This *English translation* is provided for *information purposes only*.

Hokkaido University Graduate School of Medicine

Application Guidelines for August Examination, 2020 for Master's Program in Medical Science

(For enrollment October 2020)

Hokkaido University Graduate School of Medicine

Outline of Master's Program in Medical Science

1. Educational Philosophies, Educational Goals, Expectations of students

Under the basic philosophies of Hokkaido University, "Frontier Spirit", "Global Perspectives", "All-round Education" and "Practical Learning" and the educational philosophies of the Graduate School of Medicine "to lead the world with cutting-edge research in medical science" and "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", the Graduate School of Medicine sets its educational goal to nurture individuals who possess high ethical standards, highly specialized knowledge, and research and teaching capabilities regarding medicine, life science and social medicine (public health), as well as individuals who possess the deep insight to meet the diverse, wide range of health and safety requirements from local and international community. The Graduate School of Medicine expects "students who are willing to be engaged in research tailored to clarify life phenomena, to overcome diseases, and to improve human health standards" and "students who have intellectual curiosity, show the ability to analyze things logically, persevere as a team, and aspire to work as international leaders in each medical field."

2. Expected Competencies, Diploma Policy

Based on the "Educational Goals" of the Graduate School of Medicine, in the Master's Program, we aim to nurture individuals who have basic knowledge and skills to play active roles in their own field as (i) researchers and educators in the fields of medicine, life science and public health, (ii) highly specialized professionals in the fields related to medical care and public health, or (iii) experts in health services and health policy management.
In order to develop such human resources, in Master's Program in Medicine, we grant the diploma under the following policies.

(1) We grant Master of Medical Science to those who have attained the competencies to continuously contribute to the development of medical and life science research field by understanding the backgrounds of the medical and life science research, making plans for research theme of biologic importance or hypotheses to be validated, analyzing the obtained experimental or research results through verification of the validity and preparing another theme or hypotheses.

(2) We grant Master of Public Health to those who have attained the competencies to continuously contribute to the development of public health field setting further measure against newly generated challenges through understanding the mechanism necessary for entire society and people's health, life and security and planning measures to maintain or improve health by collecting or analyzing the information necessary to solve the issues of public health or preventive medicine, as well as through putting those measures into execution effectively and evaluating the obtained results appropriately.

3. Course Introduction

In order to nurture individuals who attain "Expected Competencies", we offer interdisciplinary education beyond the boundaries of existing academic disciplines, aiming at the acquisition of basic knowledge and technology of mutually related fields. In addition, to nurture talented individuals responding to the diversified social needs, we introduce three types of coursework to study systematically through multiple subjects. Students choose the course that suits best to their purpose.

【Medical Science Course】

This course aims to train highly specialized professionals who are capable of playing active roles with broad knowledge of medical and life science fields.

【Public Health Course (Two-Year Course)】

This course aims to train 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.

【Public Health Course (One-Year Course)】

Note: For this course, we will not recruit applicants for October 2020 enrollment.

This course is intended for medical doctors, dentists, pharmacist and other professionals with a certain amount of practical experiences, and aims to train, in one year, highly specialized professionals who are capable of playing active roles in medical and public health fields.

Those who have chosen Public Health Course (either Two-Year Course or One-Year Course) should select one laboratory from Laboratories of Hygiene, Public Health, Forensic Medicine, Health Care Policy, Biostatistics, Medical Education and General Medicine, Regulatory Science, Translational Research Management and Patient Safety.

※ Students should state their preference course when applying and after the admission students will be allocated to courses based on their preference. (Details will be informed after the admission.)

4. Course Guidance

The following 4 subjects are offered in the Master's Program in Medical Science.

- Required Core Subjects (Kyoutsu Koa Kamoku)
- Required Subjects I (Hisshu Kamoku I)
- Required Subjects II (Hisshu Kamoku II)
- Elective Subjects (Sentaku Kamoku)

-

"Required Core Subjects" are offered to cultivate the basic quality in the education at the Graduate School of Medicine, and are compulsory in all courses. "Required Core Subjects" include "Introduction to Basic Medical Research" to provide basic and systematic knowledge of medical research, "Basic Experimental Methods and Research Designs" to master designing of research, basics of epidemiology and biostatics and so on. In line with "All-round Education", one of educational philosophies of Hokkaido University, students learn "Introduction to Medical Ethics" which cultivates bioethics for those engaged in medicine and "Introduction to Translational Research" which promotes the understanding of bridging research aimed at establishing medical technology or pharmaceutical products in the clinical practice utilizing the results gained by basic research.

"Required Subjects I" are the subjects dedicated to the specialty of each course and offered according to the educational goal of each course.

"Required Subjects II" provides the courses aimed at developing skills of statistical analysis, presentation and so on. Furthermore, a supervisor in the laboratory is in charge of "Required Subjects II", which grants credits to the practice and exercise related to master's thesis or the establishment of the research result of specific assignment.

"Elective Subjects" are offered to secure flexibility in selecting credits, and enable students to acquire a broad view and expertise beyond the course and a framework of specialized field.

Public Health Course provides 5 discipline areas of education (Epidemiology, Biostatistics, Social and Behavioral Sciences, Health Services Administration and Environmental Health Sciences) which are set as requirements by accreditation criteria of the Council on Education for Public Health in the United States. Students learn basic subjects at Required Subjects I, which aims at obtaining minimum knowledge and capability required of public health experts and will be conducted under the interdisciplinary educational system by educators specialized in medicine, science and engineering, and humanities and social sciences. "Elective Subjects" are offered to develop expertise regarding extensive and various public health issues, capability for gathering information and proper judgement.

<table>
<tr><td>Course / Subjects</td><td colspan="2">Medical Science Course</td><td colspan="2">Public Health Course (Two-Year Course)</td><td colspan="2">Public Health Course (One-Year Course)</td></tr>
<tr><td>Required Core Subjects (Kyoutsu Koa Kamoku)</td><td colspan="6"><table><tr><td>Subject</td><td>Credit</td></tr><tr><td>Introduction to Basic Medical Research</td><td>1</td></tr><tr><td>Basic Experimental Methods and Research Designs</td><td>1</td></tr><tr><td>Introduction to Medical Ethics</td><td>1</td></tr><tr><td>Introduction to Translational Research</td><td>1</td></tr></table></td></tr>
<tr><td>Required Subjects I (Hisshu Kamoku I)</td><td>Subject</td><td>Credit</td><td>Subject</td><td>Credit</td><td>Subject</td><td>Credit</td></tr>
<tr><td></td><td>Basic Research Methods in Medical Sciences</td><td>1</td><td>Basic Epidemiology</td><td>1</td><td>Basic Epidemiology</td><td>1</td></tr>
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	I					
	Basic Research Methods in Medical Sciences II	1	Basic Biostatistics	1	Basic Biostatistics	1
			Basic Social and Behavioral Sciences	1	Basic Social and Behavioral Sciences	1
			Basic Health Services Administration	1	Basic Health Services Administration	1
			Basic Environmental Health Sciences	1	Basic Environmental Health Sciences	1
			Introduction to Basic Medicine	1		
			Introduction to Clinical Medicine	1		
Required Subjects II (Hisshu Kamoku II)	Scientific Presentation and Communication	1	Scientific Presentation and Communication	1	Presentation Skills I	1
	Presentation Skills I	1	Presentation Skills I	1	Presentation Skills II	2
	Presentation Skills II	2	Presentation Skills II	2	Master's Thesis Research in Public Health	10
	Master's Thesis Research in Medical Sciences	10	Master's Thesis Research in Public Health	10		
Elective Subjects (Sentaku Kamoku)	Basic Principles of Medicine	[2]	※Advanced Epidemiology			[1]
	Introduction to Clinical Genomics	2	※Advanced Biostatistics			[1]
	Biomedical Informatics	1	※Advanced Social and Behavioral Sciences			[1]
	Clinical Epidemiology	2	※Advanced Health Services Administration			[1]
			※Advanced Environmental Health Sciences			[1]
	Clinical Pathology and Laboratory Medicine	1				
	Introduction to Basic Medicine	1				
	Introduction to Clinical Medicine	1				
	Required Subjects I and Required Subjects II of Public Health Course (EXCEPT Master's Thesis					

	Research in Public Health)		
How to take subjects	Take 4 credits from Required Core Subjects, 2 credits from Required Subjects I, 14 credits from Required Subjects II, and 10 credits or more including Basic Principles of Medicine offered by belonging laboratory from Elective Subjects.	Take 4 credits from Required Core Subjects, 7 credits from Required Subjects I, 14 credits from Required Subjects II and 5 credits or more from subjects with ※.	Take 4 credits from Required Core Subjects, 5 credits from Required Subjects I, 13 credits from Required Subjects II and 8 credits or more from subjects with ※.

※ As for the subject which credit number is indicated as [number], students can take multiple choices as far as the chosen subjects belong to different subject titles.

Completion Requirements

Students are required to be enrolled in the Graduate School of Medicine for 2 years or more to complete Medical Science Course or Public Health Course (Two-Year Course), and for 1 year or more to complete Public Health Course (One-Year Course).

Students should acquire 30 credits or more in majored fields, and pass the qualifying review and examination of the Master's thesis after receiving required research instruction from the supervisor. In Public Health Course (One-Year Course), instead of examination of Master's thesis, examination of research achievements of specific assignment is allowed.

Application Guidelines for August Examination, 2020 for
Master's Program in Medical Science
(For enrollment October 2020)

1. Number of Students Admitted

Medical Science: A few students

For Public Health Course (One-Year Course), we will not recruit applicants for enrollment October 2020.

Before applying, please contact Student Affairs Office, Graduate School of Medicine at first, because the office needs to refer the prospective supervisor for the possibility to accept the applicant. Please be noted that only those who have been given prior approval from prospective supervisor can apply. For the information of laboratories, please check "Organization of the Graduate School of Medicine and main research contents".

2. Qualifications of Applicants

Applicants who wish to enroll in October 2020 must indicate such by circling the appropriate box on the application form.

(1) Those who have graduated or are expected to graduate from a university by 30 September 2020.

(2) Those who were awarded or are expected to be awarded Bachelor's degrees from National Institution for Academic Degrees and Quality Enhancement of Higher Education (NIAD-QE) by 30 September 2020.

(3) Those who have completed or are expected to complete 16 years of formal education overseas by 30 September 2020.

(4) Those who have completed or are expected to complete 16 years of formal education provided by overseas educational institution by way of distance education while residing in Japan by 30 September 2020.

(5) Those who have completed or are expected to complete an undergraduate course of a foreign university at an educational institution in Japan (limited to those who have completed 16 years of the said foreign country's curricular education) which is designated in the said foreign country's education system and specifically designated in Japan by the Minister of Education, Culture, Sports, Science and Technology by 30 September 2020.

(6) Those who have been awarded or are expected to be awarded by 30 September 2020 a degree equivalent to Bachelor's degree from an overseas university or an overseas educational institution (limited to the one which overall situation such as educational and research activities has been evaluated by the said foreign country's government or the agency accredited by related organization or the one which is specifically designated as equivalent to above by the Minister of Education, Culture, Sports, Science and Technology) by completing three or more years of curriculum (including completing the said curriculum by an overseas educational institution by way of distance education while residing in Japan or completing the curriculum at an educational institution which falls into the specification of above (5)).

(7) Those who have completed or are expected to complete by 30 September 2020 a specialized course of a special training school designated by the Minister of Education, Culture, Sports and Technology (only when the length of schooling is 4 years or more and other criteria stipulated by the Minister are met), on or after the date designated by the Minister of Education, Culture, Sports, Science and Technology.

(8) Those designated by the Minister of Education, Culture, Sports, Science and Technology.

(9) Those who have been or are expected to become fallen under one of the followings by 30 September 2020 and are deemed eligible to apply by the Graduate School of Medicine. (See Note.)

ⅰ） Those who have been enrolled for three years or more in a university.

ⅱ） Those who have completed 15 years of formal education overseas.

ⅲ） Those who have completed 15 years of formal education by overseas educational institution by way of distance education while residing in Japan.

ⅳ） Those who have completed an undergraduate course of a foreign university at an educational institution in Japan (limited to those who have completed 15 years of the said foreign country’s curricular education) which is designated in the said foreign country’s education system and specifically designated in Japan by the Minister of Education, Culture, Sports, Science and Technology.

(10) Those who are deemed by the Graduate School of Medicine based on individual qualification review to have academic ability equivalent to or greater than university graduates, and will be 22 years of age or older before 30 September 2020. (See Note.)

Note: Those who apply under Qualifications of Applicants (9) or (10), must undergo Qualification Review. Refer to 3. (4) Qualification Review for further information.
Qualification Review described in Qualifications of Applicants (10) is the process to examine research history and work experience of those who do not have university diploma, such as graduates of junior colleges, vocational high schools, special vocational schools and other schools.

3. Application Procedure

(1) Application Period

Tuesday, 7 July 2020 to Monday, 13 July 2020

Office Hours: 09:00 to 17:00 (JST), excluding Saturday and Sunday * Send the application documents to Students Affairs Office by post using express registered mail. Application documents must arrive within the application period.

Those who apply under 2. Qualifications of Applicants (9) or (10) must undergo Qualification Review.
Apply for Qualification Review within the application period enclosed with all necessary documents described in 3. (4) Qualification Review. Application deadline for Qualification Review is Wednesday, 17 June 2020 .

(2) Application Documents and Examination Fee

Please request Student Affairs Office for the original booklet “Application Guidelines for August Ex amination, 2020 Master’s Program in Medical Science”, which includes Application Form and other necessary documents for application.

Application Form	Prescribed Form. Included in the original booklet.
Statement of Purpose	Prescribed Form. Included in the original booklet.
Academic Transcripts	Must be issued by a university/college president or Dean. If your family name has been changed afterward, please attach the document such as abstract of your family register, to prove that you have changed your family name.

Certificate of (Expected) Graduation or Completion	Must be issued by a university/college president or Dean. (For graduates, be sure that the certificate includes information on your degree). If you apply under qualification (2), Certificate of Bachelor's Degree or expected Graduation or Completion. If your family name has been changed afterward, please attach the document such as abstract of your family register, to prove that you have changed your family name. *Those who graduated or will graduate from a university in China (excluding Taiwan, Hong Kong and Macau) must submit the following documents in addition to a Certificate of (Expected) Graduation (Completion) . Graduates: a. Online Verification Report of Higher Education Qualification Certificate（教育部学历证书电子注册备案表） b. A certified copy of Graduation Diploma（毕业证书）and Degree Diploma（学位证书）that has been authorized by a university/college Expected Graduates : a. Online Verification Report of Student Record（教育部学籍在线验证报告） Obtain documents "a" above by requesting it at "中国高等教育学历证书查询" : http://www.chsi.com.cn/xlcx/bgys.jsp. Also be sure that there are 15 or more days left until the expiration date of the online verification at the time of its submission.
Examination Card/ Photo ID Card	Fill in your information and paste photograph taken within the last 3 months (full-face, 4 x 3cm, applicant's name printed on back) in the space provided. Included in the original booklet.
Self-addressed Envelope	Self-addressed envelope (23.5×12cm) with 374 yen stamp affixed, to receive your examination card.
Address Card	Prescribed form to receive the acceptance letter and documents for admission. Included in the original booklet.
Examination Fee	JPY30,000. Pay by the remittance form at Japan Post Bank or other banks in Japan, which is attached to the original booklet. 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.
Form to Paste the Payment Certificate	Prescribed form. Included in the original booklet. On this form paste the payment certificate of examination fee (certificate E) which is included in the original booklet and to be returned from the bank after payment
(If applicable) Photocopy of Residence Card	Applicants from abroad must submit photocopy of passport.
(If applicable) Consent to Transfer and Process Personal Data	Applicants from EEA must confirm the Handling of Personal Information on page 8 and submit the consent.

(3) Applicants with Physical Disability

Physically disabled applicants who require special attention during tests and classes should contact Student Affairs Office of the Graduate School of Medicine at the time of application.

(4) Qualification Review

Those who apply under 2. Qualifications of Applicants (9) or (10) must undergo individual Qualification Review. Apply within the application period enclosed with all necessary documents described as follows.

ⅰ) Application Period for Qualification Review

Thursday, 11 June 2020 to Wednesday, 17 June 2020

Office Hours: 09:00 to 17:00 (JST), excluding Saturday and Sunday * Send the application documents to Students Affairs Office by post using express registered mail. On the face of the envelope, be sure to write "Enclosing Application Documents for Qualification Review".Application documents must arrive within the application period.

ⅱ) Application Documents for Qualification Review

In addition to the documents described in (2) above, submit the documents described below.
After receiving the results of Qualification Review, pay examination fee by the attached remittance form by payment due date. Paste the payment certificate of examination fee (certificate E) on the form included in the original form, and mail it to the address described in (5) below within (1) Application Period.

Application for Qualification Review	Prescribed form. Included in the original booklet.	
Self-addressed Envelope	Self-addressed envelope (23.5×12cm) with 374 yen stamp affixed, to receive the result of Qualification Review.	
Submission required depending on the qualification	Qualifications of Applicants	Documents to Submit
Letter of Recommendation	(9)	From Chancellor or Dean of the enrolled university
	(10)	From the head of research or business institutions, regarding research or business abilities
Certificates and Documents regarding Educational Background	(9)	Academic transcript from the enrolled university
	(10)	Certificate of graduation, transcript, documents stating qualification for enrollment, academic requirements for graduation, and study term. (Graduates of junior colleges, vocational high schools, special vocational schools and other schools.)
Other Certificates of Academic Ability Equivalent to that of University Graduates	(10)	Certificate of contents of research and work experience of two years or more (Graduates of two-year junior colleges.) Certificate of contents of research and work experience of one year or more (Graduates of three-year junior colleges.) Any materials to determine individual academic achievement, such as research papers

Other Materials may be requested if necessary.

ⅲ) Procedure of Qualification Review

Qualification review is conducted by screening submitted documents.

ⅳ) Announcement of Results

Results of Qualification Review will be notified to applicants by postal mail.

(5) Application Documents for both Entrance Examination and Qualification Review should be submitted to:

Student Affairs Office, Hokkaido University Graduate School of Medicine,
Kita 15 Nishi 7, Kita-Ku, Sapporo, Hokkaido, 060-8638 JAPAN Phone: +81-(0)11-706-5018

4. Selection of Entrants

Selection shall be determined based on the comprehensive evaluation of entrance examinations, academic transcripts, and other relevant documents submitted.

5. Date and Time of Entrance Examination

Date	Time	Subject	Category	Place
Tuesday, 18 August 2020	To be determined	Specialized subject	Online examination conducted at the preferred laboratory using internet videophone such as Skype	Detailed information will be given by the preferred laboratory.

6. Notice for Entrance Examination

Applicants who have the second preference in the preferred laboratory shall take examinations of specialized subjects in two fields.

7. Announcement of Successful Applicants

10:00AM Friday, 4 September 2020 (JST)

A letter of acceptance will be mailed to each successful applicant. Also. examinee numbers of successful applicants will be posted on the website of Hokkaido University Graduate School of Medicine around 10:00AM. No telephone inquiries about the results of the examination will be accepted.

8. Admission Procedure

(1) Registration Period

Friday, 4 September 2020 to Thursday, 10 September 2020 (excluding Saturday and Sunday)

(2) Admission and Tuition fees

ⅰ） Admission Fee: JPY 282,000 (estimate)
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.

ⅱ） Tuition Fee: : Half Year: JPY 267,900 (JPY 535,800/Year) (estimate)
*Tuition of the first half-year should be paid, using the payment form which will be sent from the Graduate School of Medicine in the middle of the following month of the enrollment.
*If the fee is revised, the new one will be adapted accordingly.

9. Important Notice

(1) Before filling in a column of the preferred laboratory on the application for admission, refer to “Organization of the Graduate School of Medicine and main research contents” and consult your future supervisor about research contents and plan.
(2) Incomplete application documents will not be accepted nor considered.
(3) Submitted documents cannot be revised.
(4) Examination fee is non-refundable unless 1) the application was not made, 2) application documents were not accepted due to the documents being incomplete, or 3) double-payments were made. It takes considerable time for refund. “Payment Certificate E” or “Receipt of Remittance D” included in the

original booklet and to be returned from the bank after payment is required to claim the refund to Student Affairs Office.

(5) Admission may be cancelled if the application documents contain false information.

(6) Any inquiry regarding admission and examination should be sent by post enclosing a self-addressed return envelope with a postage stamp affixed.

(7) Eligibility to take the National Exam for Medical Practitioners is given to graduates of the School of Medicine, and is not given to those who have completed Master's program, major in Medical Science of the Graduate School of Medicine.

10. Long-Term Study Program

Please read the following page for further information.

11. Use of Personal Information

(1) All personal information collected by Hokkaido University will be completely protected in compliance with the Act on the Protection of Personal Information Held by Independent Administrative Agencies, and the EU General Data Protection Regulation (GDPR) pursuant to the Hokkaido University Regulations on Personal Information Management.

(2) Your name, address, and other personal information you provide to the university through application and individual admissions screening processes will be used solely for ① enrollee selection (application processing and the screening process), ② the announcement of exam results, ③ admission procedures, ④ surveys and research on enrollee selection methods, and ⑤ other related processes.

(3) The personal information in section (2) above will also be used after enrollment, only for those who pass the exam, for processes related to ① academic affairs (registration, academic guidance), ② student support services (health management, scholarship applications, dorm admission selection, welfare services, etc.), ③ job search support services, ④ tuition, ⑤ use of the university library, ⑥ use of information education facilities, ⑦ confirming your safety and communication in a disaster or emergency situation, and ⑧ public relations (distributing newsletters, information on events, etc.).

(4) Personal information contained in exam results will be used to conduct surveys and research on enrollee selection methods.

(5) For recruiting purposes, when we receive a request for information from the Hokkaido University Frontier Foundation (Kita 8 Nishi 5, Kita-ku, Sapporo, Hokkaido; Tel: +81-(0)11-706-2017) or Hokkaido University Athletic Union (Kita 17, Nishi 7, Kita-ku, Sapporo, Hokkaido; Tel: +81-(0)11-716-4815), the only personal information listed in section (2) will be provided for use within the scope of that organization's activities.

(6) The personal information set forth in (2) will be retained for five years from the next academic year of our acquirement.

(7) The university shall use Article 6, Paragraph 1 (a) of the EU GDPR as the basis for handling personal information and obtaining consent to use it. Personal information will only be used for the purpose for which consent has been given, except when required by laws and regulations.

(8) The consent set forth in (7) may be revoked at any time. However, this does not affect the legal handling of personal information before consent was revoked.

(9) Individuals who provide personal information may make the following requests to the university based on the EU GDPR and related laws and regulations:

① Disclosure of personal information, ② Correction of personal information, ③ Erasure of personal information, ④ Limitation of the handling of personal information, ⑤ Objection to the handling of personal information, ⑥ Transfer of personal information to other service providers

(10) If you have provided personal information within the European Economic Area, you may file an objection to a supervisory authority in accordance with Article 51, Paragraph 1 of the EU GDPR if you are dissatisfied with the university's handling of your personal information, etc.

(11) Some of the processes in (2)－(5) mentioned above may be outsourced by the university to a contracted service provider (hereinafter referred to as "contractor"). All or some of the personal information provided by applicants may be provided to the contractor only as needed to perform the tasks for which it has been contracted.

(12) This university is subject to Japan's Law for the Protection of Personal Information Retained by Independent Administrative Institutions, but not subject to adequacy decisions by the European Commission

May 2020

Student Affairs Office, Hokkaido University Graduate School of Medicine
Kita 15 Nishi 7, Kita-Ku, Sapporo, Hokkaido, 060-8638, JAPAN
Phone: +81-(0)11-706-5018
d-tanto@med.hokudai.ac.jp

Long-Term Study Program

1. Purpose

The standard term is two years. Long-Term Study Program (longer than two years) is offered for those who wish to study and acquire a degree through a long-term enrollment due to time limitations. Applicants are individually screened for eligibility.

2. Eligibility

Those who have difficulties in completing the program within the standard term due to personal reasons such as (1) full time jobs, (2) part time jobs (3) child-raising or a long-term nursing care, or (4) visual disabilities, auditory disabilities, physical disabilities or other disabilities are eligible to apply for this program.

3. Period of Enrollment

Students in Master's program may extend their term of study up to four years, and extension of study term can be applied by the year as a unit.
Students in Master's Program are allowed to stay enrolled up to two years in addition to the period approved for a Long-Term Study Program.
Students in a Long-Term Study Program are allowed to have two years leave as well as regular students.

4. Application Procedure

(1) Application Period
Please request at the time of application for admission. Application form is available at Student Affairs Office of the Graduate School of Medicine.

(2) Application Documents
Please submit the following documents to Student Affairs Office of the Graduate School of Medicine.
ⅰ) Application for the Long-Term Study Program (Form 1-1)
ⅱ) Reasons to apply the Long-Term Study Program (Form 2)
ⅲ) Study plan of the Long-Term Study Program (Form 3)
ⅳ) Documents proving the need for the long-term study program

5. Shortening or re-extension of Long-Term Study Program

When deemed necessary by the Graduate School of Medicine, study term of Long-Term Study Program could be either shortened or re-extended once during the program.
Please contact Student Affairs Office of the Graduate School of Medicine for further information.

6. Tuition Fees

Annual tuition fee of the Long-Term Study Program is determined by dividing the total fees paid for the regular program of standard term (annual fee×2 years) by the number of years allowed for the Long-Term Study Program. Tuition fee is non-refundable, and the tuition already been paid will not be adjusted.

* Please do NOT pay tuition fee of the long-term study program before receiving a notice of determination.

※Organization of the Graduate School of Medicine and main research contents

	Department	Academic advisor		Research contents
Biochemistry	Molecular Biology	Professor	SABE Hisataka	1. Cell integrity based on cellular metabolisms and nuclear geometry 2. Nano structures controlling organelle dynamics 3. Molecular bases of cancer therapeutic resistance
	Medical Chemistry	Professor	HATAKEYAMA Shigetsugu	1. Ubiquitin system in protein degradation 2. Intracellular signal in cancer and immune system 3. Functional analysis of proteins/lipids by mass spectrometry
Anatomy	Anatomy and Embryology	Professor	WATANABE Masahiko	1. Visualization of expression and localization of neural signaling molecules 2. Glial roles in neural development and function 3. Molecular mechanisms for synaptic circuit development
	Histology and Cytology	Professor	FUJIYAMA Fumino	1. Anatomy and function of central nervous system 2. Elucidation of Parkinson's disease 3. Sensing mechanism in the mechanical and chemical sensory appratuses 4. Functional morphology of endogeneous lectins and glycoconjugates
Physiology	Cell Physiology	Professor	OHBA Yusuke	1. Visualization of cell functions using fluorescence bioimaging 2. Spatiotemporal regulation of intra- and intercellular signal transduction 3. Regulation of membrane dynamics 4. Development and application of fluorescent biosensors
	Systems Neuroscience	Professor	TANAKA Masaki	1. Neural control of voluntary movements 2. Functional analysis of the frontal cortex 3. Functional analysis of the basal ganglia 4. Functional analysis of the cerebellum
Pharmacology	Neuropharmacology	Professor	YOSHIOKA Mitsuhiro	1. Neuropharmacological studies of the serotonergic system development and its dysfunction 2. Neuropharmacological studies of the relationship between stress and emotional system 3. Neuropharmacological studies of impulsivity 4. Functions and molecular basic of local neuronal circuits for fear and anxiety
	Cellular and Molecular Pharmacology	Professor	YOSHIOKA Mitsuhiro	1. Regulation of intracellular trafficking of G-protein coupled receptors 2. Regulation of Ca2+ entry by G-protein coupled receptors 3. Aberrant endothelin receptor signaling and onset/progression of pulmonary hypertension, diabetes mellitus and arteriosclerosis 4. Identification of cytotoxic factors in cigarette smoke and molecular mechanisms for onset/progression of smoking-related diseases
Pathology	Pathology	Professor	KASAHARA Masanori TOMARU Utano	1. Major histocompatibility complex and natural killer receptors 2. Role of proteasomes in health and disaese 3. Pathogenesis of autoimmune diseases 4. Tumor immunology 5. Cancer stem cells 6. Human pathology and surgical pathology
	Cancer Pathology	Professor	TANAKA Shinya	1. Research on diagnostic and surgical pathology 2. Cancer progression, cancer stem cells, and therapeutics. 3. Profiling analysis of various diseases. 4. Bioimaging and rapid-immunohistochemistry. 5. Biomaterial for analysis of cellular reprogramming. 6. NGS-based research on brain tumor and sarcoma. 7. Student-oriented innovative research.
	Diagnostic Pathology	Professor	MATSUNO Yoshihiro	1. Diagnostic surgical pathology (including cytopathology) 2. Application of molecular studies in diagnostic pathology 3. Quality control and standardization in pathology laboratories 4. Clinicopathologic analysis of human malignancy
Microbiology and Immunology	Immunology	Professor	KOBAYASHI Koichi	1. Host protection mediated by TLR and NLR family proteins 2. Role of the innate immune system in the onset of infection and inflammatory diseases 3. Nod2-dependent intestinal mucosal homeostasis and pathogenesis of Crohn's disease 4. CITA/NLRC5: a key regulator of MHC class I genes 5. Mechanisms of immune evasion by cancers 6. Development of novel biomarkers and immunotherapies for cancer patients
	Microbiology and Infectious Diseases	Professor	FUKUHARA Takasuke	1. Studies on viral and host factors involved in the propagation of hepatitis virus (HBV, HCV) 2. Studies on the mechanism of pathogenicity of virus infection through molecular biological analysis and animal experimentation 3. Studies on the diagnosis and drug discovery of viral infection (Coronavirus, Flavivirus) 4. Epidemiological and molecular biological studies on zoonotic diseases (Hantavirus, Flavivirus)
	Public Health	Professor	TAMAKOSHI Akiko	1. Field study on diet and health 2. Studies on unhealthy status and its related factors of the elderly 3. Longitudinal study of age-related neuropsychiatric function among a community-based elderly 4. Studies on lifestyle factors and health in adults
	Forensic Medicine	Professor	YOSHIOKA Mitsuhiro	1. Studies on medico-legal diagnosis of cause of death, postmortem interval, wounds, asphyxia, identification and postmortem CT diagnosis. 2. Studies on the mechanisms of generation concerning exogeneous unusual findings.

	Department	Academic advisor		Research contents
Social Medicine	Biostatistics	Professor	YOSHIOKA Mitsuhiro	1. Multivariate survival analysis 2. Development and evaluation methodology for clinical prediction model 3. Development of clinical trial design 4. Clinical epidemiology using big-data and public database
	Medical Education and General Medicine	Professor	TAKAHASHI Makoto	1. Development of innovative teaching methods and materials 2. Development of innovative evaluation methods 3. Studies on factors that affect learning behavior 4. Studies on factors that affect physicians' carrier selection
	Regulatory Science	Professor	ARATO Teruyo	1. Studies on data necessary for the development of advanced biological medicines 2. Studies on developmental strategy for orphan drugs 3. Studies on post marketing surveillance of pharmaceuticals and medical devices
	Translational Research Manegement	Professor	SATO Norihiro	1. Methodology for clinical research 2. Data manegement of clinical trial 3. Manegement of cell processing for cell therapy and regenerative medicine 4. Methodology for translational research support
	Patient Safety	Professor	NASUHARA Yasuyuki	1. Research on the methodology about sysytem approach to patient safety 2. Research on the methodology for cultivating talented risk managers in hospitals 3. Research on the methodology about standardization of medical accident investigation

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Internal Medicine	Respiratory Medicine	Professor	KONNO Satoshi	1. Prospective cohort studies of asthma and/or COPD 2. Research on molecular mechanisms, diagnosis, and treatment of thoracic malignancies 3. Research on molecular mecahnisms of chronic airway disease and/or diffuse lung disease 4. Basic/clinical research on pulmonary hypertension and cardiac sarcoidosis 5. Basic / clinical research on respiratory infectious diseases
	Rheumatology, Endocrinology and Nephrology	Professor	ATSUMI Tatsuya	1. Basic and clinical research on autoimmune disorders 2. Research on the pathophysiology, diagnosis and therapy of diabetes, obesity and dyslipidemia 3. Research on the pathophysiology and therapy of endocrine diseases 4. Basic and clinical research on renal diseases
	Gastroenterology and Hepatology	Professor	SAKAMOTO Naoya	1. Research for pathophysiology, diagnosis and treatment of liver diseases 2. Research for pathophysiology, diagnosis and treatment of pancreatobiliary diseases 3. Research for pathophysiology, diagnosis and treatment of malignant tumor of digestive system 4. Research for pathophysiology and treatment of inflammatory bowel diseases 5. Research for pathophysiology, diagnosis and treatment of digestive diseases
	Cardiovascular Medicine	Professor	ANZAI Toshihisa	1. Reasearch on pathophysiology, diagnosis, and treatment for ischemic heart disease 2. Molecular biological and clinical reasearch on pathophysiology and treatment for heart failure 3. Reasearch on etiology, diagnosis, and treatment for cardiomyopathy 4. Reasearch on molecular and genetic basis, diagnosis, and treatment for lifestyle disorder 5. Reasearch on etiology, diagnosis, and treatment for arrhythmia 6. Development of non-invasive technique for diagnosis of heart disease
	Medical Oncology	Professor	AKITA Hirotoshi	1. Research on diagnosis and treatment of malignant tumors 2. Research on molecular pathophysiology, diagnosis and treatment of lung cancers and mediastinal tumors 3. Research on molecular pathophysiology, diagnosis and treatment of tumors of the digestive organs 4. Research on cancer drug therapy 5. Research on molecular targeting therapy of cancer 6. Research on genome analysis, companion diagnostics and precision medicine of cancer
	Hematology	Professor	TESHIMA Takanori	1. Research on molecular pathogenesis, diagnosis, treatment of hematological malignancies 2. Basic and clinical researches to improve outcome of hematopoietic stem cell transplantation 3. Basic research to understand cellular & molecular biology of hematopoiesis 4. Basic and clinical researches on cell therapies against viral infections and malignant diseases 5. Pathogenesis, diagnosis, and treatment of immunodeficiencies, including AIDS 6. Reserch to improve safety and efficacy of blood transfusion
	Clinical Cancer Genomics	Professor	KINOSHITA Ichiro	1. Research for cancer genomics 2. Research for genomic abnormality of cancer 3. Research for epigenetic alteration of cancer 4. Development of novel biomarker on cancer 5. Research for molecular targeted therapy on cancer
Radiology	Therapeutic Radiology	Professor	AOYAMA Hidefumi	1. Research for external irradiation 2. Research for high precision X ray therapy 3. Research for Particle therapy and Proton therapy 4. Research for medical physics 5. Research for radiobiology for radiotherapy
	Diagnostic Imaging	Professor	KUDO Kohsuke	1. Diagnostic radiology using CT, MRI, ultrasound, and nuclear medicine 2. Vasicular imaging and interventional radiology 3. Radioisotope treatment 4. Imaging analysis of tracer kinetics and artificial intelligence 5. Synthesis of contrast media and radiopharmaceuticals 6. Molecular imaging using stable isotopes and radio isotopes

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Surgery	Gastroenterological Surgery I	Professor Associate Professor	TAKETOMI Akinobu KAMIYAMA Toshiya	1. Pathophysiology of alimentary tract diseases and their surgical managements 2. Hepato-biliary-pancreatic malignancy and their surgical treatments 3. Liver transplantation and artificial hepatic support 4. Perioperative managements, non-parenteral nutrition and multi-system organ failure 5. Surgical oncology 6. Echinococcosis 7. Basic research and treatment on pediatric surgical oncology and pediatric hepato-biliary diseases 8. Basic and clinical research on the function of pediatric digestive system
	Gastroenterological Surgery II	Professor	HIRANO Satoshi SHICHINOHE Toshiaki	1. Clarification of pathogenesis and development of surgical treatments of the malignancy of the digestive system 2. Development of endoscopic surgery and its devices 3. Clinical researvh for perioperative management of highly invasive digestive surgeries 4. Study for multidisciplinary treatment of pancreato-biliary cancer 5. Molecular research on biomarkers associated with oncological malignancy 6. Exploring translational research on immunotherapy 7. Analysis of immune responses in the tumor microenvironment 8. Study of gene therapy for intractable cancers 9. Study for surgical training 10. Study for bariatric and metabolic surgery
	Renal and Genitourinary Surgery	Professor	SHINOHARA Nobuo	1. The mechanism of development of detrusor overactivity associated with lower urinary tract obstruction 2. Neural transmitted pathway at the bladder stimulation 3. The development of chronic rejection in transplanted kidney 4. The analysis of immunology in renal transplantation and development of the treatment of immunological regulation 5. The mechanism of carcinogenesis and progression in kidney cancer 6. The mechanism of metastasis and progression of urothelial cancer 7. QOL study on the treatment of prostate cancer 8. The development of minimal invasive surgery
	Cardiovascular and Thoracic Surgery	Professor	WAKASA Satoru	1. Innovation of surgical intervention on severe congestive heart failure 2. Research on myocardial protection 3. Autophagy in left ventriculoplasty 4. Metabolic disturbances in atrial fibrillation 5. Basic research on aortic valve plasty 6. Endovascular stent graft therapy for aortic diseases 7. Development of minimally invasive thoracic surgery 8. Surgery in multimodality thearapy for lung cancer 9. Lung transplantation 10. Tumor angiogenesis of thoracic malignant tumors 11. Photodynamic therapy using nanoparticle for thoracic malignant tumors 12. Development of early diagnosis and molecular targeted therapy using next generation sequence for lung cancer 13. Photoimmunotherapy for lung cancer 14. Therapy for malignant mesothelioma and dissemination of caner
	Breast Surgery	Professor	YAMASHITA Hiroko	1. Research on biological characteristics in breast cancer 2. Research on endocrine therapy in breast cancer 3. Research on mechanisms of breast cancer development and prevention
Anesthesiology and Critical Care Medicine	Anesthesia and Perioperative Medicine	Professor	MORIMOTO Yuji	1. Cerebral protection and resuscitation 2. Care and Cure for the whole body against invasive biological stress 3. Neurotoxicity by anesthetics 4. Mechanism of postoperative cognitive dysfunction 5. Mechanism and treatment of pain 6. Mechanism of respiratory cycle and effect of drugs 7. Hyperbaric oxygen therapy 8. Patient management system in the operating room and the medical economics
	Acute and Critical Care Medicine	Professor	MORIMOTO Yuji	1. Body responses to various insults –pathophysiology and their control- 2. Multiple organ dysfunction syndrome –pathophysiology and treatment- 3. Critical care medicine 4. Cardiopulmonary cerebral resuscitation 5. Toxicology 6. Disaster medicine 7. Medical, transportation, and information system for acute medicine 8. Traumatology

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Reconstructive Surgery and Rehabilitation Medicine	Orthopedic Surgery	Professor	IWASAKI Norimasa	1. Tissue engineering for musculoskeletal tissue repair 2. Etiology and pathogenesis of osteoarthritis 3. Role of glycans and these regonizing molecules in bone and cartilage metabolism 4. Pathophysiology of secondary osteoporosis 5. Study of intervertebral disc apoptosis for prevention of the disc regeneration 6. Basic research for elucidation of rheumatoid arthritis pathogenesis 7. Regulationof arthritis and osteolysis by manipulation of inflammation 8. Biomechanical evaluation of surgical efficacy for musculoskeletal disorders 9. Regenerative medicine for spinal cord injury and peripheral nerve injury
	Plastic and Reconstructive Surgery	Professor	YAMAMOTO Yuhei	1. Translational research in wound healing 2. Translational research in treatment of keloid 3. Development of surgical technique in free tissue transfer 4. Basic research in surgical oncology 5. Translational research of angiogenesis of vascular and lymphatic vessel 6. Regenerative medicine based on tissue engineering method 7. Development of therapeutic technique in cranio-maxillo-facial surgery
	Sports Medicine	Professor	KONDO Eiji	1. Motion analysis of athletes for performance improvement 2. Development of reconstruction surgery for osteoarthritis 3. Tissue regeneration of joints 4. Elucidation of remodeling mechanism of soft tissue 5. Medical application of synthetic polymer gel 6. Development of advanced treatment technology for musculoskeletal disorder

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Reproductive and Developmental Medicine	Pediatrics	Professor	MANABE Atsushi	1. Establishing methods for early diagnosis of primary immunodeficiency diseases. 2. Studies of very early onset/refractory inflammatory bowel diseases due to monogenic disorders. 3. Diagnosis and pathogenesis of hereditary folate malabsorption. 4. Development of the diagnostic method and oral immunotherapy of food allergy. 5. Epidemiology and immunotherapy of birch pollen fruit syndrome. 6. Diagnosis and treatment of pediatric rheumatic diseases. 7.Molecular biological studies on viral infections in childhood 8.Molecular epidemiological studies on macrolide-resistant mycoplasma pneumoniae 9.Clinical and molecular study for diagnosis and management in pediatric hematology and oncology 10. Clinical and molecular study in pediatric stem cell transplantation and cell therapy 11.Molecular analysis of pediatric endocrine disease with exome sequencing 12.Comprehensive molecular analysis of congenital hypothyroidism 13. Pathophysiology, prevention and treatment of chromosomal disorder and malformation syndrome in children 14. Pathogenesis and function analysis of epilepsy using magnetoencephalography 15.Analysis of higher brain function using magnetoencephalography 16.Pathological analysis and therapeutic development using neurological disease model animals 17.Analysis and elucidation of pathophysiology using patient-derived iPS cells 18. Histopathological analysis on the role of activated glomerular parietal epithelial cell in childhood kidney disease 19. Multicenter study of optimal rituximab regimens for pediatric refractory nephrotic syndrome 20. Molecular genetic diagnosis and management in pediatric cardiomyopathy 21. Efficacy of cardiac progenitor cell transplantation with mitochondrial drug delivery system for myocardial Ischemia/ reperfusion Iniurv. 22. Prenatal diagnosis in congenital heart disease 23. Study on diagnosis and treatment of hereditary interstitial lung disease (HILD) 24.Study to improve outcome of neonatal chronic lung disease 25.Study on influence from environmental parameters on fetal and neonatal health 26.Establishment of optimal sleeping program for low birth infants to improve 27.Establishment of methods to evaluate fetal heart failure 28. Basic and Clinical study in inborn errors of metabolism 29. Basic and clinical study in childhood liver disease and cholestasis 30. Basic and clinical study in gene therapy
	Obstetrics and Gynecology	Professor	WATARI Hidemichi	1. Studies on the cell biology involved in the cause of spontaneous abortion 2. Basic studies on the physiology of fetus and amnion 3. Clinical studies on the antenatal diagnosis and fetal therapy 4. Studies on the development of new strategy for the management of complicated pregnancies 5. Studies on the prophylaxis of preterm birth 6. Studies on the prophylaxis of osteoporosis 7. Studies on the regulation of osteoclasts 8. Clinical studies on the treatment of infertility 9. Intrafollicular physiology 10. Regulatory mechanisim of ovulation 11. Molecular mechanism of genesis and metastasis of uterine cancer 12. Novel treatment strategy for advanced cervical cancer 13. Immunotherapy for ovarian cancer 14. Chemoresistance of female reproductive cancer 15. Molecular research of health maintenance in middle to elderly-aged women 16. Molecular mechanism of placental growth and differentiation 17. Development of novel molecular-targeting therapy for ovarian cancer 18. Establishment of prediction model of lymph node metastasis for endometrial cancer 19. Establishment of new effective screening method for cervical cancer
Sensory Organ Medicine	Dermatology	Professor	ISHIDA Susumu	1. Molecular biological research of epidermis 2. Research on pathophysiology, diagnosis and treatment of genetic skin disorders 3. Research on pathophysiology, diagnosis and treatment of autoimmune skin diseases 4. Research on pathophysiology, diagnosis and treatment of malignant skin tumors 5. Research on pathophysiology, diagnosis and treatment of atopic dermatitis 6. Research on tissue engineering and wound healing 7. Research on hair regeneration, and treatment of alopecia 8. Research on novel therapeutic modalities for genetic skin disorders
	Otolaryngology−Head and Neck Surgery	Professor	HOMMA Akihiro	1. Basic research and clinical analysis for pathogenesis of sensorineural hearing loss 2. Basic research and clinical analysis of sensorineural hearing loss by viral infection 3. Basic research and clinical analysis of nasal allergy 4. Basic research and clinical analysis of Eosinophilic chronic rhinosinusitis 5. Immunological approach for head and neck cancer 6. Basic research and clinical analysis of chemotherapy for head and neck cancer 7. Molecular biologic studies on head and neck cancer

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	Ophthalmology	Professor	ISHIDA Susumu	1. Retinal cell biology 2. Pathophysiology and treatment of uveitis 3. Molecular genetics of ocular diseases 4. Pathophysiology and treatment of ocular surface disease 5. Ocular circulation 6. Neuroprotection for glaucoma
Neurological Disordor	Psychiatry	Professor	KUSUMI Ichiro	1. Psychopathology of psychiatric diseases 2. Development of new psychotherapy techniques 3. Development of new diagnostic techniques and new treatment of epilepsy 4. Molecular genetic study of psychiatric diseases 5. Development of animal models of psychiatric diseases and neuroscience 6. Development of new psychotropic drugs and psychopharmacology 7. Neuroimaging in psychiatric diseases 8. Neurophysiological and neuropsychological study of psychiatric diseases
	Neurosurgery	Professor	KUSUMI Ichiro	1. Basic and clinical research on malignant glioma 2. Basic and clinical research on cerebrovascular disorders 3. Basic and clinical research on spinal cord disorders 4. Translational research on CNS regeneration 5. Surgical anatomy of skull base surgery 6. Genomic research on cerebrovascular disorders 7. Cerebral hemodynamics and metabolism 8. Clinical research on pediatric neurosurgery

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	Neurology	Professor	KUSUMI Ichiro	1. Clinical neuroelectrophysiology 2. Immunohistochemistry of muscles and peripheral nerves 3. Molecular biology and genetics for neurological disorders 4. Basic studies for the disease mechanism and therapeutic approach in neuro-immunological disorders 5. Biomarkers in neurological disorders 6. Cogitive brain function 7. Neuroepidemiology
		Associate Professor	YABE Ichiro	
Medical Biology	Neurobiology	Professor	KAMIYA Haruyuki	1. Neurobiology of axon 2. Neurobiology of synapse
Immunology	Immunobiology	Professor	SEINO Kenichiro	1. Tumor Immmunology 2. Transplant Immunology 3. Development of a novel immune cell therapy using cell reprogramming technique
	Functional Immunology	Professor Associate Professor	MURAKAMI Masaaki KITAMURA Hidemitsu	1. Molecular and cellular mechanisms on the functional regulation of dendritic cells and its application to immune-related diseases 2.Evaluation of IL-6 signaling-mediated immunosuppression 3. Research on pathogenesis of severe asthma and chronic inflammation and development of the novel immunotherapy 4. Identification of novel biomarkers for development of personalized medicine
	Psychoimmunology	Professor	MURAKAMI Masaaki	1.Research for regulation of disease development by psychological and mental status (the gateway reflexes) 2.Research for regulation of organ functions by specific neural activation (the gateway reflexes) 3.Research for molecular mechanisms underlying chronic inflammation (the IL-6 amplifier) 4. Research for functional roles of SNPs asscoiated with chronic inflammatory diseases (the IL-6 amplifier) 5. Development of novel drugs and biomarkers for diseases associated with chronic inflammation (the IL-6 amplifier)
Pathological Oncology	Stem Cell Biology	Professor	KONDO Toru	1. Molecular mechanism involved in the maintenance and differentiation of neural stem/precursor cells 2. Molecular mechanism of neural stem/precursor aging 3. Characterization of cancer stem cells and analysis of their therapeutic targets 4. Relationship between neural stem cells and age-related disorders.
	Biomedical Oncology	Professor	SONOSHITA Masahiro	1. Studying how cancers develop 2. Elucidating the mechanisms of how drug resistance occurs in cancer 3. Generating novel anti-cancer therapeutics