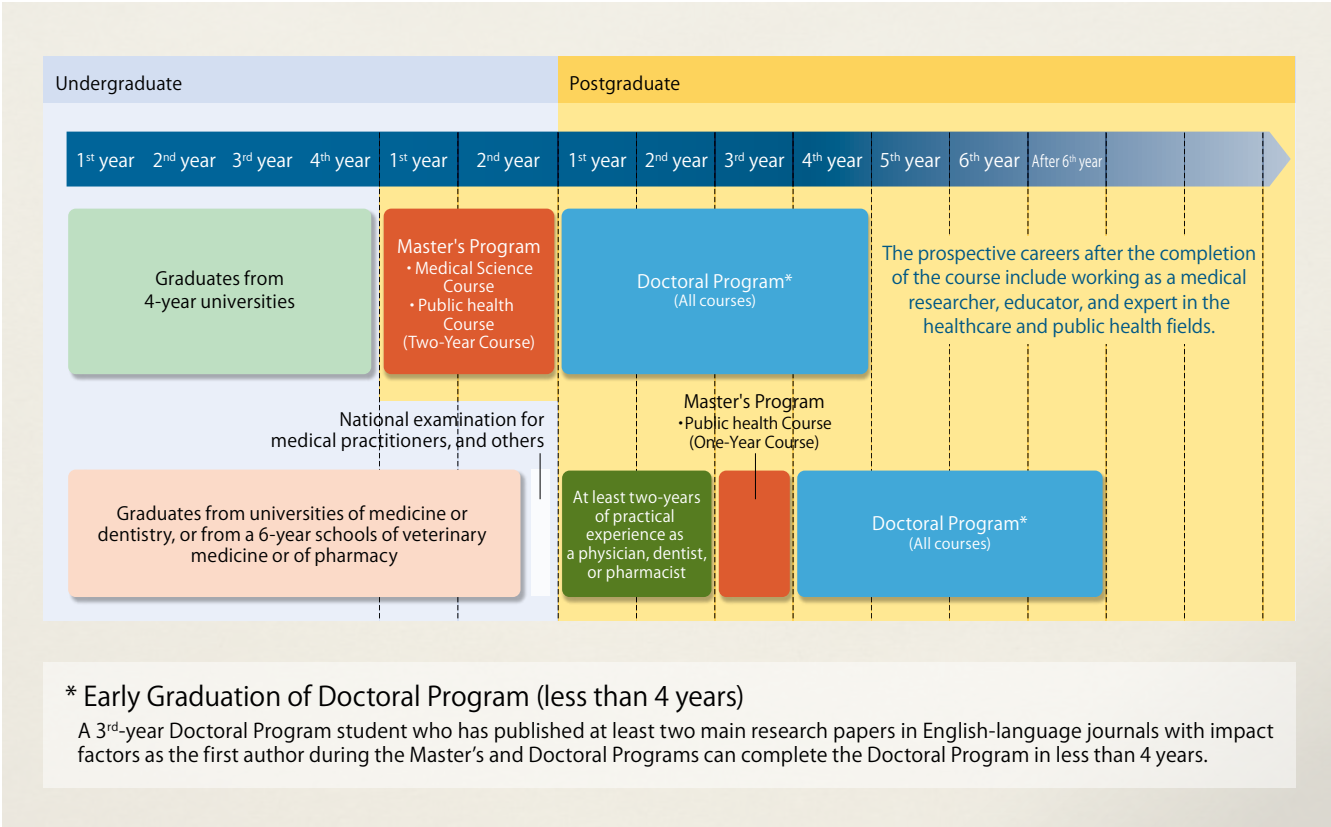
Teaching Assistant (TA) Program

As part of the university education, the TA program was introduced to train able faculty members and specialists with experience in education. Selected applicants are paid an annual salary of approximately 70,000 to 100,000 yen, depending on their work performance.

After completing the Master's Program, students can decide whether to enroll for the Doctoral Program, toward becoming highly skilled researchers or finding employment as medical professionals in society.

Pursuing a doctorate

It is desirable that students who have completed their Master's Programs pursue a doctorate, because they are still growing as students and researchers. Examination/admission fees are not required from students who continue their studies and research as doctoral students.



Message from a Graduate of the Master's Program

A place to develop your potential

Master's degree completed in March 2021
2nd-year Doctoral Student
Social Medicine Course, Department of Public Health
YAEHASHI Akinori

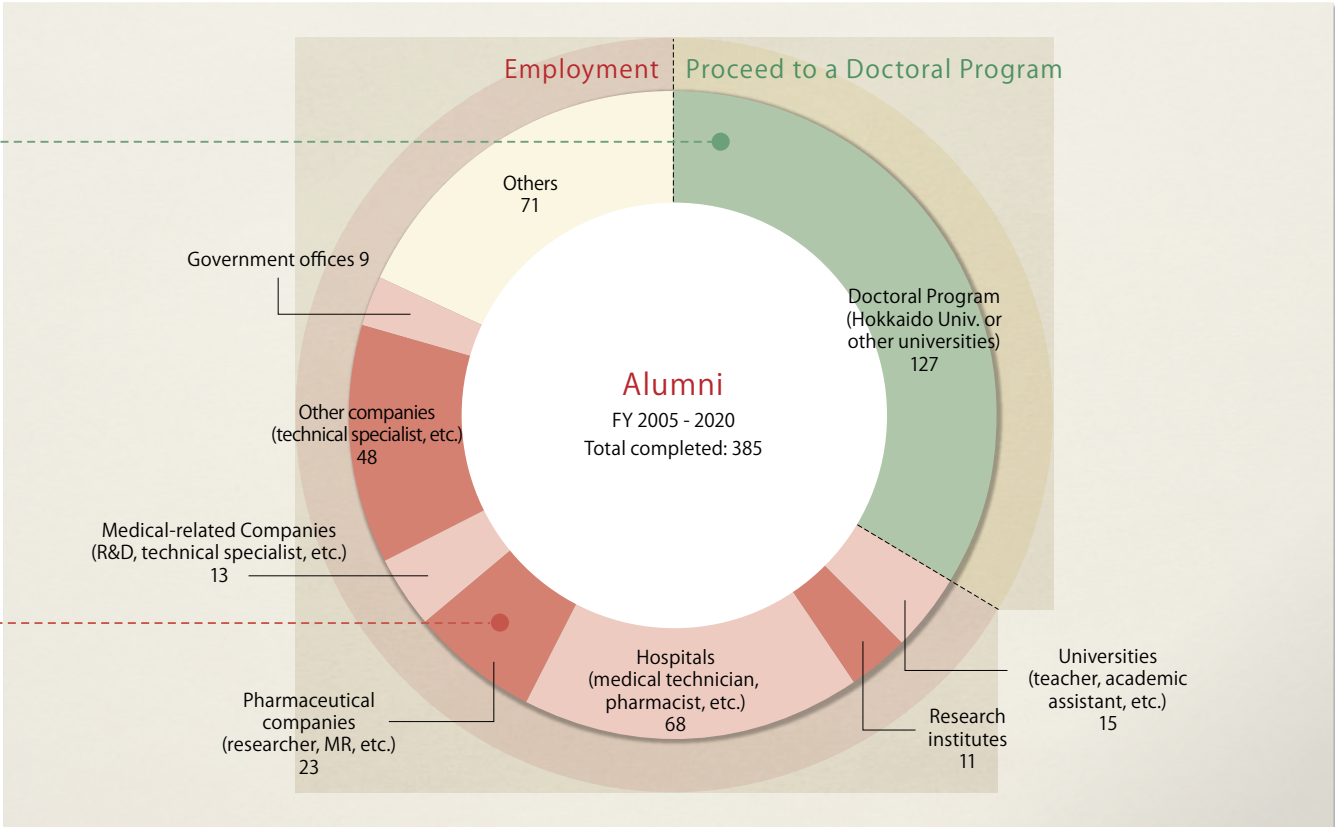


I worked as a Registered Dietitian at a hospital, and after completing a master's degree at another university, enrolled in the master's program at Hokkaido University Graduate School of Medicine. In the Department of Public Health I conducted nutritional epidemiology research and learned to judge various nutrition and health-related information. Guided by my professors, I researched the "Association between Protein Intake and Skeletal Muscle Mass among older adults," presented my results at academic conferences and submitted articles for publication. I wanted to further improve my research skills, entered a doctoral program, and researched the "Association between low-carbohydrate diets and the development of diabetes mellitus." The results are now analyzed and summarized in a paper. Research and report writing involve hard work, but provide a sense of accomplishment when a paper is accepted and published in medical databases. I wish to continue my research and write more papers. If you are interested, I recommend that you enroll in a graduate school.

Finding employment

Faculty members of the Graduate School of Medicine help students find employment.

	Positions	Businesses
Employment options for specialists	• At medical institutions • In government and other public organizations	• At business organizations • Life science research • Medical/health administration • Development of medical equipment/drugs/food safety technologies



Message from a Graduate of the Master's Program

Expansion of horizon: Obtained from the Academia

Master's degree completed in March 2013
WAGATSUMA Takanori
Japan Agency for Medical Research and Development

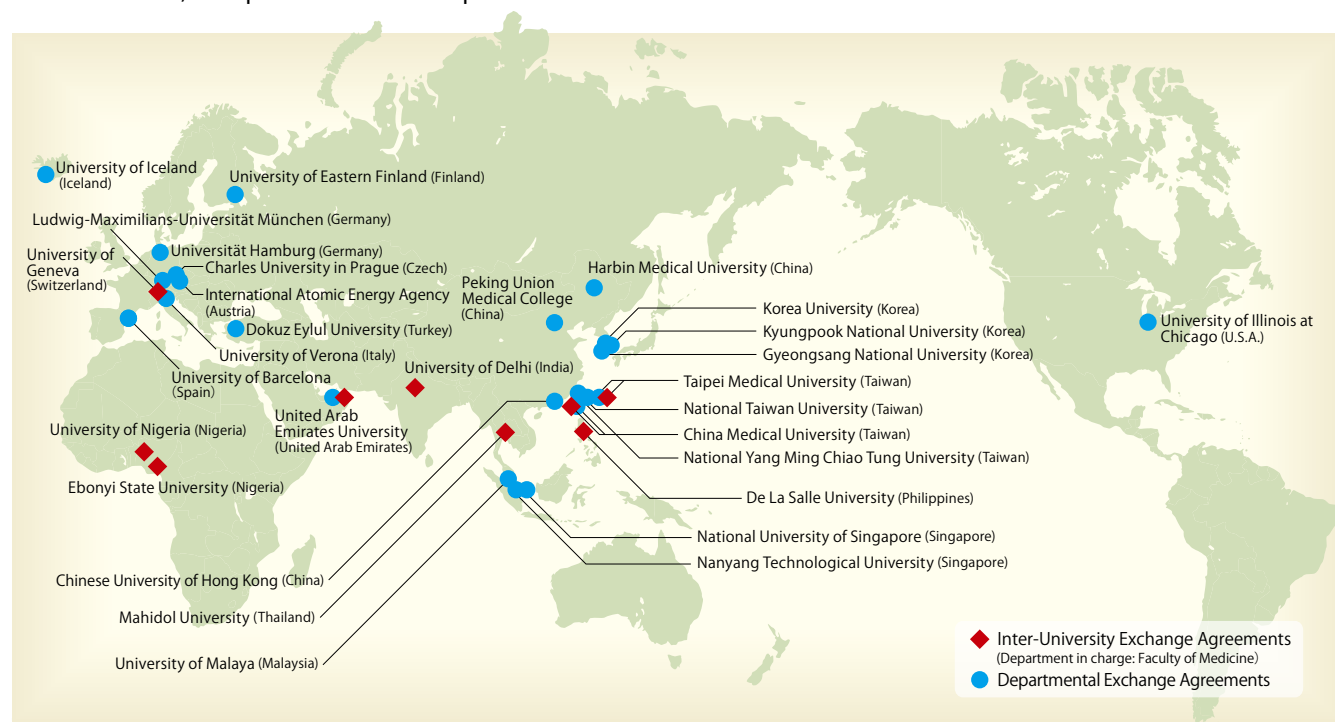


In graduate school, I studied cancer cell invasion and metastasis using light and microscopy to understand life phenomena on both the macroscopic and microscopic levels. After graduate school, I joined several national scientific programs involving infectious diseases, carcinogenesis, and post-translational modification. I then considered to expand my fields by experiencing both clinical needs and scientific seeds. I now belong to the Japan Agency for Medical Research and Development and facilitate national basic research programs to resolve social issues in healthcare and medicine in the future. I have thus been working while applying my scientific visions cultivated since graduate school.

International Exchanges

The Graduate School of Medicine is promoting international collaborations through exchanges of researchers and joint research projects. Currently, we have concluded international exchange agreements with 30 universities outside Japan (as of April 2022).

As an international exchanges project, we have established an international exchange fund to provide assistance and aid to be able to invite and accept non-Japanese researchers, dispatch and train young researchers, and provide scholarships and aid to international students.



Number of International Students in the Graduate School of Medicine

(As of April 1, 2022)

● Distribution by Country/Region

Area	Country/Region	Number
Asia 43 students	Bangladesh	1
	China	39
	Malaysia	1
	Taiwan	1
	Vietnam	1
Central and South America 1	Argentina	1
Middle East 1	Afghanistan	1
Africa 1	Egypt	1
TOTAL		46
International Students (Other visa status)		2

● International Student Numbers by Graduate Program

(): number of female students included

Master's Program	Doctoral Program
6 (5)	40 (19)

● Methods of Financial Support

(): number of female students included

Japanese government	6 (3)
Self-Supported	38 (19)
Foreign government	2 (2)
TOTAL	46 (24)
International Students (Other visa status)	2 (1)
GRAND TOTAL (All International Students)	48 (25)

Center for Medical Education and International Relations International Relations Division

International Relations Division Supports International Students

As of April 2022, 46 international students from 8 countries study at the Graduate School of Medicine. Staff members of the International Relations Division are responsible for creating a comfortable environment for international students, and provide academic and personal support.



International Relations Division

Our mission is to increase the presence of the Graduate School of Medicine on the international scene. We promote partnerships with institutes and faculties overseas, share the latest technologies and knowledge, and provide students with quality education that meets the needs of diverse and global society.



Agreement concluded with Korea University (Korea)

We also strive to nurture responsible global citizens and leaders for the future. We host seminars and events designed to help students acquire practical knowledge in medicine and research, as well as manners and communication skills useful in the global society.



Events to interact with international students

Visit the website for further information. [URL https://edu.med.hokudai.ac.jp/international-relations/](https://edu.med.hokudai.ac.jp/international-relations/)

Message from an International Master's Student

Research and Life

2nd-year Master's Student
Medical Science Course, Department of Stem Cell Biology
ZOU Peilin
[People's Republic of China]

I entered the master's course because I wanted to discover unknown science practically based on my passion for medicine. At Hokkaido University medical school, I could study stem cells as I had wished, and explored new therapies for brain tumors using stem cells. The life of man begins from a cell, so the answer of life is hidden in the cell, and the small cell holds the secret I have been searching! It is the significance of our efforts to apply answers from cells to animal experiments, and gradually progress to patients. For me, the joy of scientific research lies in combining the research results of my predecessors with my own knowledge, putting forward possible ideas and experimenting with my own hands to verify the applicability of my ideas. Although it is sometimes hard, it's all worth it, because we may not only realize our dreams, but also bring new hope to suffering people. Let's dream together and proceed steadily.

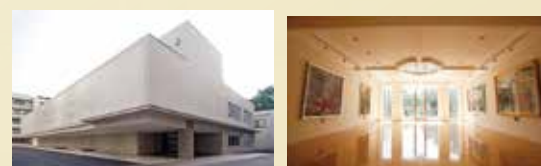


●Administration Building



The triangular decorative gable over the entrance continues the history of the building of the school of medicine from the Taisho Era. The main entrance of the Graduate School of Medicine is also the entrance to the Frate hall. The Student Affairs Office is located along the right-hand corridor on the 1st floor.

●The Alumni Hall "Frate"



Constructed for the 90th anniversary of the establishment of the Hokkaido University School of Medicine and completed in 2010, "Frate", which is used for academic lecture meetings, conferences, ceremonies and other gatherings, is a multifaceted facility that includes a hall accommodating up to 280 people, a special conference room and a large training room.

●School of Medicine Centennial Hall



Constructed as part of the 100th anniversary commemorative project of the School of Medicine, and completed in 2019, this hall is used for many purposes such as lectures, conferences, and alumni events.

●Clinical Medicine Lecture Building



Located between the Graduate School of Medicine and the University Hospital, this building is accessible from both buildings. The 2-story building has 2 medium-sized lecture halls on the first floor and a large lecture hall, where mandatory lectures are mainly given, on the second floor. This building is also used for academic lecture meetings and various ceremonies.

●Medical and Dental Research Building



Undergraduate and graduate students are educated here. This building has the latest facilities and equipment, and a variety of practical training and research activities are conducted here.

●Interprofessional Education and Research Building



The building provides an environment for interprofessional education in which students and staff from different health professions (including medicine, dentistry, pharmacy and nursing) learn together. It houses the Clinical Simulation Center, the Medical Innovation Center and other facilities.

●Library



The library has about 150,000 medical books and journals. The reading room and the stacks on the first floor are open from 9 a.m. to 10 p.m. on weekdays. A study room and a computer room are on the second floor, and 2 lecture rooms for undergraduates are on the third floor.
Monday through Friday: 9:00-22:00
9:00-17:00 (long term vacations)

●Cafeteria



There are 70 dishes on the menu, and there is seating for 120 people. The cafeteria also has a shop that sells stationery, food, white gowns and lab coats.
Monday through Friday: 11:00-15:00
(for the shop: 10:00-15:00)
Saturday, Sunday, and Holidays: Closed



Access	J R	S u b w a y	New Chitose Airport to JR Sapporo Station
	<ul style="list-style-type: none"> ●JR Sapporo Station: 20-min. walk 	<ul style="list-style-type: none"> ●Kita 12-jo Sta. (Namboku Line): 10-min. walk ●Kita 18-jo Sta. (Namboku Line): 10-min. walk ●Kita 13-jo Higashi Sta. (Tōhō Line): 15-min. walk 	
Access	B u s		
	<ul style="list-style-type: none"> ●Hokudai Byouin Mae (in front of Hokkaido University Hospital): 3-min. walk <p>Take a bus, number 01, 03, or 04 of the Tonden line of Chuo Bus Co. at the Kitaguchi bus depot of JR Sapporo Station</p>		<ul style="list-style-type: none"> ●40 min. by JR ●80 min. by bus