

Application Guidelines
for October Admission, 2011 and April Admission, 2012

Doctoral Program in Medicine
Graduate School of Medicine
Fukushima Medical University

(This is a translation of the original Japanese version. The Japanese version is authoritative and always takes precedence over this version.)

1. Major, Division and Enrollment Capacity

The applicants for the PhD program of the Graduate School of Medicine are required to choose one of courses below, according to their research purpose, and to choose one of the divisions of research below to specialize in.

Major & Course	Enrollment Capacity		Division (*1)
	October Admission in 2011	April Admission in 2012	
Graduate School of Medicine (*2)	Examination for General Applicants: Several	Examination for General Applicants: 37	Detailed information on the features of each course and research subjects of each division can be found on page 14 and following of this guidebook.
<div style="border: 1px solid black; border-radius: 15px; padding: 5px; display: inline-block;"> Course for Researchers </div> <div style="border: 1px solid black; border-radius: 15px; padding: 5px; display: inline-block;"> Course for Medical Practitioner Researchers </div>	<div style="border: 1px solid black; border-radius: 15px; padding: 5px; display: inline-block; text-align: center;"> General Applicants includes Working Professionals(*3) </div> Examination for International Students (*4): Several	【 Examination for International Students (*4): Several	

- Notes: 1. The divisions in the above table is as of April in 2011. On applying for the entrance examination of the April admission in 2012, confirm the latest information about the divisions available on the web site of Fukushima Medical University.
2. It is possible to conduct research at the graduate school while working for Fukushima Medical University Hospital as a doctor-in-training.

3. Working professionals are defined as professionals who are currently employed at public agencies, research institutes, hospitals (other than Fukushima Medical University Hospital), or private companies and who will maintain their employment status after enrollment.
4. International students are defined as students who have entered Japan for the purpose of enrolling in graduate schools at universities and who hold or are expected to hold the resident status of “college student” as stipulated under the Immigration Control and Refugee Recognition Act.

Course for Researchers

This course is mainly for graduates of a School of Medicine, and holders of a Master’s degree from the Master’s program in Medical Science at Fukushima Medical University and those who have a Master’s degree in a field other than medicine, and graduates researchers who will contribute to the development of the field of medicine.

Course for Medical Practitioner Researchers

This course is mainly for residents who have completed clinical resident training in the School of Medicine at Fukushima Medical University or other university after graduating from the School of Medicine at Fukushima Medical University or other university. This course produces specialized practitioners with research ability who will contribute to the development of clinical medicine.

This course also includes the “Oncologist Training Course” based on the “Cancer Professional Training Plan” (See page11).

2. Qualifications for Application

Applicants must have one of the following qualifications.

There may be cases where foreign applicants, who have received school education in Japan, are qualified for application even if they don’t meet the conditions below. For further information concerning your eligibility, please contact Student Affairs Division, Entrance Examination Section.

- (1) Those who have completed or expect to complete a 6-year program in medicine, dentistry or veterinary medical sciences, at a university by March 2012. For those who will enroll in October 2011, the term just mentioned will be by September 2011.
- (2) Those who have completed or expect to complete, by March 2012, 18 years of school education ending with the program in the field of medicine or related area in a country other than Japan. For those who will enroll in October 2011, the term just mentioned will be by September 2011.

Note: The above qualification includes those have received less than 18 years of school education but have spent an equivalent or longer period conducting research in a university, research institute, research organization or other facility, and whose research has been evaluated by the Graduate School of Fukushima Medical University as showing a scholastic ability equivalent or superior to a university graduate in medicine or related field.

- (3) Those who are approved by the Minister of Education, Culture, Sports, Science and Technology as following:
- (i) Those who have graduated or expect to graduate from the National Defense Medical College pursuant to the Act for the Establishment of the Ministry of Defense (Act No. 164 of 1954) by March 2012. For those who will enroll in October 2011, the term just mentioned will be by September 2011.
 - (ii) Those who have completed a master’s program or a professional graduate school program pursuant to article 99, paragraph 2 of the School Education Act (Act No. 26 of 1947) or can receive master’s credentials.
 - (iii) Those who have been enrolled for two years or more in a doctoral course that does not distinguish between a master’s and doctoral period, have earned 30 credits or more and have received necessary research guidance (including those who fall under Article 6-1 of the Degree Regulations (Ordinance of the Ministry of Education No.9 of 1953) prior to the revisions enacted under Ordinance of the Ministry of Education No.29 of 1974, and who have been recognized by the Graduate School of Fukushima Medical University as having a scholastic ability equivalent or superior to a university graduate in medicine or related field.
 - (iv) Those who have graduated from a university (in other than courses in medicine or related field) or who have completed 16 years of school education and subsequently spent at least two years conducting research in a university, research institute, research organization or other facility, and whose research has been evaluated by the Graduate School of Fukushima Medical University as showing a scholastic ability equivalent or superior to a university graduate in medicine or related field.
- (4) Those who have been recognized by the Graduate School of Fukushima Medical University in its individual qualification screening process as having a scholastic ability equivalent or superior to a university graduate in medicine or related field and who are 24 years old or older, or will be 24 years old by the end of the academic year.

The above qualifications are independent of whether or not the applicant has a medical license.

3. Preliminary Screening for Qualification

Applicants included in the Note in (2), (iii) and (iv) in (3), or (4) in Qualifications for Application must submit in person or send the required documents (specified in the Section (2) below) and undergo a screening for qualification in advance.

(1) Application Period For Preliminary Screening

October Admission	July 11th (Monday) – July 15th (Friday), 2011, 9:00 A.M. – 5:00 P.M.
April Admission	November 7th – November 11th (Friday), 2011, 9:00 A.M. – 5:00 P.M.

In the case of mailing, the documents must be sent by registered mail, and “Application for

Preliminary Screening for Qualification” must be written in red ink on the front of the envelope. They must reach the office no later than the appointed day above.

(2) Application Materials

All documents must be in Japanese or English.

Materials	Notes
Application Form for Preliminary Screening	Prescribed form
Statement of Application Purpose	Prescribed form or form equivalent to prescribed one
Academic Transcript	Certificate issued and sealed by the educational institute last attended
Graduation Certificate	Certificate of completion or expectation to complete the degree, issued and sealed by the educational institute last attended
Employer’s Permission to Take Examination	Only for working professionals Prescribed form completed by the applicant’s superior or the director of the institute or organization where the applicant is currently employed
Statement of Research Activities and Achievements	Prescribed form or form equivalent to prescribed one A statement clearly providing the details of the contents and results of the research conducted by applicant

The applicants may be required to submit documents or certificates other than those listed above when necessary for screening.

(3) Screening Procedure

The School will examine the documents submitted by applicants for preliminary qualification screening. In the process of preliminary screening, it is possible that applicants may be requested to have interviews (oral examination) when necessary for screening.

(4) Notification of Results

Applicants will be notified of the results of the Preliminary Screening for Qualification before the application period.

4. Period for Reception of Application

October Admission	July 11th (Monday) – July 15th (Friday), 2011, 9:00 A.M. – 5:00 P.M.
April Admission	November 7th – November 11th (Friday), 2011, 9:00 A.M. – 5:00 P.M. (Except Saturday, Sunday & Holiday)

In the case of mailing, the documents must be sent by registered mail, and “Application for

the Doctor's Program of the Graduate School" must be written in red ink on the front of the envelope. They must reach the office no later than the appointed day above.

5. Application Procedures

Before applying, the applicants are required to contact a prospective academic supervisor and sufficiently understand the contents of the education and research curriculum.

The applicants who have undergone Preliminary Screening for Qualification do not have to submit the application materials they have already submitted.

(1) Application Materials Common for All Applicants

Application Materials	Notes
Application Form	Prescribed form Complete the Curriculum Vitae which includes the applicant's careers since graduating from high school, on the back side of Application Form.
Photo Identification Card /Examination Admission Card	Prescribed form Paste a photograph in the space provided on the card. The photograph should have been taken within three months prior to application and should be 4cm long by 3cm wide, clearly displaying a frontal, hatless view of the upper part of the body.
Statement of Application Purpose	Prescribed form or form equivalent to prescribed one
Academic Transcript	Transcript issued and sealed by the educational institute last attended Applicant who has completed the master's program of a graduate school must submit transcript issued by the graduate school as well as one issued by the undergraduate university attended. Not required for those who have completed or expect to complete the School of Medicine or the Master's Program of the Graduate School of Medicine, Fukushima Medical University
Certificate of (Expected) Graduation / Completion	Certificate of completion or expectation to complete the degree, issued and sealed by the educational institute last attended Not required for those who have completed or expect to complete the School of Medicine or the Master's Program of the Graduate School of Medicine, Fukushima Medical University
Application Fee	Transfer 30,000 yen to the designated account at the Japan Post Bank or post office and paste the Certificate of Payment stamped with the receipt date in the specified space on the Application Form. Post Office transfer fee is to be paid by the applicant.

Envelope for Delivery of Examination Admission Card	Affix a stamp/stamps for 350 yen, and write full name, address and postal code on a standard envelope for delivery of Examination Admission Card.
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(2) Application Materials for Working Professionals

Working Professionals who have not been required to take Preliminary Screening for Qualification must submit the following application materials in addition to those listed in (1) above.

Application Materials	Notes
Statement of Application Purpose	Prescribed form or form equivalent to prescribed one
Employer's Permission to Take Examination	Prescribed form completed by the applicant's superior or the director of the institute or organization where the applicant is currently employed
Statement of Research Activities and Achievements	Prescribed form or form equivalent to prescribed one A statement clearly providing the details of the contents and results of the research conducted by applicant

(3) Application Materials for International Students

International students must submit the following application materials in addition to those listed in (1) above.

Application Materials	Notes
Certificate of Health	Prescribed form
Certificate of Foreign Resident (Alien) Registration	Issued by the local government office
Letter of Recommendation	Any format A letter of recommendation from the president of the university where the applicant graduated or from the applicant's faculty supervisor

Note: Applicants may be required to submit documents or certificates other than those listed above when necessary for screening.

6. Selection Procedure

The applicants will be selected on the basis of comprehensive evaluation of the results of essay and oral examination and the information given in the submitted application materials.

(1) Examination Subjects for general applicants and working professionals:

- (i) Essay Examination
- (ii) Oral Examination (Interview)

(2) Examination Subjects for International Students:

- (i) Essay Examination
- (ii) Oral Examination (Interview)
- (iii) Medical Checkup

Note: International students are permitted to write the essay in English.

7. Schedule of Examination for All Applicants

	Date	Subjects & Time
October Admission	August 27th (Sat), 2011	Essay Examination: 9:00 – 10:00 Oral Examination: 10:30–
April Admission	December 17th (Sat), 2011	

Detailed information of examination place and appointed time for assembling will be provided with Examination Admission Card sent to applicants.

8. Announcement of Successful Applicants

October Admission	September 22nd (Thu), 2011
April Admission	January 19th (Thu), 2012

The examinee numbers of successful applicants will be posted on the bulletin board in front of the Student Affairs Division on the second floor in the Administration Building at 10:00 AM. Official notification of result will also be issued and mailed with admission documents and instructions for its procedure to successful applicants.

9. Admission Procedure

Successful applicants must send by mail the required documents and certificates to the office indicated in (2) below or submit them in person to the office.

(1) Period of Admission Procedure

October Admission	September 22nd (Thu) – September 30th (Fri), 2011, 9:00 A.M. – 5:00 P.M. (Except Saturday & Sunday)
April Admission	January 23rd (Mon) – January 27th (Fri), 2012, 9:00 A.M. – 5:00 P.M.

- (i) In the case of mailing, the required documents and certificate of admission must be sent to the office indicated below by registered express mail and must reach there during the above period.
- (ii) If the applicant has not completed the admission procedure within the specified period, she or he will be considered to have declined admission.

(2) Office for Admission Procedure

Educational Affairs Section
Student Affairs Division
School of Medicine
Fukushima Medical University
1 Hikarigaoka, Fukushima-shi, Fukushima 960-1295, Japan
Tel: +81-24-547-1095 (direct line)

(3) Materials Required for Admission

- (i) Written Pledge
- (ii) Letter of Guarantee
- (iii) Certificate of Residence
- (iv) Application for the Specialized Subjects
- (v) Student Record
- (vi) Photograph (two copies)
- (vii) Application for Automatic Account Transfer of Tuition Fee
- (viii) Documents related to System for an Extended Period of Study

(4) Admission Fee and Tuition

- (i) Admission Fee: 282,000 yen (Admission Fee must be paid at time of admission procedure.)
- (ii) Annual Tuition: 535,000 yen (Annual Tuition must be paid after enrollment. The payment must be by bank account transfer and will be due in half-yearly installments by the end of April and October.)

Note: The amount of Admission Fee and Annual Tuition are subject to change. If the tuition is revised after enrollment, the revised amount will be applied from the time of the revision.

10. Other Information

- (1) Applicants must assemble in the examination room no later than an appointed time and follow the instructions given there.
- (2) Application materials submitted on applying and application fee once paid will not be returned, under any circumstances.
- (3) Admission can be canceled even after matriculation if any of application materials are falsified or fabricated.
- (4) Personal information provided in application documents and certificates are used only for admission selection procedure, admission procedure, study guidance after enrollment, and liaison work. The personal information is not used for any other purpose.
- (5) For Further Information and Inquiries

Entrance Examination Section
Student Affairs Division
Fukushima Medical University
1 Hikarigaoka, Fukushima-shi
Fukushima 960-1295 JAPAN
Tel +81-24-547-1093
Fax: +81-24-547-1989

Admission Guide

1. Aim and Mission

The aim of the Fukushima Medical University Graduate School PhD Program is to teach and research both theory and practice of science, to investigate thoroughly its principle, to provide new insights into scientific achievement, to contribute to the development of culture, and to foster talented men and women who will be the leaders in medical research.

Since 2004 four divisions of research, namely, Community Medicine and Aging Science, Functional and Regulatory Medical Sciences, Neurology, and Molecular Pathogenesis had been organized for education and research. In 2009 these divisions were integrated and reorganized as Graduate School of Medicine, PhD program.

In the newly established Graduate School of Medicine, PhD program, a course of study allows students to study various medical fields widely as well as investigate in depth a specific field, so that the disposition and desire of the students can be maximally met and through the practice of advanced medicine in new fields the talent of students can be nurtured for the benefit of regional medicine.

2. Standard Duration of Study

Four Years

3. Course Structure and Outline

Refer to the Appended Table 1.

4. Division of Research and Research Topic

Refer to the Appended Table 2 for each division of research, its academic advisors and their research topics. (The contents in the Appended Table 2 is as of April in 2011. On applying for the entrance examination of the April admission in 2012, confirm the latest information available on the web site of Fukushima Medical University.)

5. Degree Conferment

In order to receive a degree of PhD, students are required to enroll in the program for four years or longer, complete the prescribed course of subjects, submit a doctoral dissertation based on their original research, and successfully pass a review of the dissertation and the final examination.

For the students who have achieved distinguished research results, however, the required years for completion can be three years or longer.

6. Scholarship Fund

Scholarship from the Japan Student Services Organization is available. If students are unable to receive the scholarship from this organization, they may be eligible for the scholarship provided by Fukushima Medical University.

7. Clinical Training and Scholastic Requirements

As a general rule, students are required to have completed the clinical resident training before enrollment in accordance with Article 16-2 of the Medical Practitioners Act and are not allowed to do the clinical resident training while in graduate school.

International students must get permission under the provisions of Article 3, Paragraph 1 of the Law concerning the Exceptional Cases of the Medical Practitioners' Act, Article 17, on the Advanced Clinical Training of Foreign Medical Practitioners, in order to practice medicine.

8. Tuition Exemption System

Graduate students who, for financial reasons, have severe difficulties in paying their tuition fees and have excellent academic records may be eligible for tuition exemption.

9. System for an Extended Period of Study

Students who, because of regular employment or for other reasons, are unable to complete the course work in the prescribed time, may apply for an extension, which the system will allow.

Table 1

Requirements for Graduation and Course Requirements
<p>In order to receive a PhD degree, graduate students are required to enroll in the program for four years or longer, complete the specified course of subjects, submit a doctoral dissertation based on their original research, and successfully pass the review of the dissertation and the final examination.</p> <p>Among General Basic Subjects, students in the Course for Researchers and students in the Course for Medical Practitioner Researchers are required to take “Outline of Medical Research” and “Integrated Medical Humanities, Sciences and Technology” respectively and must take one or more other general subjects, to earn two or more credits. The students must also acquire twelve credits of Specialized Subjects, ten credits of Subjects for Further Research (if four credits of General Basic Subjects have been taken, eight credits are sufficient) and four credits of Special Research.</p>

Cancer Professional Training Plan

This is a comprehensive educational program conducted through the cooperation of the university and communities to foster cancer specialists. The Course for Medical Practitioner Researchers at Fukushima Medical University Graduate School includes the Oncologist Training Course based on the Cancer Professional Training Plan.

The Oncologist Training Course consists of three sub-courses leading to certification of clinical oncologist: Radiation Oncologist, Medical Oncologist, and Surgical Oncologist. Students are required to take Doctorate Coursework (Clinical Oncology: Internet School) and Doctorate Advanced Research & Practicum which includes chemotherapy, surgical treatment, radiation therapy and palliative medicine.

Course for Radiation Oncologist

This is a course for board certified radiation oncologists of the Japanese Society for Therapeutic Radiology and Oncology and board certified radiologists of the Japan Radiological Society. The training will be done at Fukushima Medical University Hospital according to the curriculum to prepare specialists.

Course for Medical Oncologist

This is a course for board certified medical oncologists of the Japanese Society of Medical Oncology (JSMO). The training will be done at Fukushima Medical University Hospital according to the curriculum of JSMO.

Course for Surgical Oncologist

This is a course for board certified breast specialists of the Japanese Breast Cancer Society. The training will be done at Fukushima Medical University Hospital according to the curriculum to prepare specialists.

Course Models

The graduates, no matter which course model they follow, are expected to be distinguished specialists or researchers actively involved in universities, and research and medical institutions.

Course Model (1): Students who aim to be a researcher in the field of Basic Medicine

	1st Year		2nd Year		3rd Year		4th Year		Total Number of Credits
	Subject	Credit	Subject	Credit	Subject	Credit	Subject	Credit	
General Basic Subjects	Outline of Medical Research	1							1
	Introduction to Research in Medical Science	1							1
Specialized Subjects	Doctorate Coursework		Doctorate Coursework		Doctorate Coursework		Doctorate Coursework	4	4
	Doctorate Advanced Research & Practicum		Doctorate Advanced Research & Practicum		Doctorate Advanced Research & Practicum		Doctorate Advanced Research & Practicum	8	8
Subjects for Further Research	Doctorate Seminar & Practicum	4	Doctorate Seminar & Practicum	2	Doctorate Seminar & Practicum	2	Doctorate Seminar & Practicum	2	10
	Graduate School Seminar	1	Graduate School Seminar	1					2
Special Research	Research Guidance	1	Research Guidance	1	Research Guidance	1	Research Guidance	1	4

Course Model (2): Students who emphasize clinical research and aim to be a specialist or certified specialist

	1st Year		2nd Year		3rd Year		4th Year		Total Number of Credits
	Subject	Credit	Subject	Credit	Subject	Credit	Subject	Credit	
General Basic Subjects	Integrated Medical Humanities, Sciences & Technology	1							1
	Outline of Medical Research Seminar & Practicum in Integrated Medical Humanities, Sciences & Technology	1							1
		1							1
Specialized Subjects	Doctorate Coursework		Doctorate Coursework		Doctorate Coursework		Doctorate Coursework	4	4
	Doctorate Advanced Research & Practicum		Doctorate Advanced Research & Practicum		Doctorate Advanced Research & Practicum		Doctorate Advanced Research & Practicum	8	8
Subjects for Further Research	Doctorate Seminar & Practicum	3	Doctorate Seminar & Practicum	2	Doctorate Seminar & Practicum	2	Doctorate Seminar & Practicum	2	9
	Graduate School Seminar	1	Graduate School Seminar	1					2
Special Research	Research Guidance	1	Research Guidance	1	Research Guidance	1	Research Guidance	1	4

Course Model (3): Students who aim to be a certified medical researcher

	1st Year		2nd Year		3rd Year		4th Year		Total Number of Credits
	Subject	Credit	Subject	Credit	Subject	Credit	Subject	Credit	
General Basic Subjects	Integrated Medical Humanities, Sciences & Technology	1							1
	Outline of Medical Research	1							1
	Introduction to Research in Medical Science	1							1
Specialized Subjects	Doctorate Coursework		Doctorate Coursework		Doctorate Coursework		Doctorate Coursework	4	4
	Doctorate Advanced Research & Practicum		Doctorate Advanced Research & Practicum		Doctorate Advanced Research & Practicum		Doctorate Advanced Research & Practicum	8	8
Subjects for Further Research	Doctorate Seminar & Practicum	3	Doctorate Seminar & Practicum	2	Doctorate Seminar & Practicum	2	Doctorate Seminar & Practicum	2	9
	Graduate School Seminar	1	Graduate School Seminar	1					2
Special Research	Research Guidance	1	Research Guidance	1	Research Guidance	1	Research Guidance	1	4

Course Model (4): Students who take the oncologist training course and aim to be an oncology specialist

	1st Year		2nd Year		3rd Year		4th Year		Total Number of Credits
	Subject	Credit	Subject	Credit	Subject	Credit	Subject	Credit	
General Basic Subjects	Integrated Medical Humanities, Sciences and Technology	1							1
	Outline of Medical Research	1							1
	Seminar & Practicum in Integrated Medical Humanities, Sciences & Technology	1							1
Specialized Subjects	Doctorate Coursework (Clinical Oncology)		Doctorate Coursework (Clinical Oncology)		Doctorate Coursework (Clinical Oncology)		Doctorate Coursework (Clinical Oncology)	4	4
	Doctorate Advanced Presearch & Practicum (Clinical Oncology) is taught by using "internet school."								
	Doctorate Advanced Research & Practicum (Clinical Oncology)		Doctorate Advanced Research & Practicum (Clinical Oncology)		Doctorate Advanced Research & Practicum (Clinical Oncology)		Doctorate Advanced Research & Practicum (Clinical Oncology)	8	8
Doctorate Advanced Research & Practicum requires practice of chemotherapy, surgical treatment, radiation therapy and palliative medicine.									
Subjects for Further Research	Doctorate Seminar & Practicum	3	Doctorate Seminar & Practicum	2	Doctorate Seminar & Practicum	2	Doctorate Seminar & Practicum	2	9
	Graduate School Seminar	1	Graduate School Seminar	1					2
Special Research	Research Guidance	1	Research Guidance	1	Research Guidance	1	Research Guidance	1	4

Table 2

Division of Research				Research Topics
Developmental Neurobiology	Department of Neuroanatomy and Embryology	Professor	Hiroyuki Yaginuma	
Functional Histology	Department of Anatomy and Histology	Professor	Satoshi Waguri	<ol style="list-style-type: none"> 1 .Sorting mechanisms of lysosomal enzymes 2 .Membrane trafficking between Golgi apparatus and endosomes 3 .Autophagy mechanisms in physiology and pathology 4 .Search for cancer biomarkers and their functions
Biomolecular function	Department of Cellular and Integrative Physiology	Professor	Akihiro Hazama	
Neurophysiology	Department of Neurophysiology	Associate Professor	Eiichi Jodo	<ol style="list-style-type: none"> 1 .Neurophysiological mechanisms of behavioral and cognitive dysfunction in animal models of schizophrenia 2 .Interactive activity of the brainstem and hypothalamus in modulation of sleep and wakefulness 3 .Neural mechanisms of micturition and reproduction in the brainstem and hypothalamus
Metabolic Regulation of Glycoproteins	Department of Biochemistry	Professor	Yasuhiro Hashimkoto	<ol style="list-style-type: none"> 1 .Studies on Dementia Markers in cerebrospinal fluid 2 .Metabolic Regulation of Glycoproteins
Molecular Immunology	Department of Immunology	Specially appointed professor	Eiji Sekine	<ol style="list-style-type: none"> 1 .The association between activation of the complement lectin and alternative pathways and the development of systemic lupus erythematosus 2 .Role of the transcription factor IRF4 for the development of systemic lupus erythematosus
Pharmacology	Department of Pharmacology	Professor	Junko Kimura	
Clinical Microbiology	Department of Microbiology	Professor	Tatsuo Suzutani	<ol style="list-style-type: none"> 1 .Analysis of cytomegalovirus infections 2 .Analysis of antiviral mechanisms of interferon systems and escape functions of herpesviruses from antiviral activity of interferon 3 .Development of novel molecular identification methods for bacteria and fungi without culture and analysis of normal flora 4 .Development of herbal medicine
Hematological Oncology	Department of Diagnostic Pathology	Professor	Masafumi Abe	Pathophysiology and Biological Characteristics of Malignant Lymphoma

Pediatric Oncology	Department of Diagnostic Pathology	Associate Professor	Hiroshi Hojo	
Molecular and cellular pathology	Department of Basic Pathology	Professor	Hideki Chiba	<ul style="list-style-type: none"> 1 .Elucidation of epithelial differentiation processes using a novel stem cell system 2 .Regulation of blood-brain barrier and its functional significance in brain diseases 3 .Development of targeted therapy for refractory cancers 4 .Development of a novel treatment against hepatitis C 5 .Regulation of peripheral nerve barrier and its application into drugdelivery system 6 .Functional analysis of extracellular matrix molecules 7 .Molecular mechanism of cancer metastasis
Division of Tumor Pathology	Department of Basic Pathology	Associate Professor	Takashi Sugino	<ul style="list-style-type: none"> 1 .Molecular pathology of cancer 2 .Cancer metastasis model 3 .Cellular and molecular mechanism of cancer metastasis 4 .Tumor angiogenesis 5 .Molecular target discovery for breast cancer progression
Hygiene and Preventive Medicine	Department of Hygiene and Preventive Medicine	Professor	Tetsuhito Fukushima	<ul style="list-style-type: none"> 1 .Preventive medicine against lifestyle related diseases 2 .Clinical epidemiology in hospitals 3 .Health (medical) economics, community health planning, health policy research 4 .Industrial medicine for safety and health of workers 5 .Health education, behavioral sciences 6 .Biological effects by environmental chemicals and preventive medicine
Epidemiology and Community Health	Department of Public Health	Professor	Yasumura Seiji	<ul style="list-style-type: none"> 1 .Clinical Epidemiology research based on patients' data 2 .Life-style diseases epidemiology 3 .Epidemiology and management of infectious diseases 4 .Epidemiology and prevention of home-bound elderly 5 .Epidemiology and prevention of fall and bone fracture among community-dwelling elderly 6 .Research on Long-term care 7 .International collaboration and epidemiology. Epidemiology of pregnancy, child birth and parenting
Legal Medicine	Department of Legal Medicine	Professor	Kouichi Hiraiwa	Molecular biological and morphological study on traumatic shock
Cardiology and Hematology	Department of Cardiology and Hematology	Professor	Yasuchika Takeishi	

Gastroenterology	Department of Gastroenterology and Rheumatology	Professor	Hiomasa Ohira	
Metabolic and Homeostatic Regulatory Medicine	Department of Nephrology, Hypertension, Diabetology, Endocrinology and Metabolism	Professor	Tsuyoshi Watanabe	
Neuropathophysiology: Pathomechanisms and treatment of neurological disorders.	Department of Neurology	Professor	Yoshikazu Ugawa	<ol style="list-style-type: none"> 1 .Tactics for neurological patients: how to see neurological patients using clinical neurological examination 2 .Pathological mechanisms underlying neuro-immunological disorders 3 .Physiological analyses of ion channels in neurological disorders: epilepsy, periodic paralysis and so on 4 .Physiological analyses of brain neuroplasticity in several neurological disorders using transcranial magnetic stimulation (TMS) 5 .Neuroplasticity induction treatments by transcranial magnetic stimulation (TMS) for various neurological disorders
Pulmonary Pathophysiology	Department of Pulmonary Medicine	Professor	Mitsuru Munakata	<ol style="list-style-type: none"> 1 .Gene-environment interaction 2 .Etiology and pathophysiology 3 .Structure-function relationship of the lung 4 .New non-invasive diagnosis 5 .New diagnostic method applying bronchoscopy 6 .New bronchoscopic interventional method 7 .New therapeutic strategy 8 .Personalized medicine applying pharmacogenetics/pharmacogenomics 9 .Establishment of the preventative strategy
Reconstructive and regenerative surgery	Department of Regenerative Surgery	Professor	Mitsukazu Gotoh	<p>Function Preserving and Reconstructive surgery Organ and cell transplantation Elucidation of cancer pathophysiology and chemoimmunotherapy for cancer</p> <ul style="list-style-type: none"> •Molecular biology of cancer •Biology of dendritic cell •Chemoimmunotherapy for cancer
Interdisciplinary Oncology Specialist Course	Clinical Oncology Center (Department of Organ Regulatory Surgery)	Professor	Seiichi Takenoshita	

Surgical oncology	Department of Organ Regulatory Surgery	Specially appointed professor	Tohru Ohtake	<ol style="list-style-type: none"> 1. Encouraging study, research, education and training concerning with breast cancer and breast specialist 2. Development of the breast conservative therapy in consideration of an optimal excision range by the three-dimensional pathological analysis 3. Development of the optimal predictive marker for the breast cancer therapy by the comprehensive gene expression analysis 4. Development of new palpation device using mechanical tactile sensor, and clinical application for breast cancer screening
Neurosurgery	Department of Neurosurgery	Professor	Kiyoshi Saito	<ol style="list-style-type: none"> 1. Development of intraoperative monitoring methods: evoked potentials of brain function and monitoring of cranial nerves 2. Development of neuroendoscopic surgeries 3. Diagnosis and surgical support using 3D-CT images 4. Genetic analysis of brain tumors 5. Surgical simulation and surgical education
Restorative medicine of neuro-musculoskeletal system	Department of Orthopaedic Surgery	Professor	Shinichi Konno	Study of mechanisms of pain associated with orthopedic disorders
Functional and disability	Department of Orthopaedic Surgery	Professor	Shinichi Konno	Study of improvement of quality of life(QOL)
Reconstruction of Cardiovascular System	Department of Cardiovascular Surgery	Professor	Hitoshi Yokoyama	<ol style="list-style-type: none"> 1. Heart surgery without cardiopulmonary bypass 2. Revascularization therapy for ischemic heart disease 3. Three-dimensional motion analysis of coronary artery
Plastic and Reconstructive Surgery	Department of Plastic and Reconstructive Surgery	Professor	Kazuki Ueda	Development of the procedure to attain the best results in the patency of the vessels and the functional recovery of the nerve using the microsurgical technique
Obstetrics and Gynecology	Department of Obstetrics and Gynecology	Professor	Keiya Fujimori	<ol style="list-style-type: none"> 1. Mechanism and prevention for preterm labor 2. Physiological study for non-reassuring fetal status 3. Basic study for fetal therapy 4. Basic study for gynecological cancer metastasis 5. Study for endometrial modifying factors and embryo implantation induction substances 6. Therapeutic study for recurrent fertilization failure
Pediatric Health	Department of Pediatrics	Professor	Mitsuaki Hosoya	

Pediatrics	Department of Pediatrics	Professor	Mitsuaki Hosoya	
Ophthalmology and Visual Science	Department of Ophthalmology	Professor	Tomohiro Iida	
Skin and mucosal immunology	Department of Dermatology	Professor	Toshiyuki Yamamoto	<ol style="list-style-type: none"> 1 .Pathophysiology of scleroderma 2 .Allergology of skin and mucosal system 3 .Skin tumor 4 .Pathogenesis of psoriasis
Urology	Department of Urology	Specially appointed professor	Ken Aikawa	<ol style="list-style-type: none"> 1 .Association of urgency incontinence with beta3 adrenergic receptor gene mutation 2 .Pathophysiology of benign prostatic hyperplasia 3 .Effects of sex hormone on lower urinary tract function 4 .Pathophysiology of bladder outlet obstruction 5 .Pathophysiology of overactive bladder 6 .Treatment of prostate cancer
Otolaryngology	Department of Otolaryngology	Professor	Koichi Omori	<ol style="list-style-type: none"> 1 .Laryngeal and tracheal regeneration 2 .Development of the therapeutic technique by the phonosurgery 3 .Diagnostic meaning of the sentinel lymph nodes in head and neck cancer 4 .Hearing impairment by virus 5 .Surgical treatment for dysphagia 6 .Regeneration of the inner ear 7 .Influence of aging in the middle and inner ear 8 .Histopathological study of the temporal bone 9 .Experimental study of the effective chemotherapy for head and neck cancer
Neuropsychiatry	Department of Neuropsychiatry	Professor	Shinichi Niwa	<ol style="list-style-type: none"> 1 .Event-Related Potentials in Schizophrenia 2 .Cognitive Assessment and Cognitive Training Individuals with Schizophrenia
Radiology	Department of Radiology	Professor	Fumio Shishido	
Anesthesiology	Department of Anesthesiology	Professor	Mitsukazu Gotoh	
Infection Control and Laboratory Medicine	Department of Infection Control and Laboratory Medicine	Professor	Keiji Kanemitsu	<ol style="list-style-type: none"> 1 .Development of novel molecular diagnostic method for infectious diseases 2 .Epidemiologic study of healthcare associated infection 3 .Development of novel sterilization method 4 .Development of detection method for autoantibodies using proteomics 5 .Study of interferences in immunoassays 6 .Study of various problems in ELISA

Transplantation Immunology	Department of Blood Transfusion and Transplantation Immunology	Professor	Hitoshi Ohto	Evolution of alloimmune reactions and control of rejection reactions
Cell Signaling	Department of Biomolecular Science	Professor	Yoshimi Homma	1 .Research on cell signaling mechanisms for cell growth and differentiation 2 .Studies on molecular basis of diseases
Cell Science	Department of Cell Science	Professor	Ikuo Wada	1 .Cellular mechanisms for quality control of proteins 2 .Membrane fusion machinery for phagocytosis 3 .Dynamic regulation of membrane traffic 4 .Development of biomedical tools for regenerative medicine
Molecular Neurobiology	Department of Molecular Genetics	Professor	Kazuto Kobayashi	
Community and Family Medicine	Department of Community and Family Medicine	Professor	Ryuki Kassai	
Molecular Genetics	Radioisotope Center	Associate Professor	Yuichi Endo	1 .Gene cloning and analysis of gene expression 2 .Analysis of gene abnormality in diseases
Oral histology	Dentistry and Oral Surgery	Associate Professor	Hiroshi Hasegawa	1 .Basic and clinical study of intra-arterial chemotherapy for oral cancer 2 .Maxillofacial growth in cleft lip and palate patients 3 .Improvement of mastication by dental implants
Pathophysiology of Circulatory Assistance	Surgical Center	Associate Professor	Igari Tsuguo	Pathophysiology of Circulatory Assistance, Cardiovascular Surgery, and Artificial Organs, Blood Transfusion and Transplantation Immunology
Gastrointestinal endoscopy	Department of Endoscopy	Associate Professor	Katsutoshi Obara	

The divisions in the above table is as of April in 2011.