HOKKAIDO UNIVERSITY
Graduate School of Medicine
Guidebook of the Master's Program
2019

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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.

Message from the Dean for the Master’s Program 2019
The Dean of the Graduate School of Medicine at the University of Hokkaido led 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.

As you study medical science and social medicine through cutting-edge medical research, you will be required to meet social expectations by proactively working on the creation of knowledge and addressing social issues with high ethical standards as members of the scientific community. We at the Hokkaido University Graduate School of Medicine have plenty to offer to meet your expectations. It is our earnest hope that you will make your life here truly satisfying and successful.

April 2019

Mitsuru Yoshida, M.D., Ph.D.
Dean, Hokkaido University Graduate School of Medicine
**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 experimental learning, as well as study practice and 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 equivalent 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 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 suit one's own interest, students acquire the ability required for experts. 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. 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 assignments to complete.

### One-Year 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 experimental learning, as well as study practice and 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 equivalent knowledge that is expected.

### Two-Year 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 experimental learning, as well as study practice and 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 equivalent knowledge that is expected.

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**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**
August Examination, 2019: from Tuesday, 9 July 2019 to Tuesday, 16 July 2019
January Examination, 2020: from Tuesday, 3 December 2019 to Monday, 9 December 2019
Office hours: 9:00 AM to 5:00 PM (Japan Standard Time)
If you send the application by post, you must use registered express mail. Application documents must reach our faculty within the application period.

**Overview of admissions**
Applicants should contact the laboratory of their choice to reserve a pre-interview. Please refer to the website for the contact information and the research outline of the supervisor.

**Examination schedule**
August Examination, 2019: Wednesday, 21 August 2019
January Examination, 2020: Wednesday, 15 January 2020

**Fees**
- **Examination fee**: 30,000 yen
- **Application 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.

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**For the development of cancer research**

- **Project Master's Student**
  - Medical Science Course, Department of Cancer Pathology
  - Maho Kinoshita
  - Qualified clinical laboratory technologist

In the class of the health department where I graduated, I studied pathology, and became interested in the mechanism of cancer. And I decided to apply here. Now I study basic research into cancer. In cancer tissues, there are cancer stem cells (CSC) that cause recurrence and are resistant to treatment. I have studied the properties of CSC from the field of epigenetics. For the future, we will make efforts to promote this research to develop therapeutics targeting CSC.

I am doing research work every day with the support of many people. I wish to learn many things including doing research being stimulated in this wonderful environment.

I want to extend the healthy life span of humanity.

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

Looking back on the year in the MPH course.

- **Public Health Course (One-Year Course), Department of Public Health**
  - Kenta Fujita
  - Working at the Department of Infectious Diseases, National Hospital Organization Hokkaido Cancer Center

This past year, I have spent most of my nights and weekends with a flurry of letters from April to July and had regular meetings with my supervisor for the research project in autumn and winter. I could expand my knowledge and my network of professional contacts, which has enriched my professional life. Given a large number of opportunities to communicate with the world of the aged, I have realized that in the 100 years of life, as a physician over 40, it is important and important to return to study at the graduate school. My heartfelt appreciation goes to Prof. Hirotsu who has passed helpful comments and suggestions. I also wish to express my gratitude to my family for their warm encouragement. (As of April 2018)

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**Information on the Honor and Scholarship**

**Honor**

- **The Graduate School of Medicine, Hokkaido University**
  - Best Paper Award
  - Takakawa Ematsu Scholarship

**Scholarship**

- **The Graduate School of Medicine, Hokkaido University**
  - Ootowa Hisaji Scholarship Fund

**Hokkaido University**

- **Noboro College for Graduate Students**

**Other Scholarships**

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

**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. In the 2018 fiscal year, 9 persons were employed, and they earned about 90,000 yen per person.
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.

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**Message from a Graduate of the Master’s Program**

**Where possibility becomes reality**

Master’s degree completed in March 2018
2nd-year Doctoral Student
Basic Medicine Course, Department of Immunology
Nanumi Han (Republic of Korea)

I had the opportunity to study in the immunology field when I was an undergraduate student, and I thought it was very attractive research. So I decided to continue study in the Department of Immunology of Hokkaido University Graduate School of Medicine for a master’s degree. During the master’s course, I studied the role of a novel cytokine IL-34 in malignant melanoma. The study understanding of tumors and developing new therapeutic possibilities, was interesting. I felt a sense of accomplishment when the results of my study became published articles or presentations at conferences. This is the reason why I decided to further my education and get a doctoral degree.

Currently, I am continuing research to elucidate the mechanism of IL-34 expression in cancer and develop therapeutic methods related to that. I want to acquire expertise related to research and contribute to the world as a specialist in this field. Daily experiments are not always going well but I think, even failed experiments are also worthwhile when I discover something new or get good results from the experiments.

And I think the working environment is highly desirable with the surroundings here because professors and laboratory staff are positive and they help the research through discussion. I would certainly recommend the graduate course to those who want to know their own potential.

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**Finding employment**

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

<table>
<thead>
<tr>
<th>Employment options for specialists</th>
<th>Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>- At medical institutions</td>
<td>- Life science research</td>
</tr>
<tr>
<td>- At business organizations</td>
<td>- Medical health administration</td>
</tr>
<tr>
<td>- In government and other public organizations</td>
<td>- Development of medical equipment/drugs/food safety technologies</td>
</tr>
</tbody>
</table>

**Message from a Graduate of the Doctoral Program**

**Fortunate meeting in the Graduate School of Medicine**

Master’s degree completed in March 2019
Emi Fujita

Working at the Forensic Science Laboratory, Oita Prefectural Police Headquarters

After graduating from Hokkaido University School of Medicine, Department of Health Sciences, I decided to go on to the Master’s course in the Graduate School of Medicine. Because I had been eager to work at the Forensic Science Laboratory, I would like to learn more about the field of Forensic Medicine. While studying at the department of Forensic Medicine, I analyzed compounds contained in forensic samples in order to discover new indicators of postmortem patutrefaction and establish measurement methods. Although research in the field of Forensic Science does not provide direct life-saving effects, I believe it is a necessary step to ensure the safety of people. In medical research, one can attend lectures in various fields, including one’s own, and have many opportunities to broaden the horizon and gain knowledge of research strategies. The two-year Master’s Degree program will provide you with various opportunities and new ideas.

I look forward to having the opportunity to apply the experience I gained at Graduate School of Medicine to my current job.
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 31 universities outside Japan (as of April 2019). As an international exchange 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.

Center for Medical Education and International Relations

International Relations Division

As of April 2019, 43 international students from 9 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 Supports International Students

Our mission is to increase the presence of the Faculty 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.

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.

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

Number of International Students in the Graduate School of Medicine

(As of April 1, 2019)

<table>
<thead>
<tr>
<th>Area</th>
<th>Country/Region</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>China</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>Korea</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Malaysia</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Nepal</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sri Lanka</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Thailand</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>North America 1 (2%)</td>
<td>U.S.A. 1</td>
</tr>
<tr>
<td></td>
<td>Middle East 1 (2%)</td>
<td>Islamic Republic of Afghanistan</td>
</tr>
<tr>
<td></td>
<td>Africa 4 (10%)</td>
<td>Egypt 4</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>43</strong></td>
</tr>
<tr>
<td></td>
<td>International Students (Permanent Resident in Japan)</td>
<td><strong>7</strong></td>
</tr>
<tr>
<td></td>
<td><strong>GRAND TOTAL (All International Students)</strong></td>
<td><strong>50</strong></td>
</tr>
</tbody>
</table>

International Student Numbers by Graduate Program

<table>
<thead>
<tr>
<th>Graduate</th>
<th>Master’s Program</th>
<th>Doctoral Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>6 (3)</td>
<td>37 (21)</td>
</tr>
</tbody>
</table>

Methods of Financial Support

<table>
<thead>
<tr>
<th>Graduate</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japanese government</td>
<td>11 (7)</td>
</tr>
<tr>
<td>Self-supported</td>
<td>30 (17)</td>
</tr>
<tr>
<td>Foreign government</td>
<td>2 (0)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>43 (24)</strong></td>
</tr>
<tr>
<td>International Students (Permanent Resident in Japan)</td>
<td><strong>7 (4)</strong></td>
</tr>
<tr>
<td><strong>GRAND TOTAL (All International Students)</strong></td>
<td><strong>50 (28)</strong></td>
</tr>
</tbody>
</table>

Message from an International Master’s Student

Devoted to public health

"2nd-year Master Student Public Health Course (Two-Year Course), Department of Hygiene Yang Yichi People’s Republic of China"

I was interested in infectious disease control using statistical methods since I was in undergraduate school. I used infectious disease surveillance data from Japan when I wrote my bachelor thesis. Considering the impact of the advanced surveillance system, I decided to continue my study in Japan. Catching the dynamics of infection disease outbreaks and estimating the characteristics of an outbreak, like determining its final size, contributes greatly to disease control and prevention. It supports vaccination campaigns, disease elimination, health policy proposals, and much more. My ongoing study is “Estimating the transmission potential of influenza using distributions in serial cross-sectional seroepidemiological surveys”, in which I am trying to make use of previous seroepidemiological study outcomes when estimating the transmission potential of influenza. Though there are lots of difficulties in research, I will try my best to overcome these under the supervision of the professors. Thanks to specialists working in Hokkaido University, acknowledge and experience I learned here will become a lifelong capital for me."
The main entrance of the Graduate School of Medicine is also the entrance to the Frate hall. The triangular decorative gable over the entrance continues the history of the building of the school of medicine in Taisho Era.

Located between the Graduate School of Medicine and the University Hospital, this building is accessible from both buildings. The 2-story building has 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.

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.

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.

There are 70 dishes on the menu, and there is seating for 120 people. The cafeteria also has a shop that sells stationary, food, white goods and lab coats.

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