Admission in Spring (April) 2019

Graduate School of Medicine
(Doctoral Program)

Student Application Guidelines

National University Corporation
Shiga University of Medical Science

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Admission Policy, etc.

Admission Policy (Policy for Admitting Students)

Desired Students:

1. Those who are motivated to contribute to the progress and development of medicine and health care through scientific exploration in the fields of medicine, health care, life science, and medicine-related interdisciplinary fields;
2. Those who have international perspectives and a passion to play an active role in the world; and
3. Those who have respect for life and high ethical standards.

Student Selection

1. The Graduate School conducts a General Medicine and Life Science examination that separately tests students' fundamental understanding and thinking abilities in the following areas: medicine, health care and life science, and medicine-related interdisciplinary areas.
2. We also conduct a foreign language examination (English) to measure students' ability to express themselves and their attitudes toward international cultures.
3. In addition to the two abovementioned examinations, candidate students must undergo an interview that confirms their passion for research, cooperative abilities, and high ethical standards.

Curriculum Policy (Policy for Organizing and Executing Curriculum)

1. By establishing three Courses at our Graduate School, we provide students with an organically systematized education across the borders of academic fields as well as research opportunities offered by our entire teaching staff. In addition, multiple teachers shall be responsible for each student in our Graduate School.
2. The Graduate School stipulates several required and elective subjects.
   2-1. The Advanced General Medicine and Technical Seminar cultivates the expertise and research skills required to become a medical researcher.
   2-2. The Introduction to Epidemiology and Medical Statistics fosters the knowledge of epidemiology and statistics that is necessary to conduct medical research.
   2-3. A seminar on the integration of fundamental knowledge and clinical research cultivates students' knowledge and ways of thinking beyond the scopes of fundamental and clinical studies.
   2-4. The Introduction to Ethics in Medicine and Life Science sufficiently cultivates students' knowledge and standards in the fields of medical ethics, bioethics, and research ethics.
   2-5. Elective subjects foster students' ability to independently conduct research by utilizing their most advanced knowledge in their areas of specialization and their research skills.

3. The Each Course provides their own characteristic subjects as indicated below.
   3-1. The Advanced Medical Science Course fosters students' ability to conduct independent research by providing them with opportunities to participate in advanced and unique research projects that involve fundamental research ethics and the most advanced research techniques.
   3-2. Advanced Medicine for Clinicians Course fosters students' ability to play a leading role in medical settings by educating them on medical-related ethical and legal issues with a focus on clinical research. Additionally, it supports students in their training to qualify as specialized physicians, by teaching the medical techniques that are necessary to serve as experts.
   3-3. The Interdisciplinary Medical Science and Innovation Course fosters students' ability to play an important role in industry-academia collaboration by providing not only medical but also interdisciplinary knowledge, including that regarding engineering and physics, as well as practical research skills.

Diploma Policy (Policy for Granting an Academic Degree)

To complete the Program, students shall meet the following requirements:

1. Have sufficient expertise and research skills as a medical researcher.
2. Have sufficient knowledge and ethical awareness in the fields of medical ethics, bioethics, and research ethics.
3. Have the ability to conduct independent research.
4. In addition to the above, students shall possess the following abilities and knowledge for each of the Courses listed below:
   4-1. For the Advanced Medical Science Course, highly advanced knowledge and the ability to exert leadership in government, industry, and academic settings, including in international contexts.
   4-2. For the Advanced Medicine for Clinicians Course, knowledge and medical skills required to serve as a specialist, and the ability to exert leadership in medical fields.
   4-3. For the Interdisciplinary Medical Science and Innovation Course, interdisciplinary knowledge and research skills to integrate medical fields with other areas.

Student Application Guidelines

Number of Students to Be Admitted

30 students in Medical Science
(including working students)

Advanced Medical Science Course
(*1 Including Project for Reducing the Burden of Non-Communicable Disease (NCD) in the Asian Pacific Region)
Advanced Medicine for Clinicians Course
(*2 Including the Oncology Specialist Training Course)
Interdisciplinary Medical Science and Innovation Course

*1 For the "Project for Reducing the Burden of Non-Communicable Disease (NCD) in the Asian Pacific Region," applications for admission in Spring(April) in 2019, please refer to the application guidelines.

(Note) For applicants who are willing to enroll while maintaining their job, "Special Exception of Education Method" according to Article 14 of Graduate Schools Establishment Standards shall apply, and we may provide education through appropriate means, which include conducting classes or research guidance in the evening and other certain hours and periods.

Eligibility for Applicants

1. Those who have graduated or are expected to graduate from a school of medicine or dentistry of a university, or a six-year program of pharmacy or veterinary medicine by March 2019.
2. Those who have completed or are expected to complete 18 years of school education (must include medicine, dentistry, pharmacy, or veterinary medicine in the curriculum) by March 2019.
3. Those who have completed or are expected to complete 18 years of school education in a foreign country (must include medicine, dentistry, pharmacy, or veterinary medicine in the curriculum), by taking courses in correspondence education provided by a school in a foreign country in Japan by March 2019.
4. Those who have completed a curriculum (an applicant must complete 18 years of school education in a foreign country (must include medicine, dentistry, pharmacy or veterinary medicine in the curriculum)) in an educational institution in Japan that is deemed to have courses offered by an overseas college according to the educational system of that country and have also been designated by the Minister of Education, Culture, Sports, Science and Technology
5. Those who have academic ability equivalent or superior to those who have completed a master's program or have earned a master's degree, and have also been designated by the Minister of Education, Culture, Sports, Science and Technology according to Notification No. 39 dated April 8, 1955, from the Ministry of Education and Notification No. 118 dated September 1, 1989, from the Ministry of Education, including those who are recognized to have an academic ability equivalent or superior to those who have graduated from a school of medicine, dentistry, or veterinary medicine
6. Those who stayed in a six-year college for four years or more without graduating from it (a curriculum must include medicine, dentistry, pharmacy, or veterinary medicine) and are recognized by our school that they have earned a designated number of credits with excellent grades
7. Those who have completed 16 years of school education in a foreign country (a curriculum must include medicine, dentistry, pharmacy, or veterinary medicine); those who have completed 16 years of school education in a foreign country (must include medicine, dentistry, pharmacy, or veterinary medicine in the curriculum), by taking courses in correspondence education provided by a school in a

foreign country; or those who have completed a curriculum (an applicant must complete 16 years of school education in a foreign country (must include medicine, dentistry, pharmacy, or veterinary medicine in the curriculum)) in an educational institution in Japan that is deemed to have courses offered by an overseas college according to the educational system of that country and have also been designated by the Minister of Education, Culture, Sports, Science and Technology, while being recognized by our school that they have earned a designated number of credits with excellent grades

8. Those who are recognized to have academic ability equivalent or superior to those who have graduated from a college (a curriculum must include medicine, dentistry, pharmacy, or veterinary medicine) through individual screening of requirements for admission and who will be 24 years old before or on March 31, 2019.

(Note) 1. Applicants for working students must apply to one of the above criteria, already work at the point of application, and obtain an approval from their supervisor for enrollment while maintaining their job.

2. If you apply to any of the above criteria 5-8, please refer to "Screening of Eligibility for Application" on page 8.

Application Procedure

1. Period of Application

Thursday, November 1 to Wednesday November 7, 2018, as indicated by the postmark on the envelope

2. Address to Submit Application Documents and Inquiry

Contact for Entrance Examination, Admissions Office,
Shiga University of Medical Science
Seta Tukinowa-cho, Otsu City, Shiga 520-2192, Japan
Tel: 077-548-2071 (direct)

3. Application Documents (* (asterisk) means that our school's format is provided)

	Required Document	Note
1	Application for Admission *	
2	Academic Transcript	Prepared and sealed by the President (Dean) of a school attended. Not required for those who have graduated/will graduate from our university. If you have completed/will complete a master's program, please also submit an academic transcript prepared and sealed by the President (Dean) of the graduate school attended.
3	Certificate of Graduation or Certificate of Expected Graduation	Prepared by the President (Dean) of a school attended. Not required for those who have graduated/will graduate from our university. If you have completed/will complete a master's program, please submit only a certificate of completion (or a certificate of expected completion) prepared by the President of the graduate school attended.
4	Payment verification form (included at the end of this booklet) *	After paying **30,000 yen** as the entrance examination fee using the deposit request form (designated by the university and included at the end of this booklet) between Thursday, October 18 and Wednesday, November 7, 2018, at a bank, **attach the sealed "Certificate of Payment" on it.**
5	Examination Card/Photo Card *	Attach your photo (upper front body, no hats, taken within the past three months, 4 cm high × 3 cm wide) on the designated field.
6	Envelop for sending an Examination Card *	**Fill in your address and attach postage stamps equivalent to 362 yen.**
7	Address Card *	Fill in the address where you would like to receive a letter of acceptance. Please do not remove the mount.
8	Letter of Permission for Examination from a Supervisor	Submit only if you currently enroll in another graduate school (unless expected to graduate by March 2019) or work in a government, medical institution, company, etc. (It is not required if you currently attend our university.) (Refer to the attached format example)

(Note) 1. Any change in the description will not be accepted after submitting your application. Regardless of reasons, application documents will not be returned once they are submitted.
2. If false information is found in the application documents, admission may be canceled even after the enrollment.

4. Application Method

(1) Postal mail

Prepare application documents and send them in a designated envelop enclosed with this guideline by a "registered express mail."

(2) Bringing in

Bring application documents to "2. Address to Submit Application Documents and Inquiry" on page 4. It will be accepted between 9:00 am and 5:00 pm. (except Saturdays, Sundays, and National Holiday)

5. Consultation with Faculty before the Submission of Application (Mandatory)

To determine a course you would like to apply for, please do not fail to consult our faculty whom you wish to receive guidance from (refer to pages 17-24) before the submission of your application (or before Screening of Eligibility for Application if you take it).

In that case, call our switchboard (tel: 077-548-2111) or contact our faculty directly.

6. Consideration

(1) Examination Card will be sent to an applicant by about Monday, November 26. If you do not receive it by Tuesday, November 27, contact "2. Address to Submit Application Documents and Inquiry" promptly listed on page 4.

(2) If you may need a consideration for taking an examination or attending our school, for example, for a handicap, please inform "2. Address to Submit Application Documents and Inquiry" listed on page 4 prior to your application.

(3) Refund procedure for those who are eligible to receive a refund of an examination fee

If you correspond with one of the following conditions, your examination fee can be refunded. If not, the fee is not refunded whatever the reason may be. If you correspond, declare it to "2. Address to Submit Application Documents and Inquiry" listed on page 4 by Friday, December 7, 2018.

(i) Those who did not submit an application after paying the examination fee (application documents were neither submitted nor accepted)

(ii) Those who paid the examination fee twice by mistake

Selection Method, etc.

1. Selection Method

Academic examinations, interview, and application documents are evaluated for the selection. Working applicants are not specially selected separately from other applicants. Such applicants are also selected through this examination.

2. Schedule of Academic Examination, etc.

Date	Hours	Academic examination, etc.	Point allocation
Tuesday, December 4	10:00 – 11:30	Foreign language (English)	120 points
	12:30 – 13:30	General medicine and life science *	120 points
	14:00 –	Interview (individual)	*

(Note) 1. In the examination of "Foreign language (English)," it is permitted to bring in dictionaries (except electronic dictionary).

2. Please make sure to refer to the attachment for the scope of examination for "General medicine and life science."

3. You can use black pencils (including a mechanical pencil), pencil sharpener (not electronic), eraser, glasses, and watch (with clock function only) only during an academic examination.

4. *During an interview, your quality and adequacy for becoming an educator or a researcher will be assessed according to a scale, and the results will be considered in overall evaluations.

3. Location

Shiga University of Medical Science (Please refer to the “Campus Map” on page 10.)

The details will be enclosed upon the shipment of an Examination Card.

Result Announcement

10:00 am, Thursday, December 13, 2018 (as scheduled)

Successful applicants’ numbers will be announced on the entrance examination posting area (refer to the “Campus Map” on page 10) and our homepage (https://www.shiga-med.ac.jp/), while “a letter of acceptance” will be sent to successful applicants.

We do not answer any inquiry by phone.

Enrollment Registration

1. Date

- **Bringing in**

  From 9:00 am to 5:00 pm on Thursday, March 7, 2019

  If you are unable to come for the registration on the date designated above due to an inevitable reason, please call the phone number given in item 2. below during the hours specified above and register between 9:00 am and 5:00 pm on Friday, March 8.

- **Postal mail**

  Due not later than 5:00 pm, Friday, March 8, 2019

  If you send documents via a postal mail, please call the phone number given in item 2. not later than 5:00 pm, Thursday, March 7.

2. Place of registration (postal address)

Contact for Entrance Examination, Admissions Office,
Shiga University of Medical Science
Seta Tukinowa-cho, Otsu City, Shiga 520-2192, Japan
Tel: 077-548-2071 (direct)

3. Payment

(1) Admission fee 282,000 yen

(2) Tuition fee 267,900 yen (for half a year) [535,800 yen (for a year)] in the plan

(i) Successful applicants will be informed of the details individually.

(ii) Tuition fees for the semester must be paid using the payment slip provided by SUMS before the end of April, 2019.

(iii) Tuition fee can be paid yearly.

(iv) When the tuition fee is revised, the new fee shall be applied starting on the day when the revision takes effect.

4. Exemption of Payment

Exemption and deferred payment of admission fee and tuition may be applicable, and procedures for these will be announced separately to successful applicants.

5. Documents to Be Submitted

Documents and other information required for the registration will be notified upon shipment of a letter of acceptance.

6. Consideration

(1) An Examination Card will be necessary for the registration, so please be careful not to lose it.
(2) If you do not complete the registration by the above date, you will be considered as having declined enrollment.

Screening of Eligibility for Application

If you apply based on any of the criteria 5-8 listed in Eligibility for Applicants, please be certified for the eligibility for applications with the following procedures:

1. Documents for Application

(1) If you apply based on the criterion 5, submit from (i) to (iv) below.
(2) If you apply based on the criterion 6 or 7, submit from (i) to (vi) below.
(3) If you apply based on the criterion 8, submit from (i) to (iv) and (vii) below.
  (i) Request for Screening of Eligibility for Application (format designated by our school)
  (ii) Future research theme and research plan (about 1,200 letters on an A4-size sheet)
  (iii) Academic Transcript (Prepared and sealed by the President (Dean) of a school attended. If you have completed/will complete a master's program, please also submit an academic transcript prepared and sealed by the President (Dean) of the graduate school attended.)
  (iv) Envelop for sending a screening result: Fill in your name and address and attach postage stamps equivalent to 362 yen on a "Nagagata No. 3" size envelope (120 × 235 mm)
  (v) Letter of recommendation (Prepared by the President (Dean) of a school attended.)
  (vi) Curriculum (copy) and syllabus (copy) of the school currently attended
  (vii) A letter of recommendation (Prepared by the supervisor of a research/medical institution, etc.)

2. Period of Application

Tuesday, October 9 to not later than 5:00 pm, Monday, October 15, 2018

3. Place to Submit the Application Documents

The same as "2. Address to Submit Application Documents and Inquiry" on page 4.

If you send it by a postal mail, send via "simplified registered mail" and write **"Enclosed with the request for Screening of Eligibility for Application for Doctoral Program in the Graduate**

School" in red ink on the front side of the envelope. If you bring it in, it will be accepted between 9:00 am and 5:00 pm.

4. Eligibility Screening

Eligibility screening is conducted based on documents you will submit. But an interview may be required as appropriate, and in that case, it will be notified to an applicant.

5. Screening Result

Screening result will be sent to an applicant by about **Friday, October 26, 2018**.

If you are qualified for the eligibility, please follow the application procedure listed in this guideline (refer to page 4). "Academic transcript" will not be needed upon application as it has been submitted already.

Handling of Private Information

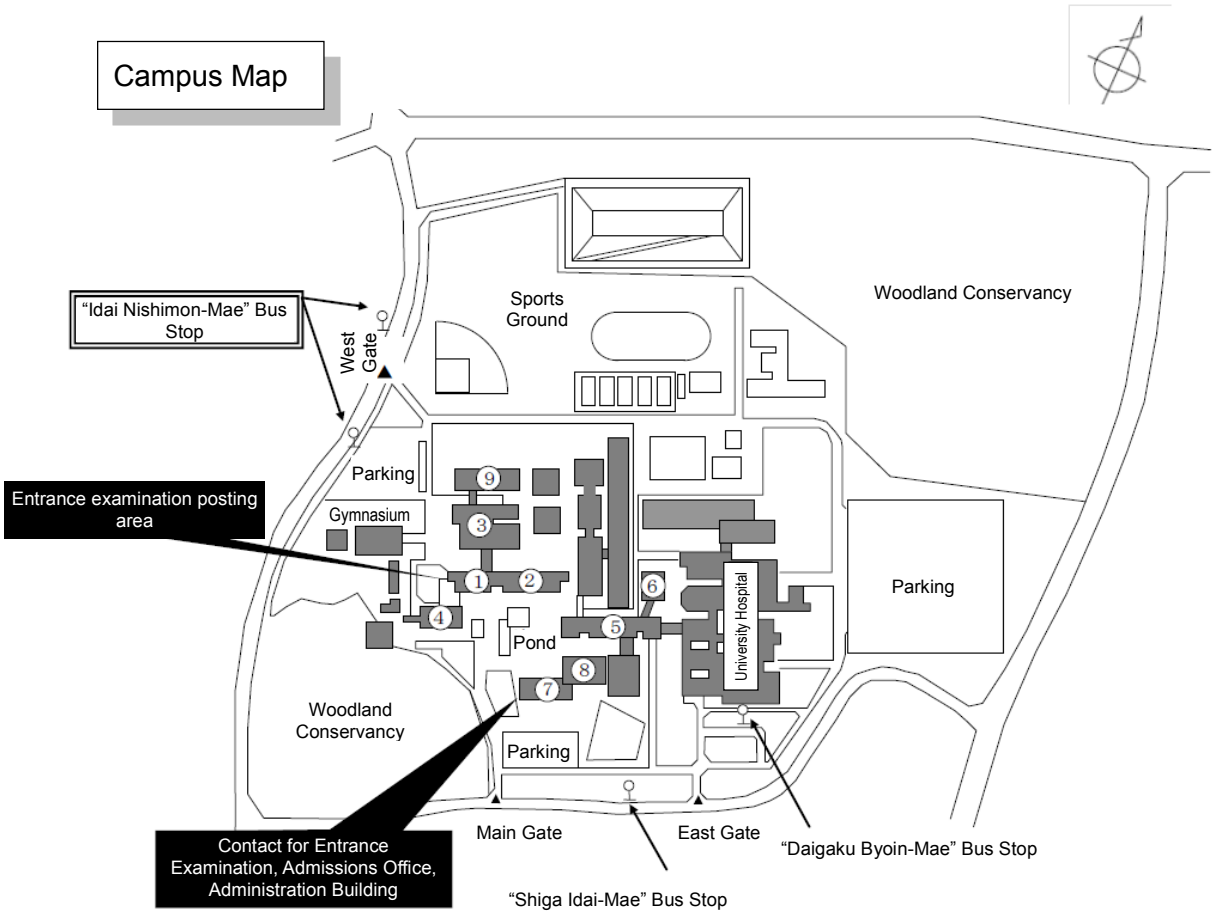
Please note in advance that private information that our school obtains through the entrance examination is handled per conditions specified below.

1. Private information is handled according to "Act on the Protection of Personal Information Held by Independent Administrative Agencies, etc." and "Rules Regarding Measures for Appropriate Management of Private Information Held by the national University Corporation, Shiga University of Medical Science (as translated)."

2. Name, address, and other private information filled in application documents, etc. are used for (1) applicant selection (application processing and selection), (2) notification of successful applicants, and (3) registration for enrollment.

3. Examination records used in the applicant selection are used for developing materials to consider our applicant selection processes in the future.

4. Private information of enrolling students provided in application documents, etc. is used for (1) teaching (student registration, study guidance, etc.), (2) support for students (health management, employment support, application for exemption of tuition or scholarship, etc.), and (3) administration regarding tuition payment.



(1) General Education and Research Building

(2) Basic Medicine Education and Research Building

(3) Basic Medicine Laboratories and Lecture Halls

(4) Student Center

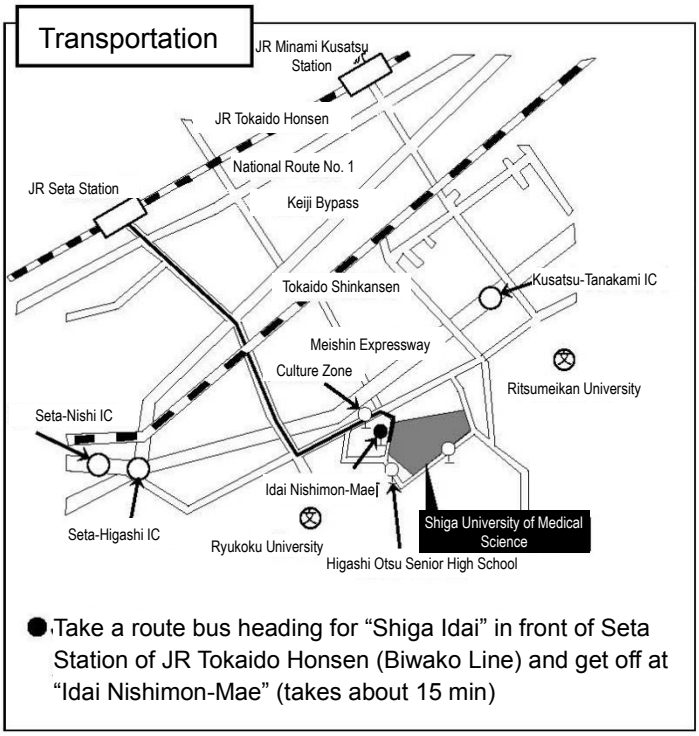
(5) Clinical Medicine Education and Research Building

(6) Clinical Lecture Halls

(7) **Administration Building and Health Management Center**

(8) Library and Multimedia Center

(9) School of Nursing Building



● Take a route bus heading for "Shiga Idai" in front of Seta Station of JR Tokaido Honsen (Biwako Line) and get off at "Idai Nishimon-Mae" (takes about 15 min)

Enrollment

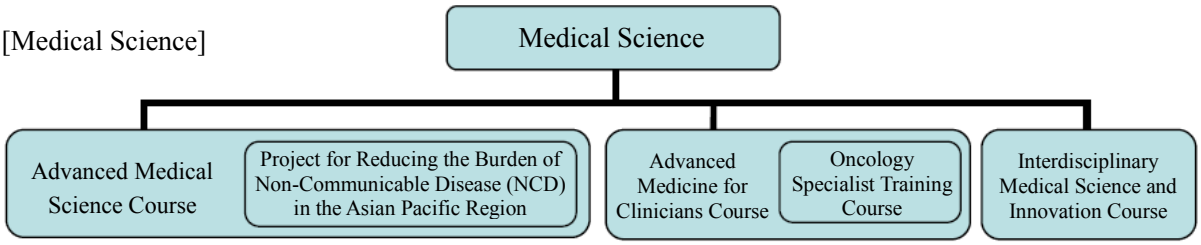
Purpose

The purpose of this Graduate School of Medicine (Doctoral Program) is to grow excellent researchers who have advanced research ability required to be independently engaged in creative research activities, high academic expertise that serves as a foundation for the former ability, and a sense of humanity; and our mission is to dedicate ourselves to the advancement of medical science and improvements in social welfare.

Structure

- Three courses are available under one major.
- The “Project for Reducing the Burden of Non-Communicable Disease (NCD) in the Asian Pacific Region” has been established as the leading education program for Doctor’s Program within Advanced Medical Science Course.
- The “Oncology Specialist Training Course” has been established within Advanced Medicine for Clinicians Course.

[Medical Science]



In this major, three courses are offered to grow (1) medical researchers and advanced clinicians who can perform unique and leading-edge research based on high academic expertise and broad knowledge in general medicine; (2) people with interdisciplinary knowledge and research ability, for example, on medicine and engineering or medicine and biotechnology; and (3) physicians and medical researchers with high expertise, a sense of humanity, and high ethical standards.

[Advanced Medical Science Course]

: Students engage in medical research from basic medicine to clinical medicine and develop a doctoral dissertation to obtain the degree.

(1) Development of excellent researchers who have an advanced research ability needed to be independently engaged in creative research activities, high expertise that serves as a foundation for the former ability, high ethical standards, and a sense of humanity.
(2) Development of highly motivated people who have an enthusiastic and inquisitive mind with creativity and who try to solve a variety of medical issues ranging from basic medicine to clinical medicine.
(3) Development of physicians/medical researchers who have latest knowledge and research ability sufficient to play an active role in an international arena.

[Advanced Medicine for Clinicians Course]

: Students engage mainly in clinical research while working to be qualified as a specialist and develop a doctoral dissertation to obtain the degree.

(1) Development of advanced clinicians who have excellent research ability, advanced clinical skills, high ethical standards, and a sense of humanity
(2) Study on issues they face in clinical sites, combined with adoption of research outcomes in clinical medicine, aimed for medical researches to encourage the development of a new diagnostic or therapeutic method
(3) Study on medical ethics and legal theories with a focus on clinical research and development of people who can be successful leaders in clinical sites

[Interdisciplinary Medical Science and Innovation Course]

: Students study about the creation of a new academic discipline and medical innovation through integration of medicine and other fields of study and develop a doctoral dissertation to obtain the degree. Classes are considered for those who graduated from a department other than a medical school.

(1) Development of researchers who have interdisciplinary knowledge and high research skills that transcend beyond conventional academic disciplines, such as medicine, engineering, and biotechnology, combined with high ethical standards and a sense of humanity as clinicians.
(2) Development of people who lead innovations in medical science and practice with interdisciplinary knowledge and high research ability
(3) Development of researchers who have not only broad knowledge on basic and clinical medicines but also interdisciplinary perspectives and research ability to become successful in research institutions of college, private companies, and other organizations

List of Classes and Number of Credits

Refer to Appendix 1.

However, for Oncology Specialist Training Course and “Project for Reducing the Burden of Non-Communicable Disease (NCD) in the Asian Pacific Region,” please refer to “Student Application for Oncology Specialist Training Course” and “Student Application for Project for Reducing the Burden of Non-Communicable Disease (NCD) in the Asian Pacific Region,” respectively.

Major Study Themes of Faculty

Refer to Appendix 2.

Study Guide

1. A student must earn at least 30 credits in total, including 10 credits from compulsory subjects and 4 credits from elective compulsory subjects among the common subjects; 4 credits from compulsory and elective compulsory subjects among the course subjects; and 12 or more credits from elective subjects, over the first, second, and third years.
2. In the third and fourth years, a student should dedicate himself/herself in voluntary research activities, while receiving research guidance suitable for research theme from his/her academic advisor, to nurture advanced research ability needed to be independently engaged in creative research activities and high expertise that serves as a foundation for the former ability. In Oncology Specialist Training Course, advanced research ability and specialized clinical skills are fostered. In Project for Reducing the Burden of Non-Communicable Disease (NCD) in the Asian Pacific Region, quality to become a global leader who can work actively as the bridge among the industry, government, and academia.
3. For Oncology Specialist Training Course and "Project for Reducing the Burden of Non-Communicable Disease (NCD) in the Asian Pacific Region," please refer to "Student Application for Oncology Specialist Training Course" and "Student Application for Project for Reducing the Burden of Non-Communicable Disease (NCD) in the Asian Pacific Region," respectively.

Special Exception of Education Methods

In our Graduate School of Medicine (Doctoral Program), "Special Exception of Education Method" has been adopted according to Article 14 of Graduate Schools Establishment Standards. We provide classes and research guidance not only during the daytime but also in the evening and other special hours or periods so that workers can complete a program and receive education and research guidance while maintaining their job. (It does not apply to a part of Project for Reducing the Burden of Non-Communicable Disease (NCD) in the Asian Pacific Region.)

Grant of Academic Degree

1. The standard term of study is four years.
2. A doctoral degree (medicine) is granted. (Please refer to the attached booklet for Project for Reducing the Burden of Non-Communicable Disease (NCD) in the Asian Pacific Region.)
3. The degree is granted to those who have stayed in this graduate school for four years or more, earned 30 credits or more in accordance with the above Study Guide, and passed a dissertation review and a final examination after receiving the necessary research guidance. However, those who have stayed in this graduate school for three years or more, achieved extraordinary research results, and fulfilled certain requirements may be granted a degree even if they stayed in the school for less than four years. (This exceptional clause does not apply to Project for Reducing the Burden of Non-Communicable Disease (NCD) in the Asian Pacific Region.)

Appendix 1

List of Classes and Number of Credits

Subject classification		Class title	Years and number of credits				Number of credits required for the completion	Note
			First year	Second year	Third year	Total		
Common subjects	Foundational education	General Medical Theories	6	6		6	30 credits or more	Compulsory
		Technical Seminar	2	2		2		
		Overview of Medicine and Bioethics	1	1		1		
		Overview of Epidemiology and Medical Statistics	1	1		1		
	Fusion Seminars for Basic and Clinical Medicines	Seminar to Integrate Basic and Surgical Medicines		2		2		Elective compulsory
		Seminar to Integrate Basic and Internal Medicines		2		2		
		Seminar to Integrate Basic and Pediatric Medicines		2		2		
		Seminar to Integrate Basic and Geriatric Medicines		2		2		
		Seminar to Integrate Basic Medicine and Study of Lifestyle-related Disease		2		2		
		Seminar to Integrate Basic Medicine and Oncology		2		2		
Course subjects	Advanced Medical Science Course	Pioneer Seminar	2			2		Compulsory
		Advanced Medical Research Skills	2			2		
	Advanced Medicine for Clinicians Course	General Clinical Medicine Research	2			2		Compulsory
		Epidemiology and Medical Statistics	1			1		
		General Laws for Medical Ethics	1			1		
	Interdisciplinary Medical Science and Innovation Course	General Basic Medicine	1			1		Elective compulsory
		General Clinical Medicine	1			1		
		Practicum for Medical-Engineering Collaborative Research	1			1		
		Biomedicine	1			1		
		Genome Science	1			1		
		Bioinformatics	1			1		
		Overview of Medical Innovations	1			1		
		Theory of Intellectual Property Strategies	1			1		
		Functional Analysis of Ion Channels	1			1		

Elective subjects	Advanced Medical Science Course	Medical Imaging Practicum		2	2	4		Elective
		Nuclear Magnetic Resonance Practicum		2	2	4		
		Cellular Physiology Practicum		2	2	4		
		Molecular Cell Biology Practicum		2	2	4		
		Genetic Information Practicum		2	2	4		
		Molecular Neurobiology Practicum		2	2	4		
		Neuroscience Practicum		2	2	4		
		Advanced Legal Medicine Practicum		2	2	4		
		Neuropathology Practicum		2	2	4		
		Molecular Psychiatry Practicum		2	2	4		
		Sleep Psychiatry Practicum		2	2	4		
		Visual Pathophysiology Practicum		2	2	4		
		Immunological Control Practicum		2	2	4		
		Endocrine Control Practicum		2	2	4		
		Reproductive Physiology Practicum		2	2	4		
		Perinatal Pathology Practicum		2	2	4		
		Development Engineering and Control Practicum		2	2	4		
		Stem Cell Biology Practicum		2	2	4		
		Oncology Medicine Practicum		2	2	4		
		Pathology Practicum		2	2	4		
		Laboratory Animal Science Practicum		2	2	4		
		Brain Function Control Practicum		2	2	4		
		Cardiovascular Control Practicum		2	2	4		
		Primary Care Medicine Practicum		2	2	4		
		Pneumology Practicum		2	2	4		
		Oral and Maxillofacial Function Control Practicum		2	2	4		
		Surgical Management of Head and Neck Practicum		2	2	4		
		Gastrointestinal Control Practicum		2	2	4		
		Dermatology Practicum		2	2	4		
		Pain Therapy Practicum		2	2	4		
		Renal/Urological Control Practicum		2	2	4		
		Molecular Pharmacology Practicum		2	2	4		
		Pharmaceutics Practicum		2	2	4		
		Epidemiological Research Practicum		2	2	4		
		Gender Study Practicum		2	2	4		
		Nutritional Therapy Practicum		2	2	4		

Elective subjects	Advanced Medicine for Clinicians Course	Clinical Legal Medicine Practicum		2	2	4		Elective
		Cardiovascular/Respiratory Medicine Practicum		2	2	4		
		Gastroenterology/Hematology Practicum		2	2	4		
		Endocrinology/Metabolism, Nephrology, and Neurology Practicum		2	2	4		
		Pediatrics Practicum		2	2	4		
		Psychiatry Practicum		2	2	4		
		Dermatology Practicum		2	2	4		
		Gastroenterology/Mammary Gland/General Surgery Practicum		2	2	4		
		Cardiovascular/Respiratory Surgery Practicum		2	2	4		
		Orthopedics Practicum		2	2	4		
		Neurological Surgery Practicum		2	2	4		
		Otolaryngology Practicum		2	2	4		
		Obstetrics/Gynecology Practicum		2	2	4		
		Urology Practicum		2	2	4		
		Ophthalmology Practicum		2	2	4		
		Anesthesiology Practicum		2	2	4		
		Radiology Practicum		2	2	4		
		Family Medicine Practicum		2	2	4		
		Dentistry and Oral Surgery Practicum		2	2	4		
		Clinical Oncology Practicum		2	2	4		
		Clinical Laboratory Medicine Practicum		2	2	4		
		Emergency and Intensive Care Medicine Practicum		2	2	4		
		Diagnostic Pathology Practicum		2	2	4		
		Clinical Pharmacy Practicum		2	2	4		
		Advanced Laboratory Examination Technology Practicum		2	2	4		
Elective subjects	Interdisciplinary Medical Science and Innovation Course	Biological Image Engineering Practicum		2	2	4		Elective
		Bioinformatics Engineering Practicum		2	2	4		
		Industrial Medicine Practicum		2	2	4		
		Anatomical Physiology Practicum		2	2	4		
		Regenerative Medicine Practicum		2	2	4		
		Reproductive Function Control Practicum		2	2	4		
		Genetic Engineering Practicum		2	2	4		
		Interdisciplinary Pain Therapy Practicum		2	2	4		
		System Physiology Practicum		2	2	4		
		Tissue Engineering Practicum		2	2	4		
		Biomaterial Study Practicum		2	2	4		
		Medical Optical Engineering Practicum		2	2	4		
		Robotics Practicum		2	2	4		
		Artificial Organ Technology Practicum		2	2	4		
		Neuroscience Research Practicum		2	2	4		

Major Study Themes of Faculty

(As of July 1, 2018)

Department / Centre	Division / Unit	Title	Name	Major Study Themes
Department of Fundamental Biosciences	Division of Physics	Professor	Yutaka Mera	1. Study on nanomaterials, nanostructures and surfaces 2. Development of nano-spectroscopy 3. Medical application of nanotechnology
		Associate Professor	Nobuyasu Naruse	1. Research for optical properties of nano-,bio-materials 2. Research for material science using diffraction, microscopy, and spectroscopy 3. Physics research contributing to environmental science, agriculture, disaster prevention, and medical science 4. Research for science education
	Division of Chemistry	Professor	Yoshio Furusho	1.Development of medical materials based on supramolecular chemistry 2.Construction of soft materials utilizing formation of organic salt bridges driven by hydrogen bonding 3.Construction of molecular assembly through hierarchical organization of biomolecules
	Division of Biology	Professor	Takako Hirata	1. Molecular basis of immune cell trafficking 2. Control of lymphocyte migration to the skin and mucosa 3. Immune regulation by cytoskeleton-associated proteins
	Division of Mathematics	Associate Professor	Motoko Kawakita	1. Algebraic curves with many rational points
Department of Culture and Medicine	Division of Philosophy	Professor	Yoshihito Muroji	1. Buddha's teachings and his life 2. Philosophy of mahāyāna buddhism 3. Bioethics and medical ethics 4. Asian culture and religions
	Division of Psychology	Associate Professor	Takatsugu Kojima	1. Spatial cognition and language understanding 2. Affective information processing 3. Non-verbal cognition
	Division of English	Professor	Reiko Aiura	1. Study on Romanticism 2. Inter-Cultural studies 3. Medical English education 4.George MacDonald's views of life and death
	Division of German	Associate Professor	Ippei Morita	1. Integration of regional information and cultural aspects into the teaching of foreign language 2. Making of teaching materials with authentic audio-visual items 3. Apply of the group dynamics to the teaching of foreign language
	Division of Cultural Anthropology	Professor	Tsutomu Kaneshige	1. Anthropological studies on ethnic minorities of P.R.China 2. Anthropological studies on *Fengshui* 3. Anthropological studies on merit and merit-making
Department of Anatomy	Division of Anatomy and Cell Biology	Professor	Jun Udagawa	1. Analysis of the relationship between prenatal stress and postnatal abnormal behavior or skeletal development 2.How does gut microbiota regulate the development of enteric nervous system and gut-brain axis during prenatal and neonatal periods? 3. Analysis of the relationship between the hand structure and function in the primate
		Associate Professor	Junko Okano	1. Development of new therapy of nonhealing skin ulcer using bone marrow cells 2. The role of bone marrow cells on skin homeostasis
	Division of Morphological Neuroscience	Professor	Yu Katsuyama	1. Analysis of brain morphogenesis 2. Analysis of mechanisms of maintenance and differentiation of the stem cells 3. Analysis of model animals of psychiatric diseases.
		Associate Professor	Hayato Kaneda	1. Stem cell aging and tissue homeostasis 2. Search for biomarkers of age-related diseases 3. Brain morphogenesis
Department of Physiology	Division of Integrative Physiology	Professor	Seiji Hitoshi	1. Analysis of the generation,maintenance,and differentiation of neural stem cells 2. Development of regenerative therapy strategy for the damaged central nervous system 3. Understanding the pathogenesis of psychiatry diseases
		Associate Professor	Natsu Koyama	1. Behavioral analysis of transgenic animals 2. Analysis of emotional behavior on the stressed mice 3. Assesments of extinction learning for the fear memory
	Division of Cell Physiology	Professor	Hiroshi Matsuura	1. Functional analysis of cardiac ion channels 2. Analysis of ionic mechanisms underlying cardiac automaticity 3. Analysis of molecular mechanisms of arrhythmogenesis 4. Analysis of molecular mechanisims of ischemia/reperfusion injury in the heart
		Associate Professor	Mariko Omatsu	1. Characterization of stem or progenitor cells originated from fetal stages 2. Mechanisms of the regulation of intracellular Ca2+

Major Study Themes of Faculty

(As of July 1, 2018)

Department / Centre	Division / Unit	Title	Name	Major Study Themes
Department of Biochemistry and Molecular Biology	Division of Molecular Physiological Chemistry	Professor	Yasutoshi Agata	1. Epigenetic regulation of gene expression and cancer development 2. Regulation of gene expression and cancer development by chromosome dynamics 3. Regeneration of cancer specific T cells from iPS cells
		Associate Professor	Koji Terada	1. Molecular mechanism of antigen receptor gene rearrangement in lymphocytes 2. Gene-reglation for lymphocyte development
	Division of Molecular Medical Biochemistry	Professor	Hisakazu Ogita	1. Signal transduction reseach and genetic analysis in the field of cancer biology and cardiovascular diseases 2. Molecular mechanism of cell adhesion
		Associate Professor	Akira Sato	1. Signal transduction and cell-cell communication in cancer and inflammatory diseases. 2. Adult diseases triggered by aberrant regulation of Wnt signaling.
	Division of Stem Cell Biology and Regenerative Medicine	Professor	Hideto Kojima	1. Regenerative medicine 2. Stem cell based organogenesis 3. Gene therapy
		Associate Professor	Tomoya Terashima	1. Engineering the novel molecular therapies with cell and tissue specific targeting 2. Application to the regenerative therapies with reprograming of bone marrow-derived cells 3. Analysis of the relation between bone marrow-derived cells and neurological diseases
Department of Pathology	Division of Molecular Diagnostic Pathology	Professor	Hiroyuki Sugihara	1. Lineage analysis of neoplasms by comprehensive detection of genomic DNA alterations 2. Development and progression of undifferentiated-type gastric carcinomas
		Associate Professor	Kenichi Mukaisho	1. Gastric and esophageal carcinogenesis using various animal models 2. Analyses of extra-esophageal symptoms of GERD using reflux animal models 3. Influence of bile acids on carcinogenesis and cancer progression 4.Morphology of cancer cells using a novel 3D cell culture system
	Division of Pathology and Disease Regulation	Professor (Vice President)	Kazumasa Ogasawara	1. Establishment of a transplantation model in macaques 2. Establishment of a cancer model in macaques 3. Study of virus deletion and cancer rejection by CTLs
		Associate Professor	Yasushi Itoh	1. Development of vaccines and therapeutic agents against influenza virus 2. Research on genetic diseases and aging using a non-human primate model 3. Analysis of immune responses using cynomolgus macaques
	Division of Microbiology and Infectious Diseases	Professor	Bin Goto	1. Pathogenesis of parainfluenza viruses 2. Basic study on human metapneumovirus infection 3. Viral immune evasion strategies
		Associate Professor	Hirokazu Inoue	1. Studies on mechanism of carcinogenesis by gene-manipuleted mice 2. Studies on molecular mechanism of energy metabolism in cancer cells 3. Evaluation of anti-tumor activities of novel low-molecular drugs mimicing the function of tumor suppressor proteins
Department of Pharmacology	–	Professor	Eiichiro Nishi	1. Molecular mechanism and pathophysiological role of ectodomain shedding 2. Regulatory role of transcriptional coregulator in metabolism 3. Role of metallopeptidases in cardiovascular disease, cancer and inflammatory diseases
Department of Social Medicine	Division of Occupational and Environmental Health	Associate Professor	Kazushi Taoda	1. Prevention of work-related musculoskeletal disorders 2. Study on occupational health among human service care workers 3. Social medicine on health care among disabled people 4. Ergonomics in agricultural labor 5. Occupational health in elderly people and women
	Division of Public Health	Professor	Katsuyuki Miura	1.Epidemiologic research of cardiovascular diseases 2.Preventive medicine of cardiovascular diseases 3.Nutritional epidemiology
		Associate Professor	Akira Fujiyoshi	1. Epidemiology on cardiovascular disease and lifestyle-related disease 2. Coronary artery calcium 3. Mild cognitive impairment and measures of atherosclerosis
	Division of Medical Statistics	Associate Professor	Sachiko Tanaka	1. Prediction of the future incidence and death 2. Statistical methods for epidemiologic researches 3. Pharmacoepidemiology
	Division of Legal Medicine	Professor	Masahito Hitosugi	1. Amalysis of traffic injuries 2. Pathophysiological analysis for sudden death cases due to thrombosis 3. Preventive medicine for deaths of external causes
		Associate Professor	Satoshi Furukawa	1. Cranial cervical vascular medicine

Major Study Themes of Faculty

(As of July 1, 2018)

Department / Centre	Division / Unit	Title	Name	Major Study Themes
Department of Internal Medicine	Division of Cardiovascular and Respiratory Medicine	Professor	Yasutaka Nakano	1. Structure and function relationship of the lung 2. Structure and function relationship of respiratory diseases
		Associate Professor	Takashi Yamamoto	1. The research of catheter-based intervention for coronary artery disease,peripheral artery disease and structure heart disease 2. The research of nutritional science in patients with heart failure
		Associate Professor	Taishi Nagao	1. A study of how to transfer an easy-to-understand the difficult content. 2. A study of how to increase the motivation.
		Associate Professor	Takashi Ashihara	1. Development of new strategy of catheter ablation for refractory arrhythmias 2. Studies on the mechanism of electrical defibrillation and the development of new defibrillator 3. Application of human iPS cell-derived cardiomyocytes to the studies on cardiovascular diseases 4. Studies on cardiovascular diseases by *in silico,* artificial intelligence, and biomedical engineering
Department of Internal Medicine	Division of Gastroenterology and Hematology	Professor	Akira Andoh	1. Mucosal immunology 2. Gut microbiota 3. Cytokine network
		Associate Professor	Katsuyuki Kito	1. Research about megakaryocytosis 2. Research for the treatment of hematological malignancies 3. Research on bone marrow transplantation
		Associate Professor	Osamu Inatomi	1. Pancreatic fibrosis in pancreatic cancer and chronic pancreatitis 2. New development of endoscopic device in ERCP
		Associate Professor	Masahiro Kawahara	1. Research for the maintenance of hematopoietic stem cells. 2. Research for the leukemia genesis and the development of novel drugs.
	Division of Diabetology, Endocrinology and Nephrology	Professor	Hiroshi Maegawa	1. Nutrition and metabolic disease 2. Mechanism of insulin resistance 3. Diabetogenic genes
		Associate Professor	Shinichi Araki	1. Mechanism of development of diabetic nephropathy 2. Risk factors on development of diabetic vascular complications 3. Nutritional research on renal pathophysiology
		Associate Professor	Satoshi Ugi	1. Clarification of the mechanisms and pathophysiology of adipokines 2. Clarification of the molucular regulation of metabolism by nutrients 3. Clarification of the mechanisms of improvement in glucose metabolism by bariatric surgery
	Division of Neurology	Professor	Makoto Urushitani	1. Molecular targeted therapy for amyotrophic lateral sclerosis 2. Cell biological analysis of neurodegenerative diseases 3. Noninvasive diagnosis of neurological diseases 4. Molecular pathology of cerebrovascular diseases 5. Functional brain image analysis of Nerve rehabilitation
		Associate Professor	Hiromichi Kawai	(Now in writing)
Department of Pediatrics	–	Professor	Yoshihiro Maruo	1. Molecular genetic analysis of hereditary unconjugated hyperbilirubinemia 2. Polymorphism of UDP-glucuronyltransferase and drug metabolism 3. Genetic analysis of congenital hypothyroidism
		Associate Professor	Takashi Taga	1. Clinical study for developing therapeutic approach of pediatric leukemia
		Associate Professor	Toshihiro Sawai	1． Toshihiro Sawai has a long-standing interest in the study of the genetics and function of the proteins that regulate the complement system. 2． His functional analysis of complement complexes and proteins are also being instrumental in understanding atypical hemolytic uremic syndrome and C3 glomerulopathy.
		Associate Professor	Katsuyuki Matsui	1. Study on the relevance of the therapeutic effect, treatment behavior, and QOL for pediatric type 1 diabetes 2. Study on diagnostic accuracy of hormone stimulation test in children
Department of Psychiatry	–	Associate Professor	Kenichi Kuriyama	1. Neuropsychology and neurophysiology of traumaric stress burden 2. Sleep-dependent neuroplasticity and vulnerability for psychiatric disorders 3. Functional neuroimaging of neuropsychiatric disorders 4. Choronobiological Pathology of Psychiatric Disorders 5. Development of cognitive enhancer and neurostimulation for treatment of psychiatric and sleep disorders
		Associate Professor	Masahiro Takahashi	1. Cognitive function 2. Diffusion tensor imaging 3. Psychopharmacology
		Associate Professor	Masahiro Matsuo	1. Imaging of neurophysiology underling cognitive and alerting functions. 2. Assessment of dementia risk by use of caluculative science technologies applied on bio/medical big-data.

Major Study Themes of Faculty

(As of July 1, 2018)

Department / Centre	Division / Unit	Title	Name	Major Study Themes
Department of Dermatology	–	Professor	Toshihiro Tanaka	1. Study for cell adhesion molecules of the skin 2. Study for pathophysiology of blistering disease 3. Development of treatment of cutaneous diseases
		Associate Professor	Noriki Fujimoto	1. Analysis of regulatory B cells on autoimmune diseases 2. Investigation for the treatment of cutaneous mailgnant tumors 3. Gene editing for treatment of epidermolysis bullosa
		Associate Professor	Takeshi Kato	1. Research in treatment of hair disease 2. Research in treatment of malignant skin tumor
		Associate Professor	Takeshi Nakanishi	1. Skin ulcer 2. Cutaneous allergic disorders
Department of Surgery	Division of Gastrointestinal Surgery and General Surgery	Professor	Masaji Tani	1. Clinical study for the prevention of post operative complications in pancreatectomy 2. Development of immunotherapies for gastrointestinal diseases 3. Study of the pancreatic function 4. Evaluation of mechanisms for the metastasis 5. Study of the intervention for surgical skill 5. Interaction between cancer cells and fibroblasts
		Associate Professor	Tomoharu Shimizu	1. Study of surgical stress 2. Development of new endotoxin measurement method 3. Studies of treatment for colorectal cancer and inflammatory bowel diseases
	Division of Cardiovascular Surgery and Thoracic Surgery	Professor	Tohru Asai	1. Vascular functional investigation of coronary artery bypass conduits 2. Hemodynamic functional analysis during off-pump coronary bypass 3. Studies on cardiovascular regenerative therapy 4. Surgical invasiveness in cardiovascular surgical procedures 5. Reparative technical consideration in mitral valve surgery
		Associate Professor	Tomoaki Suzuki	1. Long term outcome of total arterial off-pump CABG 2. The outcome of total arch replacement under mild hypothermia 3. Technical aspect or long-term durability of mitral valve repair 4. Type A aortic surgery: optimal procedure or long-term remodeling
		Associate Professor	Jun Hanaoka	1. Minimally invasive surgery with VATS for chest diseases 2. A study of the operation method for lung cancer 3. da Vinch® robotic surgery in general thoracic surgery 4. A study of the identification technique of the interlobar/intersegmental plane 5. Evaluation of pulmonary function before and after lay resection using dynamic X-ray apparatus
		Associate Professor	Takeshi Kinoshita	1. Basic research in endothelial function of coronary artery bypass grafts 2. Three-dimensional quantitative assessment of mitral valve geometry and development of mitral valve repair technique
Department of Orthopaedic Surgery	–	Professor	Shinji Imai	1. Improvement of clinical output in arthroscopic shoulder surgery 2. Improvement of clinical output in shoulder arthroplasty 3. Regenerative medicine for injures of articular cartilage and spinal cord
		Associate Professor	Kanji Mori	1. Research for the ossification of the spinal ligaments 2. Research for the diagnosis and treatment for the disease with spine and spinal cord 3. Research for bone matabolism
Department of Neurosurgery	–	Professor	Kazuhiko Nozaki	1. Research for cerebral ischemia 2. Research for cerebral aneurysms 3. Research for cerebral arteriovenous malformations
		Associate Professor	Takuya Nakazawa	1. Research for pathophysiology and new treatment measure for cerebrovascular disease 2. Development of neuroendovascular therapy
		Associate Professor	Tadateru Fukami	1. Research for the multidisciplinary treatment for glioma 2. Research for the safety and the risk of awake surgery 3. Research for the therapeutic indications about neuroendoscopic surgery
		Associate Professor	Atsushi Tsuji	1. Treatment and pathophysiology for ischemic cerebrovascular disease 2. neuroendovascular treatment 3. Cerebral blood flow and metabolism

Major Study Themes of Faculty

(As of July 1, 2018)

Department / Centre	Division / Unit	Title	Name	Major Study Themes
Department of Otorhinolaryngology	–	Professor	Takeshi Shimizu	1. Pathogenesis and regulation of upper airway inflammation 2. Mucus hypersecretion and goblet cell metaplasia 3. Immunology and allergy of upper airway
		Associate Professor	Shigehiro Owaki	1. Diagnosis and treatment of voice disorder 2. Diagnosis and treatment of headandneck cancer
		Associate Professor	Hideaki Kohzaki	1. The mechanism and control of epithelial-derived airway allergic diseases 2. The pathophysiological analysis of eosinophilic chronic rhinosinusitis 3. The pathophysiological analysis of Japanese cedar pollen rhinitis
		Associate Professor	Ichiro Tojima	1. Study of eosinophilic inflammation in upper airway 2. The pathophysiological research in allergic rhinitis 3. Mucus production and its regulation in airway epithelium
Department of Obstetrics and Gynecology	–	Professor	Takashi Murakami	1. Minimally invasive gynecologic surgery (hysteroscopic, laparoscopic, and robotic surgery) 2. Endometriosis and adenomyosis 3. Reproductive endocrinology and infertility
		Associate Professor	Fuminori Kimura	1. The regulation of activated primordial follicle 2. Fertility preservation in cancer patients 3. Elucidation of development in endometriosis and adenomyosis 4.Elucidation of pathophysiology of chronic endometritis
		Associate Professor	Shunichiro Tsuji	1. Maintenance and failure of pregnancy 2. Diagnosis of fetal anomaly using ultrasonography 3. Diagnosis and treatment of cesarean scar syndrome 4. The role of resident microglia to neonatal hypoxic ischemic encephalopathy
		Associate Professor	Kyoto Kasahara	1.Women's healthcare 2.Osteoporosis in women
Department of Urology	–	Professor	Akihiro Kawauchi	1. Research on robotic surgery 2. Research on minimally invasive surgery 3. Research on development of new imaging modality
		Associate Professor	Mitsuhiro Narita	1. Research on the urological laparoscopic surgery. 2. Research on the treatments of the prostate cancer and the quality of life. 3. Research on the robot assisted surgenry.
		Associate Professor	Kazuyoshi Johnin	1. Surgery in pediatric urology (Reseach for plastic and laparoscopic surgery) 2. Reserch for voiding dysfunction in children 3.Application of MRI imaging in pediatric urology
		Associate Professor	Susumu Kageyama	1. Research in urothelial cancer specific molecules 2. Development of new anti-cancer drugs for urologic malignancy 3. Proteomics research in urologic oncology
Department of Ophthalmology	–	Professor	Masahito Ohji	1. Study for vitreoretinal pathogenesis and development of new approach in vitreoretinal surgery 2. Study for intraocular pharmacokinetics of cytokines 3. Study for pathogenesis in the rat of diabetes model mice
		Associate Professor	Yoshitsugu Saishin	1. Molecular biology of retina 2. Intraocular drug therapy
		Associate Professor	Osamu Sawada	1. Pharmacokinetics of intravitreal agents 2. Treatment for diabetic macular edema
		Associate Professor	Masashi Kakinoki	1. Pharmacokinetics of intravitreal agents. 2. Pharmacokinetics of intravitreal agents in macaque monkeys. 3. New technics of vitreoretinal surgery.
Department of Anesthesiology	–	Professor	Hirotoshi Kitagawa	1. Multimodal in vivo monitoring of ischemia reperfusion injury 2. Cardioprotection by anesthetic agents and opioids
		Associate Professor	Kan Takahashi	1. Energetic metabolism in organs during nemorrhagic shock 2. Protective effects of hypothermia on organs 3. Respiratory function after surgery
		Associate Professor	Tomoyoshi Seto	1. Mechanisms of Anesthesia at the level of molecular interactions between anesthetic and its binding site. 2. Elucidation of hydrophobic dehydration process of volatile anesthetic binding of ion-channel. 3. Molecular recognition of optical isomeric anesthetics in ion-channel. 4.Medical application of Modulation of functional protein hydration with D_2O.
		Associate Professor	Sei Fukui	1. MR Spectroscopy (Brain imaging of chronic pain) 2. Voxel based morphometry (Brain imaging of chronic pain) 3. Interdisciplinary pain management of chronic pain 4. Pulsed radiofrequency (PRF) (Minimum invasive therapy of Interventional pain treatment) 5. Resting state functional MRI (Brain imaging of chronic pain)

Major Study Themes of Faculty

(As of July 1, 2018)

Department / Centre	Division / Unit	Title	Name	Major Study Themes
Department of Radiology		Associate Professor	Norihisa Nitta	1. Evaluation of a newly-developed diagnostic image system using phantoms 2. Fundamental study for the clinical use of new IVR technologies and systems 3. Evaluation of atherosclerotic lesions using MRI.
		Associate Professor	Shinichi Ohta	1. Fundamental research of IVR for clinical application 2. Research of abdominal diagnostic images
		Associate Professor	Akinaga Sonoda	1. Difference in tracheal diameter changes during deep breathing in a supine position between restrictive ventilator impairment patients, obstructive ventilator impairment patients and normal respiratory function patients using 2. Difference in the pixel value change of lung field during deep breathing between restrictive ventilator impairment patients, obstructive ventilator impairment patients and normal pulmonary function patients using dynamic 3. The effect of botulinum toxin A injection into the perirenal arterial space to treat hypertension
		Associate Professor	Ryuta Itoh	1. Development of magnetic resonance imaging tools for brain morphological and functional analysis
Department of Oral and Maxillofacial Surgery	–	Professor	Gaku Yamamoto	1. Study of the osteoblast for regeneration 2. Pathogenesis and treatment of oral tumor 3. Study on the reconstruction of the jaw 4. Study on microbiota of the oral cavity 5. Study of the Sleep apunea syndrome
		Associate Professor	Masashi Yamori	1. Oral Cancer 2. Jaw Defomities and Cleft Palate 3. Anti-resorptive Agents-related Osteonecrosis of theJaw 4. Obstructive Sleep Apnea Syndrome 5. Periodontal Disease 6. Dental Implant
Department of Clinical Laboratory Medicine	–	Professor	Ryoji Kushima	1. Gastrointestinal pathology 2. Diagnostic pathology
		Associate Professor	Tokuhiro Chano	1. Clinical application of genetic medicine 2. Analyzing the biological function RBICCI/FIP200 3. Inventing novel strategies for cancer treatment,applied with novel biomarkers 4. Drug development from targeting RAB39A
Diagnostic Pathology Section	–	Associate Professor	Suzuko Moritani	1. Diagnostic pathology 2. Pathology of the breast and gynecological organs
Department of Critical and Intensive Care Medicine	–	Professor	Yutaka Eguchi	(Now in writing)
		Associate Professor	Takahisa Tabata	1. Study of biological reaction mechanism in sepsis 2. Study of the diagnosis and treatment of multiple trauma
		Associate Professor	Yasuyuki Tsujita	1. Study of cardiac dysfunction and arrhythmia under excessive stress 2. Study of septic organ dysfunction 3. Epidemiological study of cardiovascular shock
		Associate Professor	Mikiko Matsushita	1. How to off and on the job training of BLS and ALS 2. Role and education of general physician in Japanese format 3. Analysis of social and environmental factors in emergency department attendance
Department of Medical Onclogy	–	Professor	Yataro Daigo	1. Isolation and functional analysis of cancer-related genes. 2. Elucidation of molecular pathology of cancer by genomics and proteomics analysis. 3. Development of molecular-targeted drugs , cancer vaccines and immune-checkpoint controling drugs through translational research. 4. Development of precision medicine and new cancer biomarkers through translational research.
		Associate Professor	Satoshi Murata	1. Analysis of mechanisms and development of treatment for metastasis after surgery for gastrointestinal cancer 2. Control over the perioperative tumor microenvironment in gastrointestinal cancers 3. Development of immune cell therapy for solid cancers

Major Study Themes of Faculty

(As of July 1, 2018)

Department / Centre	Division / Unit	Title	Name	Major Study Themes
Department of Comprehensive Internal Medicine	–	Professor	Tomoyuki Tsujikawa	1. Study on the pathophysiology and treatment of the inflammatory bowel disease. 2. Study on the diagnosis and treatment using balloon assisted enteroscopy. 3. Study on the method of the medical education.
		Associate Professor	Takao Saotome	1. Study of multiple organ failure development in severe sepsis 2. Development of newly blood purification methods for systemic inflammatory response syndrome 3. Emergency medicine and disaster medicine
		Associate Professor	Toshiro Sugimoto	1. Medical diagnosis Avoiding diagnostic errors 2. Rural medicine 3. Clinical electrolyte acid-base abnormalities electrolyte; acid-base 4. Development of continuing professional development using ICT
		Associate Professor	Masato Ohnishi	1. Pathophysiology and therapy of chronic heart failure 2. Diagnosis and therapy of hypertension in primary care 3. Simulation-based instruction in healthcare professionals
		Associate Professor	Yasuhiro Maeno	1. Development of effective regional cooperation for medical care of the diabetic patients 2. Development of effective educational techniques for the diabetic orpre-diabetic people
		Associate Professor	Akihiko Ito	1. Percutaneous endoscopic gastrostomy and management of that patient. 2. Indication and complications of enteral nutrition. 3. Nutritional support team management and multi-occupation collaboration.
Department of Comprehensive Surgery	–	Professor	Eiji Mekata	1. Multimodality therapy for colorectal cancer 2. Development of the resin of the surgical instrument 3. Anticancer drug sensitivity test 4. Oncology (disease state, therapy and community cooperation)
		Associate Professor	Katsuhisa Kikuchi	1. Three-dimensional analysis of trabecular bone structure of human vertebra in vivo using image data from multidetector row computed tomography
		Associate Professor	Hiroyuki Ohta	1. Multimodality therapy for colorectal cancer 2. Clinical study of postoperative complication 3. Development of the resin of the surgical instrument
Department of Clinical Education	–	Professor	Toshiyuki Ito	1. Medical education
		Associate Professor	Yoshihisa Tsuji	1. Medical education 2. Pancreatology
Department of Sleep and Behavioral Sciences	–	Special Contract Prpfessor	Hiroshi Kadotani	1. Clinical research in sleep medicine 2. Epidemiological study in sleep and mental health 3. Development and verification of sleep monitoring sensor device and application
Endoscopy Section	–	Associate Professor	Mitsushige Sugimoto	1. Acid-related disease (peptic ulcer and GERD) 2. Helicobacter pylori 3. Therapeutic endoscopy
Blood Purification Section	–	Associate Professor	Masami Kanasaki	1. Blood purification 2. Mechanism of development of diabetic nephropathy
Blood Service Section	–	Associate Professor	Hitoshi Minamiguchi	1. Phenotypic analysis of hematopoietic stem cell 2. Phenotypic analysis of leukemic stem cell
Clinical Nutrition		Associate Professor	Shigeki Banba	1. Indirect calorimetry 2. Energy consumption and cytokines 3. Nutritional therapy in inflammatory bowel diseases
Information Technology and Management Center	–	Vice President	Satoru Nagata	1. Human interface 2. Visual information processing 3. Medical information system development
Medical Informatics and Biomedical Engineering Section	–	Associate Professor	Yoshihisa Sugimoto	1. Medical electronics 2. Medical information system 3. Biomedical engineering for cardiology
Pharmacy	–	Professor	Tomohiro Terada	1. Science of individualized pharmacotherapy 2. Clinical pharmacology of drug transporters
		Associate Professor	Shinya Morita	1. Research on lipid transporters and lipid metabolism 2. Development of methods for measuring lipids
Medical Safety Section	–	Associate Professor	Hideki Ito	1. Translational research in genetic disorders 2. Drug safety research
Rehabilitation Section	–	Associate Professor	Narihito Kodama	1. A study of bone and soft tissue tumors 2. Microsurgical approach for orthopedics and reconstructive surgery 3. A study of the idiopathic interosseous nerve palsy
Center for Clinical Research and Advanced Medicine	–	Professor	Hiromu Kutsumi	1. Regulatory science 2. Development of innovative medicine 3. Gastroenterological endoscopy
		Associate Professor	Mayumi Kurata	1．A Recognition Investigation about Living Donor Transplantation. : Analysis of the free description answer of the citizen by the Internet survey 2．Construction of the study entry applicant support system which utilized the Internet 3．Critical Review of Priority Relative-Offers in Revision of Organ Transplant Law

Major Study Themes of Faculty

(As of July 1, 2018)

Department / Centre	Division / Unit	Title	Name	Major Study Themes
Clinical Education Center for Physicians	–	Associate Professor	Taku Kawasaki	1. Hip and knee arthroplasty 2. Epidemillogy of rheuamatoid arthritis 3. Locomotive rehabilitation
Molecular Neuroscience Research Center	Basic Neuroscience Research Unit - Department of Molecular Neuropathology	Professor	Masaki Nishimura	1. Molecular neuropathology of Alzheimer's disease 2. Development of preemptive medicine for Alzheimer's disease 3. Neuroscience on the principle underlying memory-based behaviors
	Translational Research Unit - Department of Diagnostics and Therapeutics for Brain Diseases	Professor	Ikuo Tooyama	1. Study on Alzheimer's disease and development of diagnostic and therapeutic methods 2. Prevention and preemptive medicine of dementia 3. Magnetic resonance imaging of neurological diseases 4. Molecular biology on neurological diseases
		Special Contract Prpfessor	Walker Douglas Gordon	1.Studies of transcription factor EB (TFEB) as they relate to defects in lysosomal and autophagy functions leading accumulation of toxic proteins in 2.Regulation of the anti-inflammatory ligand CD200 by human neuronal cells in AD and PD 3.Discriminating between pathogenic and homeostatic microglia in AD brains: The use of P2RY12 and CD105 as markers 4.The role of O-GlcNAc-modified proteins in modulating neuro inflammation in AD 5.Development of Three dimensional in vitro tissue culture methods for AD research
		Associate Professor	Daijiro Yanagisawa	1. Research on fluorine-19 MR imaging as a diagnostic tool for Alzheimer's disease 2. Research on pathogenesis and therapeutic targets in Alzheimer's disease 3. Research on diagnosis and treatment for neurodegenerative diseases
Molecular Neuroscience Research Center	Translational Research Unit - Department of Medical Chemistry	Special Contract Associate Professor	Masaki Mori	1. Therapeutics for pediatric intractable disease and juvenescence 2. Therapeutics for neurological diseases 3. Regenerative medicine for genetic diseases 4. 3D organogenesis modeling and organ size control 5. Bioinformatics-assisted comprehensive analysis
	Translational Research Unit - Department of Biomedical MR Science	Associate Professor	Akihiko Shiino	1. Development of molecularly targeted agents 2. Study and programing of diagnostic software for brain MR imaging 3. Magnetic resonance spectroscopy 4. Clinical study in neurological disorders
Research Center for Animal Life Science	–	Professor	Masatsugu Ema	1. Research about monkey ES and iPS cells 2. Human disease modeling with genetically engineered monkey 3. Research about mouse ES and iPS cells 4. Molecular mechanism about angiogenesis
		Associate Professor	Shinichiro Nakamura	1. Immunological regulations of endometriosis in non-human primates
Central Research Laboratory	–	Associate Professor	Takahiro Isono	1. Global transcriptome analysis by a next generation sequencer.
Health Administration Center	–	Associate Professor	Emiko Ogawa	1. Research on the pathogenesis of chronic obstructive pulmonary disease (COPD) 2. Clinical research using COPD cohort data
Biomedical Innovation Center	–	Special Contract Professor	Toru Tani	1. Future surgical operation system 2. Robotic navigation surgical operation 3. Less invasive surgical operation 4. Microwave surgical devices 5. Hyperthermia treatment against malignancy
Community Healthcare Education and Research Center	–	Associate Professor	Tomoko Umeda	1. Fibrinolysis factors (uPA etc.) and adhesion factors (CD44 variant etc.) related to the breast cancer invasion and the metastasis. 2. MRI mapping for the intraductal area of breast cancer 3. Tumor infiltrating cells around of the breast cancer, related to the trastuzumab after neoadjuvant chemotherapy
		Associate Professor	Hiroyuki Naito	1． The usefulness of the collagen gel droplet embedded culture-drug sensitivity test 2． Overexpression and localization of Cyclin D1 mRNA and antigen in esophageal cancer.
		Associate Professor	Shigemi Nakajima	1. Community-based medicine 2. General medicine and internal medicine 3. Clinical gastroenterology, specially upper GI tract diseases and functional GI disorders 4. Health check-up and mass screening, specially gastric cancer screening
		Associate Professor	Ryo Nakajima	1. clinical research of shoulder arthroscopic surgery 2. clinical research of shoulder arthroplasty 3. clinical research of elbow arthroscopic surgery 4. clinical research of rotator cuff fatty degeneration using MRI

Reference for Applicant Selection, etc.

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