Academic Year 2024-2025

Kyoto Prefectural University of Medicine Graduate School of Medical Science

Medical Science Master Degree Course

Application Guidelines for Students

**Kyoto Prefectural University of Medicine,
Graduate School of Medical Science**

https: //www.kpu-m.ac.jp/
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Academic Year 2024-2025
Kyoto Prefectural University of Medicine
Graduate School of Medical Science
Medical Science Master Degree Course

Entrance Exam Schedule

Early-term Exam

- Admissions capacity: 10 students

- Application period: July 10 (Mon) – July 21 (Fri), 2023

- Entrance exam date: August 18 (Fri), 2023

- Results notification: September 15 (Fri), 2023

Late-term Exam

- Admissions capacity: A few students

- Application period: November 27 (Mon) – December 8 (Fri), 2023

- Entrance exam date: January 17 (Wed), 2024

- Results notification: February 7 (Wed), 2024

Academic Year 2023-2024
Kyoto Prefectural University of Medicine
Graduate School of Medical Science
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Application Guidelines for Students

Admissions Capacity

10 (Early-term exam: **10** students; Late-term exam: A few students)

Program

Medical Science, Master

Eligible Applicants

1) Those who have graduated from university (or are expected to graduate by March 2024).

2) Those who were awarded (or expect to be awarded by March 2024) a bachelor's degree by the National Institution for Academic Degrees and Quality Enhancement of Higher Education, pursuant to the provisions of Article 104-7 of the School Education Act (Act No. 26 of 1947).

3) Those who have completed (or expected to complete by March 2024) 16 years of school education in a foreign country.

4) Those who have completed (or expect to complete by March 2024) 16 years of foreign school education through a correspondence course taken in Japan.

5) Those who have completed (or expect to complete by March 2024) a course of study at an educational institution regarded by a foreign educational system to possess the curriculum of a foreign university (limited to applicants who have completed 16 years of foreign school education), and coursework designated separately by the Ministry of Education, Culture, Sports, Science and Technology (MEXT).

6) Those who have been awarded (or are expected to be awarded by March 2024) a degree equivalent to bachelor's degree by completing a 3 years or longer program at a foreign university/other foreign educational institution which have been accredited by the respective foreign government or a person who has obtained certification by the appropriate foreign governmental agency, or which has been designated by the MEXT as the equivalent thereof. (This includes those who have completed the distance/online program offered by the appropriate school by taking courses while residing in Japan as well as one of those foreign educational programs at an appropriate educational institution positioned in the school education system of the said country and designated by said authorization described in the preceding Item)

7) Applicants in a specialized program at a vocational school (limited to schools that have a 4-year program of study or longer, and that satisfy the standards designated by MEXT), who have completed coursework designated separately by MEXT on or after the date specified or by March 2024.

8) Applicants specifically designated (or expected to be designated by March 2024) by the Minister of Education, Culture, Sports, Science and Technology (Notice No. 5 by the Ministry of Education on February 7, 1953).

9) Those who entered a graduate school pursuant to the provisions of Article 102-2 of the School Education Act, and who are acknowledged by Kyoto Prefectural University of Medicine Graduate School to possess academic ability sufficient for education at a graduate school level.

10) Those who have studied at a university for a minimum of 3 years (including those designated as qualified by MEXT), and who are recognized by Kyoto Prefectural University of Medicine Graduate School as having earned the designated number of credits with superior scores.

11) Those who have attended Kyoto Prefectural University of Medicine School of Medicine for at least 4 years and earned 124 credits or more (those who are expected to meet this requirement by March 2024).

12) Other applicants recognized by Kyoto Prefectural University of Medicine Graduate School as possessing academic ability equal to or greater than university graduates, and who are at least 22 years of age on March 31, 2024.

Application Period

Early Term Exam: **July 10 (Mon) to July 21 (Fri), 2023**

Late Term Exam: **Nobember 27 (Mon) to December 8 (Fri), 2023**

Applications are accepted Monday through Friday from 9:00 am to 5:00 pm.（closed Saturday and Sunday）

Where to Submit Application

465 Kajii-cho, Kawaramachi-Hirokoji, Kamigyo-ku, Kyoto, Japan 602-8566

Kyoto Prefectural University of Medicine, Student Affairs Office (Graduate School Division)

gkyoumu@koto.kpu-m.ac.jp

Application Procedure

Applicants must submit all required application materials to the Kyoto Prefectural University of Medicine, Student Affairs Office (Graduate School Division).

If mailing the application, all documents must be enclosed in the envelope designated by the Kyoto Prefectural University of Medicine Graduate School and sent by simplified registration mail. All documents must be received on or before the deadline. However, late applications received after the deadline may be considered if sent by simplified registration express mail and postmarked on or before July 19 (Wed), 2023 for the early-term exam and December 6 (Wed), 2023 for the late-term exam.

Prior to submitting an application, students must consult with the academic advisor (professor) for their desired research area regarding their academic plans (research and education). Please refer to the Kyoto Prefectural University of Medicine website [https: //www.kpu-m.ac.jp/] for more information on research topics.

Required Application Materials (*forms specific to Kyoto Prefectural University of Medicine)

1	*	Application form	All required fields must be completed.
2		Academic transcript	An official transcript, certified and sealed by the university dean or department head.
3	*	Personal statement	All required fields must be completed.
4		Certificate of graduation (or anticipated graduation)	An official certificate, certified and sealed by the university dean or department head.
5		Proof of awarded degree (bachelor's) or anticipated degree	For applicants who fall under item 2 in the admissions eligibility list above.
6		Photographs	Two photos meeting the following specifications must be provided: • Taken within 3 months of application date • 5cm (height) by 4 cm (width) • Showing the head and upper body • Taken in full-face view, directly facing the camera, without any hats. Write your name on behind each photo and paste onto the specified area on the application form.
7	*	Application fee (deposit form)	30,000 yen Remit using the university-designated deposit form and submit proof of payment (slip C). Once accepted, the fee is not refundable for any reason.
8	*	Self-addressed stamped envelope (SASE) to receive exam admission ticket	Fill in your name, address, and postal code on the front of the envelope, and affix sufficient postage (to cover postage and simplified registration, express mail fee).
9	*	Address labels	Fill in your name, address, and postal code. Labels will be used to send notification of acceptance (delivered on results notification date) and the admissions letter (issued March 2024).

Notes

1) Applications with incomplete application materials or non-compliance with the application procedure will not be processed.

2) Students found to have falsified application information will be subject to withdrawal of admission, even after enrollment.

3) Application documents will not be returned for any reason.

4) Applicants must immediately notify the Student Affairs Office (Graduate School Division) of any changes to their mailing address.

5) Applicants with physical disabilities who require assistance during examinations or school attendance should request this from the Student Affairs Office (Graduate School Division) prior to application.

Certification of Eligibility

Applicants who fall under items 9-10,12 of the eligibility criteria listed above must submit documents certifying their eligibility with their application.

1) Required application materials (*forms specific to Kyoto Prefectural University of Medicine)

Applicants falling under eligibility items 9 or 10

1	*	Application for eligibility certification	All required fields must be completed.
2		Enrollment certification from school of enrollment	Required only for applicants who are currently enrolled. Must be sealed.
3		Academic transcript from school of enrollment	Required only for applicants who are currently enrolled. Must be sealed.
4		Course manual (student handbook)	Must include descriptions of the courses taken.

Applicants falling under eligibility item 12

1	*	Application for eligibility certification	All required fields must be completed.
2	*	Research plan	All required fields must be completed.
3	*	Record of research achievements	All required fields must be completed.
4		Major papers and research presentations	Photocopies are acceptable.

In addition to the above, we may ask for other credentials/certification as necessary.

Certifications written in a foreign language must be accompanied by a Japanese translation.

2) Certification method

Eligibility will be determined based on the submitted documents.

Admissions Selection Process

Selection is based on a comprehensive review of aptitude test scores (foreign language exam, proficiency exam, and oral exam) and academic transcripts.

Entrance Exam Schedule

General Candidate Exam

Date	Time	Aptitude Test	Location
Early-Term Exam: Aug. 18 (Fri), 2023	9:15 – 11:15	Foreign language (English) exam*	Kyoto Prefectural University of Medicine, school building of Nursing (1st floor)
Late-Term Exam: Jan. 17 (Wed), 2024	12:30 – 14:30	Proficiency exam**	
	15:00 –	Oral exam (interview)	To be announced on exam date

*The foreign language (English) exam consists of English-Japanese and Japanese-English translations. Candidates are permitted to bring one English-Japanese dictionary and one Japanese-English dictionary. Electronic and medical dictionaries are not allowed.

**The proficiency exam will be given in Japanese. Candidates must respond to basic biology questions and write an essay in Japanese.

Foreign Candidate Exam 1

Date	Time	Aptitude Test	Location
Early-Term Exam: Aug. 18 (Fri), 2023	9:15 – 11:15	Foreign language exam (English)*	Kyoto Prefectural University of Medicine, school building of Nursing (1st floor)
Late-Term Exam: Jan. 17 (Wed), 2024	12:30 – 14:30	Proficiency exam**	
	15:00 –	Oral exam (interview)	To be announced on exam date

*The foreign language (English) exam consists of English-Japanese translations only. Candidates are permitted to bring one English-Japanese dictionary. Electronic and medical dictionaries are not allowed.

**The proficiency exam will be given in either Japanese or English. Candidates must respond to basic biology questions and write an essay in either Japanese or English.

Foreign Candidate Exam 2

Date	Time	Aptitude Test	Location
Early-Term Exam Aug. 18 (Fri), 2023	12: 30 – 14:30	Proficiency exam*	Kyoto Prefectural University of Medicine, school building of Nursing (1st floor)
Late-Term Exam Jan. 17 (Wed), 2024	15:00 –	Oral exam (interview)	To be announced on exam date

*The proficiency exam will be given in English. Candidates must respond to basic biology questions and write an essay in English. Candidates are permitted to bring one English dictionary to the proficiency exam. Electronic and medical dictionaries are not allowed.

Notes

International applicants must select Foreign Candidate Exam 1 or 2 on their applications. The selection cannot be changed after the application is submitted.

International applicants who have graduated (or are expected to graduate by March 2023) from a Japanese university must take the General Candidate Exam.

Notification of Results

Early-Term Exam: Sep. 15 (Fri), 2023, 10:00 am

Late-Term Exam: Feb. 7 (Wed), 2024, 10:00 am

The results of the early-term and late-term exams will be posted on the Kyoto Prefectural University of Medicine Student Affairs Office bulletin board, and a notification of acceptance will be sent to accepted applicants. The Kyoto Prefectural University of Medicine website will also post the identification numbers of accepted applicants after the date and time listed above. However, information published on the website is unofficial and intended solely for reference. Please verify with the official results posted on the bulletin board of the Kyoto Prefectural University of Medicine Student Affairs Office or with the mailed notification of acceptance.

Please note that we do not respond to inquiries by phone.

Registration Process

1) Enrollment fee: 282,000 yen (due upon enrollment)*

2) Tuition: 535,000 yen (assessed separately after enrollment)**

3) Instructions regarding the enrollment process, schedule, and required materials will be provided in the notification of acceptance.

The enrollment fee may be reduced, waived, or postponed if payment is a hardship due to a natural disaster that occurred within 1 year of the date of admission.

**Tuition may be reduced or waived if payment is an economic hardship and the student is recognized for excellent academic achievement.*

Notes

1) Enrollment fee and tuition amounts are subject to change. If tuition is modified during a student's period of attendance, the new tuition will apply from the time of revision forward.

2) The enrollment fee and tuition are non-refundable.

3) Tuition is to be paid over two semesters (first and second semester).

4) Offer of admission may be rescinded if the registration is not completed by deadline.

Other Information

1) Candidates must arrive at the testing center at least 15 minutes prior to the start of each exam.

2) To request the application guidelines and/or application form by mail, please enclose a self-addressed (postal code, address, name), stamped (250 yen), square type-2 envelope, clearly marked "Graduate School Master Degree Course Application Form Request" on the front side using red ink. Requests must be mailed to the address below.

465 Kajii-cho, Kawaramachi-Hirokoji, Kamigyo-ku, Kyoto, Japan 602-8566

Kyoto Prefectural University of Medicine, Student Affairs Office (Graduate School Division)

Kyoto Prefectural University of Medicine,
Graduate School of Medical Science
Medical Science Master Degree Course
Enrollment Guide

1) Length of Study

The standard length of study is 2 years.

*Upon review of special circumstances such as full-time employment, candidates may be permitted to enroll in the educational program for a scheduled period (of up to 4 years) beyond the standard length of study. For details, please contact the Student Affairs Office (Graduate School Division) at e-mail. gkyoumu@koto.kpu-m.ac.jp

2) Program Overview, and Research Guidance

Outlined on the following page.

3) Degrees Awarded

Students who complete the program are awarded a master degree in Medical Science. The master degree is awarded to candidates who have been enrolled in the graduate school for a minimum of 2 years (1 year for those with exceptional research achievements), earned 30 or more credits satisfying the program requirements, and passed both the final examination and dissertation examination after receiving the required research guidance.

Program Overview

1 List of Course Subjects

(1) Core Subjects (26 courses)

Lectures (10 required courses, 8 elective courses)

Molecular Cellphysiology and Molecular Genetics A	(Year 1, req. 1 credit)
Molecular Cellphysiology and Molecular Genetics B	(Year 1, req. 1 credit)
Neurophysiology A	(Year 1, req. 1 credit)
Neurophysiology B	(Year 1, req. 1 credit)
Neuropathology	(Year 1/2, req. 1 credit)
Neurology	(Year 1/2, req. 1 credit)
Cardiovascular Medicine A	(Year 1/2, req. 1 credit)
Cardiovascular Medicine B	(Year 1/2, req. 1 credit)
Molecular Cancer Genetics Research/Oncology A	(Year 1/2, req. 1 credit)
Molecular Cancer Genetics Research/Oncology B	(Year 1/2, req. 1 credit)
Application of Biosensing Technology and Bioimaging Sciences to Humans	
	(Year 1/2, elec. 1 credit)
Visual perception and optics	(Year 1/2, elec. 1 credit)
Biomedical Material and Engineering	(Year 1/2, elec. 1 credit)
Food, Nutrition and Health	(Year 1/2, elec. 1 credit)
Molecular-Target Drug Discovery	(Year 1/2, elec. 1 credit)
Social and Environmental Medicine	(Year 1/2, elec. 1 credit)
Public Health Services and Administration	(Year 1/2, elec. 1 credit)
Medical Information Technology	(Year 1/2, elec. 1 credit)

Practical Seminars (1 course)

Practical Experience in Medicine	(Year 1, req. 2 credits)

Seminars (6 courses)

Pediatrics	(Year 1/2, elec. 1 credit)
Adolescent Medicine	(Year 1/2, elec. 1 credit)
Gerontology and Geriatrics	(Year 1/2, elec. 1 credit)
Obstetrics and Gynecology	(Year 1/2, elec. 1 credit)
Neuroscience Seminar	(Year 1/2, elec. 1 credit)
Molecular Lifescience Seminar	(Year 1/2, elec. 1 credit)

Special Subjects (1 course)

Research Seminars	(Year 1-2, elec. 1 credit)

(2) Core-Related Subjects (4 courses)

Regenerative Medicine	(Year 2, elec. 1 credit)
Neuroscience	(Year 2, elec. 1 credit)
Medical Oncology	(Year 2, elec. 1 credit)
Medical Immunology	(Year 2, elec. 1 credit)

(3) Related Subjects (8 courses)

An Introduction to Medicine	(Year 1, req. 1 credit)
Molecular Medicine and Life Science	(Year 1, req. 1 credit)
Bioethics and Medical Ethics	(Year 1, req. 1 credit)
An Introduction to Research Methods in Medicine	(Year 1, req. 1 credit)

Applied Linguistics	(Year 1/2, elec. 1 credit)
Basic Medical statistics	(Year 1/2, elec. 1 credit)
Patient Safety Management Systems	(Year 2, elec. 1 credit)
An Introduction to Pre-symptomatic Conditions (Mibyou)	(Year 2, elec. 1 credit)

(4) Tutorials *(Years 1-2, required)*

| Dissertation 1 | (Year 1, 4 credits) |
| Dissertation 2 | (Year 2, 8 credits) |

2 Program Coursework and Requirements

Each student must complete a minimum of 11 credits from Core Subjects, which includes lectures, Practical Seminars, seminars, and special subjects. Specifically, students must earn at least 7 credits from lectures (i.e., 5 credits from the required lecture courses— Molecular Cellphysiology and Molecular Genetics A /B, Neurophysiology A/B, Neuropathology, Neurology, Cardiovascular Medicine A/B, and Molecular Cancer Genetics Research/Oncology A/B—and at least 2 credits from other lecture courses), 2 credits from the required Practical Experience in Medicine course (Practical Seminars), and at least 2 credits from elective or special subjects.

Each student must earn a minimum of 4 credits in the related subjects, including coursework from the required classes An Introduction to Medicine, Molecular Medicine and Life Science, Bioethics and Medical Ethics and An Introduction to Research Methods in Medicine.

Additionally, each student must complete a minimum of 3 credits in coursework from one of the following categories: Core-Related Subjects, Core Subjects (lecture, seminar, or special subjects), or Related Subjects. Students must prepare for their Master's thesis by earning 12 credits in coursework from Dissertation I and II.

To be eligible for graduation, Master's degree candidates must fulfill the following requirements: earn a minimum of 30 credits (breakdown as described above), submit a Master's thesis, and pass the final examination.

These requirements are summarized in the table that follows.

Coursework Credit Requirements

Category	Required Credits
Core Subjects	11 credits (minimum)
Lectures*	*7 credits (minimum)*
Practical Seminars	*2 credits*
Seminars, Special Subjects	*2 credits (minimum)*
Related Subjects	4 credits (minimum)
Core Related Subjects**	3 credits (minimum)
Tutorials	12 credits
Total Required Credits	**30 credits (minimum)**

*Core Subjects lectures: 5 credits from required courses, 2 or more credits from elective courses.

**Earn a minimum of 3 credits from Related Specialized Subjects, Core Subjects, or Related Subjects.

Overview of Research Guidance

as of June 1, 2023

Advisor(s)		Lecture Topics
Professor Michihiro Mutoh (Molecular-Targeting Prevention)	1st year	Based on the current state and an overview of molecular preventive medicine, this course provides guidance on the practice of molecular preventive medicine using cancer as a representative model. Specifically, students receive research guidance on "molecular-targeting" prevention of cancer.
	2nd year	This course provides the advanced guidance based on 1st year achievement. Students experience the future potential of molecular preventive medicine. Specifically, students investigate and discuss whether residents diagnosed with a predisposition to cancer can receive personalized cancer prevention, and what types of strategies are available.
Professor Naoyuki Takashima (Epidemiology for Community Health and Medicine)	1st year	This course aims to clarify the health problems for public health. This course provides guidance on descriptive epidemiological (which clarify the frequency distribution of diseases and health events) using actual examples.
	2nd year	Based on Special Research Project I, the course provides guidance to familiarize themselves with analytical epidemiological methods, analyze materials pertaining to actual groups and derive results, and draw conclusions.
Professor Hiroshi Ikegaya (Forensic Medicine)	1st year	This course examines methods of personal identification similar to forensic medical techniques, and examines the effectiveness and disadvantages of conventional methods through forensic practice to assess what practical methods are required.
	2nd year	Based on the findings of Special Research Project I, this course references various forensic medicine resources and uses biochemical and molecular biological methods to discover and verify the effectiveness of new, highly specialized personal identification methods similar to forensic medicine techniques and unlike conventional methods.

Advisor(s)			Lecture Topics
Professor Bon Ohta (Emergency Medicine)	1st year		A large factor in emergency medicine is community health; its emphasis on systems also makes it indispensable as a social medicine. The lectures in this course first reflect on the history of emergency medical systems in Japan and analyze the problems they currently face. We then compare the Japanese system to the emergency medical systems of other countries, and organize discussion points for the future framework of emergency medicine. We additionally examine the role that emergency medical systems should play in pre- and postgraduate medical education, and address the transformation of these educational methods as well as the importance of communication technology in emergency medicine.
	2nd year		This course examines the actual situation of disaster medicine following events such as the Great Hanshin Earthquake, the Amagasaki train derailment, the Haiti earthquake, and the 2011 Great East Japan Earthquake, and offers lectures on the similarities and differences between the disaster medicine system and the emergency medicine system.
Professor Satoru Shikata (General Medicine & Community Healthcare)	1st year		By acquiring basic knowledge of clinical epidemiology, learners will be able to design research to solve clinical questions arising from daily practice. As the next step, learners acquire the skills to disseminate evidence that is cited in textbooks and clinical practice guidelines.
	2nd year		Learners will acquire the ability to utilize public health data, administrative data, etc. in a specific area, perform multivariate analysis and big data analysis, and connect them to policy proposals. Learners will acquire behavioral psychological approaches that lead to behavioral changes of patients and medical staff, as well as data integration research methods that can be used for clinical reasoning.
Professor Satoshi Teramukai (Biostatistics)	1st year		Students observe the processes of preparing a clinical study protocol, and receive guidance on philosophically balancing science, ethics, and feasibility.
	2nd year		Based on Special Research Project I, this course guides students in setting up the design, implementation system, and data quality management system for specific clinical issues—that is, the core of their clinical study protocol.

Advisor(s)		Lecture Topics
Professor Koichi Setoyama (Biomedical Ethics)	1st year	In this course, students examine the various ethical, legal and social issues (ELSI) concerning medicine, medical research, and clinical trials, considering the latest overseas trends, and are provided with research guidance. Topics include the following: assisted reproductive technology, such as prenatal screening and abortion or pre-implantation genetic diagnosis and embryonic selection, surrogacy and egg donation; ethical considerations of terminal care, such as organ trafficking, euthanasia, and death with dignity; enhancement of health and ability through genetic editing / intervention; various social problems concerning genetic discrimination; and ethical review of medical research and the role of research committees / committee members.
	2nd year	In this course, students examine the various ethical, legal and social issues (ELSI) raised by advanced medicine, medical research, and clinical trials, through intellectual findings in dissertation 1 course. The course addresses these issues in light of current overseas trends and diverse perspectives, such as paternalism, and provides students with research guidance.
Professor Ikumitsu Nagasaki (Mathematics and Statistics in Medical Sciences)	1st year	The course teaches the mathematical methodology of medical research and provides guidance on methods to derive and construct various statistical and mathematical models necessary to analyze medical data and biological phenomena.
	2nd year	Based on Special Research Project I, this course guides students to deepen their understanding of mathematical methodology in medical research, and teaches research methods that employ various statistical and mathematical models necessary for analyzing medical data and biological phenomena.
Professor Tomoko Iehara (Pediatrics)	1st year	Pediatrics is an academic area that studies children's bodies and minds and abnormalities collectively and entirely, including the environment surrounding children, and works on society. This course provides guidance through research of each specialized field in pediatrics.
	2nd year	Based on the survey and research results of Special Research Project I, this course allows students to narrow their topic of study from among the specialized fields in pediatrics, and guides students to further examine their selected topic and derive conclusions.

Advisor(s)		Lecture Topics
Professor Shigeru Ono (Pediatric Surgery)	1st year	The basic treatment of pediatric malignant solid tumors is a multidisciplinary approach combining surgical therapy, chemotherapy, and radiation, depending on the biological malignancy level of the tumor. This course addresses the role of the surgical therapy and radiation therapy for the local control of the tumors.
	2nd year	This course explains the factors that determine biological malignancy in pediatric malignant solid tumors and provides guidance on the role and concepts of local therapy (surgical therapy and radiation therapy) for each disease, considering prevention of the late complications.
Professor Taisuke Mori (Obstetrics and Gynecology)	1st year	Women experience unique and dynamic physiological changes, such as menstruation, pregnancy, childbirth, and menopause/postmenopause. Pathological conditions correspond to these changes. To correctly understand these lifelong phenomena, this course conducts surveys and research on topics such as female hormone disorders, menopausal/postmenopausal disorders, infertility treatment and ethical considerations, endometriosis, perinatal management of high-risk pregnancies, and chemotherapy for gynecological malignancies.
	2nd year	Based on the survey and research results of Special Research Project I, this course allows students to narrow their topic of research from among the following: female hormone disorders, menopausal/postmenopausal disorders, infertility treatment and ethical considerations, endometriosis, perinatal management of high-risk pregnancies, and chemotherapy for gynecological malignancies. The course provides guidance for students in examining these topics and deriving conclusions from their research.
Professor Masataka Kizuka (The Department of Communication, Education and Language)	1st year	Tutorials for research topics in relation to the following: 1.The process of acquiring and developing professional knowledge and expertise. 2. The processes of child cognitive development (ex. language and learning) from the standpoint of educational theories, pedagogy, linguistics, medicine and related academic disciplines. 3. The theory and practice of initial teacher education and the education of medical doctors in the United Kingdom and other countries.

Advisor(s)		Lecture Topics
	2nd year	Tutorials for research topics in relation to the following: 1. The process of acquiring and developing professional knowledge and expertise. 2. The processes of child cognitive development (ex. language and learning) from the standpoint of educational theories, pedagogy, linguistics, medicine and related academic disciplines. 3. The theory and practice of initial teacher education and the education of medical doctors in the United Kingdom and other countries.
Professor Kei Tashiro (Genomic Medical Sciences)	1st year	To clarify how genetics contributes to individual formation/maintenance and individual differences, this course applies the theory behind clarifying the roles of responsible genes and applies practical methods as examples. Additionally, the course provides guidance on ethical issues, procedures, and methods of anonymization.
	2nd year	To clarify how genetics contributes to individual formation/maintenance and individual differences, this course applies the theory behind clarifying the roles of responsible genes and applies practical methods as examples. In addition, the course provides guidance concerning ethical issues, procedures, and methods of anonymization.
Biochemistry and Molecular Biology Professor	1st year	Students learn the latest trends in research fields and developments in research methods, which are essential in clarifying the molecular mechanisms of tumorigenesis, such as cell differentiation and self-renewal, and signal transduction mechanisms involved in proliferation, maintenance of genomic stability, and cell death. Students simultaneously explore new research topics aimed at clarifying the pathology of tumors and receive guidance in developing research strategies suitable for their goals.
	2nd year	Students utilize their acquired knowledge of experimental methods to advance research in specific subjects under the guidance of the faculty instructor. Their studies aim to clarify the regulatory mechanism behind cell differentiation and proliferation, and the mechanism of tumorigenesis. The course provides guidance for students to deepen their understanding of the molecular pathology of tumors through interpretation of results and discussions, and guides them in drawing conclusions.
Professor Yoko Nukui (Infection Control & Molecular Laboratory)	1st year	Students collect both clinical and basic data related to infectious diseases, infection control, and laboratory medicine. Based on the latest findings and novelty, students will select a research theme in

Advisor(s)		Lecture Topics
		line with their own interests, and conduct research and study together with their supervisors.
	2nd year	Based on the results and other data obtained from research in Special Research I, students will select a theme from among themes such as pathogenicity analysis of drug-resistant bacteria, clinical infectious diseases, and cell analysis using flow cytometry, to conduct clinically significant research with their supervisors.
Professor Michiaki Fukui (Endocrinology and Metabolism)	1st year	Students review literature and collect data regarding the latest trends in research pertaining to the causes and treatments of diabetes and diabetic angiopathy. The course guides students in their selection of research topics and development of a research plan and methodology.
	2nd year	Students develop hypotheses based on the guidance they received in Special Research Project I. This course provides guidance in conducting basic or clinical research to verify the hypotheses using animal models for human diseases. Students receive guidance in analyzing and examining their results and completing their thesis.
Professor Satoaki Matoba (Molecular Cardiology and Vascular Regenerative Medicine)	1st year	Students collect clinical data on various patients with cardiovascular diseases, then review and organize the data. The course guides students in understanding the research process by which clinical epidemiology and pathophysiology in hospitals are clarified.
	2nd year	This course provides students with guidance to further develop the techniques and knowledge they obtained in Special Research Project I, to collect and analyze clinical data, and to draw clinically meaningful conclusions.
Professor Koichi Takayama (Respiratory Molecular Medicine)	1st year	Various pathological conditions occur in the lungs, organs in contact with the outside world. These include various diseases, such as pulmonary infections, asthma, COPD, respiratory tract disease, diffusive lung disease, and neoplastic disease. Allergies and immunity are involved in many of these diseases, and methods for diagnosis and treatment have already been established according to medical condition. This course provides an overview of pulmonary diseases for students seeking to gain basic knowledge.

Advisor(s)		Lecture Topics
	2nd year	Based on the concepts mastered in Special Research Project I, students narrow their focus to pulmonary infections, asthma, COPD, or lung cancer, and gain a deep understanding of the characteristics of their selected pulmonary disease by collecting and analyzing clinical data. At the same time, this course provides students with necessary guidance to compare their findings with those already obtained in Japan and abroad, and to shed new light on clinical problems.
Professor Yoshito Itoh (Molecular Gastroenterology and Hepatology)	1st year	Students experience how inflammation and tumorigenesis in the hepatic and gastrointestinal organs affect prognosis. They also study how inflammation and tumorigenesis affect other organs in the individual.
	2nd year	Of all hepatic and gastrointestinal diseases, this course conducts basic and clinical research on cancers and intractable diseases of an inflammatory nature. Students are guided to establish their own vision for research objectives, plan the appropriate steps and methodology to achieve their goal, and implement their plan.
Professor Junya Kuroda (Molecular Hematology and Oncology)	1st year	The treatment strategies for hematologic malignancies are determined based on pathological diagnosis and evaluation of prognostic factors. Students receive guidance to deepen their basic understanding of the molecular pathology of tumors, clinical prognostic factors, and treatment strategies.
	2nd year	The course considers the optimal combinationatory chemotheraputic drug selection for hematologic malignancies, hematopoietic stem cell transplantation (HSCT), and radiation therapy. Along with the levels of achievement in Special Research Project I, students receive guidance for examining the overall optimal combination treatment concept based on molecular pathological disease analysis, clinical pathology, and clinical evidence.
Molecular Neurology and Gerontology Professor	1st year	To deepen their understanding of neurological disorders, students select one of the neurodegenerative diseases, such as dementia, cerebrovascular disease, and Parkinson's disease, or the intractable neurological diseases, such as amyotrophic lateral sclerosis (ALS). This course instructs students in collecting information through literature and interviews regarding their selected disease's epidemiology, pathology, expression mechanism, and therapy, and guides them in understanding its overall problems and therapeutic strategies.

Advisor(s)		Lecture Topics
	2nd year	Based on their level of achievement in Special Research Project I, students select as their topic a neurodegenerative disease, such as dementia, cerebrovascular disease, or Parkinson's disease, or an intractable neurological disease, such as amyotrophic lateral sclerosis (ALS). This course guides students to understand the pathophysiology of their selected disease through clinical data and basic research data, and to derive conclusions leading to prevention of symptoms and therapeutic strategies.
Professor Norito Katoh (Dermatology)	1st year	Students gain an understanding of the structure and physiological functions of skin, and are instructed in studying the pathogenetic mechanisms of typical inflammatory skin diseases. Based on this, students enhance their knowledge of treatment methods for inflammatory skin diseases and form the necessary foundation to develop new treatment methods.
	2nd year	To deepen understanding of inflammatory skin diseases, we construct an experimental system to analyze their pathology and develop treatment methods using animal models and cultured cells of the representative diseases. Students are provided guidance in the analysis and discussion of results.
Professor Masaki Tanaka (Anatomy and Neurobiology)	1st year	Students learn research methods for observing and analyzing nervous system structure and functions from the genetic/molecular to the cell/tissue level. In addition to macroscopic observation methods for the brain and spinal cord, the course incorporates content from a molecular biological perspective and reviews nerve cells, glial cells, synapses, and circuit formation.
	2nd year	In this course, students learn about the effects of the information transmission mechanism (through neurotransmitters and their receptors) on nerve cells and synaptic functions. We further address how the mechanism affects specific neural circuits and brain functions. Moreover, students are instructed in understanding the pathology behind accumulation of abnormal protein in the nerve tissue, which causes neuronal cell death and leads to neurodegenerative disease.
Professor Kenta Yashiro (Anatomy and Developmental Biology)	1st year	We provide an opportunity to learn how to proceed a basic scientific research project; planning an experiment, interpreting the obtained results, and drawing a conclusion, to validate our own original hypothesis, from a viewpoint of developmental biology, stem cell science, and cell biology. Our lab's main interest is molecular mechanisms underlying the heart development, the differentiation of cardiac progenitor cells, and the physiological function of cilia.

Advisor(s)		Lecture Topics
	2nd year	The training in the course expands the line of year 1 to develop the more sophisticated skills which are required for basic scientific research. Through this course, the students have an opportunity to take part in a research work of developmental biology, stem cell science and cell biology to better understand the heart development, cardiac progenitor cells differentiation, and/or the physiological function of cilia.
Professor Akiyuki Taruno (Molecular Cell Physiology)	1st year	Chemical sensations, including taste and smell, are essential for survival by detection of hazards, pheromones, and food. This course selects for each student a topic on the sensory physiology, and teaches methods at the molecular, cellular, system, and behavioral levels with a particular emphasis on electrophysiology of ion channels, neuronal cells, and neural circuits behind sensations.
	2nd year	By analyzing the data obtained in Special Research Project I, and conducting further experiments, students will learn how to design a research project and draw a conclusion.
Professor Kazuhiro Yagita (Physiology and Systems Bioscience)	1st year	This course focuses on the biological rhythm that is one of the universal biological functions, and studies the mechanism of a stable and robust system. The course teaches various methods to observe this mechanism "alive and as is."
	2nd year	This course focuses on the biological rhythm that is one of the universal biological functions, and studies the mechanisms and implications of circadian rhythms. The course teaches not only "science for principles" but also "science for pre-symptomatic status" and "science for personalization" to apply protecting public's health.
Professor Yoichi Takanishi (Fundamental physics and life science)	1st year	In this course, in order to understand the physical principle for the medical devices and/or dynamics and functions of biological system, the students can learn the basic experimental techniques using soft-material samples and the ability of physical consideration.
	2nd year	Based on the acquired knowledge, techniques and skills in Special Research Project I, the students can study the advanced research themes that will lead to the future medical science.
Developmental Neurobiology Professor	1st year	Students observe the developmental process of the vertebrate nervous system using mouse, chick embryos and other amniote embryos. In particular, in chick embryos it is possible to continually observe the same embryo over time. Students examine the morphological changes of the nervous system. They also learn methodologies for analysis of morphology including molecular expression in situ.

Advisor(s)		Lecture Topics
	2nd year	In this course, students learn how neural circuits are formed, how neural cell migration is regulated and how cerebral cortex is evolved in the vertebrates. Students prepare tissue slices, which are analyzed with immunohistochemical staining and in situ hybridization. In addition, gene fuction on brain development is examined by ectopic expression of genes of interest.
Pathology and Cell Regulation Professor	1st year	To understand the mechanisms of disease generation, students are instructed to study basic research methods such as tissue morphology, molecular cell biology techniques, and molecular imaging mainly focusing on cardiovascular disease models and malignant neoplasms models.
	2nd year	Students receive research guidance on light sensing technology, with a focus on the imaging of functional molecules in organisms such as living cells and organs.
Pathology and Applied Neurobiology Professor	1st year	To elucidate the molecular pathogenesis of brain malformations caused by genetic factors, students are instructed to study analytical methods based on histology, molecular biology and biochemistry, when applied to cerebral organoids generated from human fetal brain-derived neural stem cells.
	2nd year	Based on the findings of Special Research Project I, students perform exploratory experiments using human fetal brain-derived cerebral organoids to find therapeutic targets on brain malformations.
Professor Takaaki Nakaya (Infectious Diseases)	1st year	Students receive research guidance based on molecular biology and cell biology, and aim to clarify the mechanism of viral and parasitic pathogenicity.
	2nd year	Students consider the molecular mechanisms of pathogenicity in specific viruses or parasites using infection tests, and receive guidance in analyzing and drawing conclusions.
Professor Osam Mazda (Immunology)	1st year	Students participate in basic research in the following topics: Understanding and regulation of anti-viral immunity, anti-tumor immunity, and allergic immune responses. Understanding and regulation of molecular mechanisms underlying autoimmune and inflammatory diseases. Understanding of somatic cell reprogramming and its application to tissue engineering and regenerative medicine.
	2nd year	Students participate in advanced research in the following topics: Understanding and regulation of anti-viral immunity, anti-tumor immunity, and allergic immune responses. Understanding and regulation of molecular mechanisms underlying autoimmune and inflammatory diseases. Understanding of somatic cell reprogramming and its application to tissue engineering and regenerative medicine.

Advisor(s)		Lecture Topics
Professor Atsushi Umemura (Molecular Pharmacology)	1st year	Key molecules involved in the pathogenesis of various diseases become targets for drug discovery. This course focuses on molecules associated with cancers and lifestyle-related diseases that lower quality of life. Guidance for experimental studies on the molecular mechanisms will be provided.
	2nd year	Focused on target molecules for drug development, research guidance will be provided using cellular and animal models. The final goal of the research is to explore new therapeutic strategies for diseases.
Professor Jin Narumoto (Psychiatry)	1st year	This course provides guidance on the symptoms, course and treatment of representative psychiatric disorders including schizophrenia, mood disorder, anxiety disorder and dementia to acquire the basics of research and development of new examination and treatment.
	2nd year	This course instructs students to review the previous studies and plan a new study to investigate psychiatric disorders.
Professor Kei Yamada (Radiology)	1st year	This course provides guidance on the basics of medical images used for diagnosis, such as CT, MRI, SPECT, and PET, and the practice of image interpretation.
	2nd year	In this course, students experience first-hand the interpretation and image processing methods of medical images used in diagnosis, such as CT, MRI, SPECT, and PET, and study ways to improve the methodology.
Professor Makoto Oba (Medical Chemistry)	1st year	This course instructs students in acquiring a wide range of knowledge and skills through drug discovery research, namely topics necessary for drug development, such as organic synthetic chemistry, organic reactions, structural chemistry, biological sciences, and computational chemistry.
	2nd year	This course instructs students to use the knowledge and skills they obtained in Special Research Project I to independently perform molecular design, synthesis, and biological activity evaluation of drug candidate compounds.
Professor Eigo Otsuji (Digestive Surgery)	1st year	This course guides students in analyzing past clinical data on surgical methods and adjuvant chemotherapy for gastrointestinal cancer, and deriving a new treatment policy to improve postoperative survival rate.

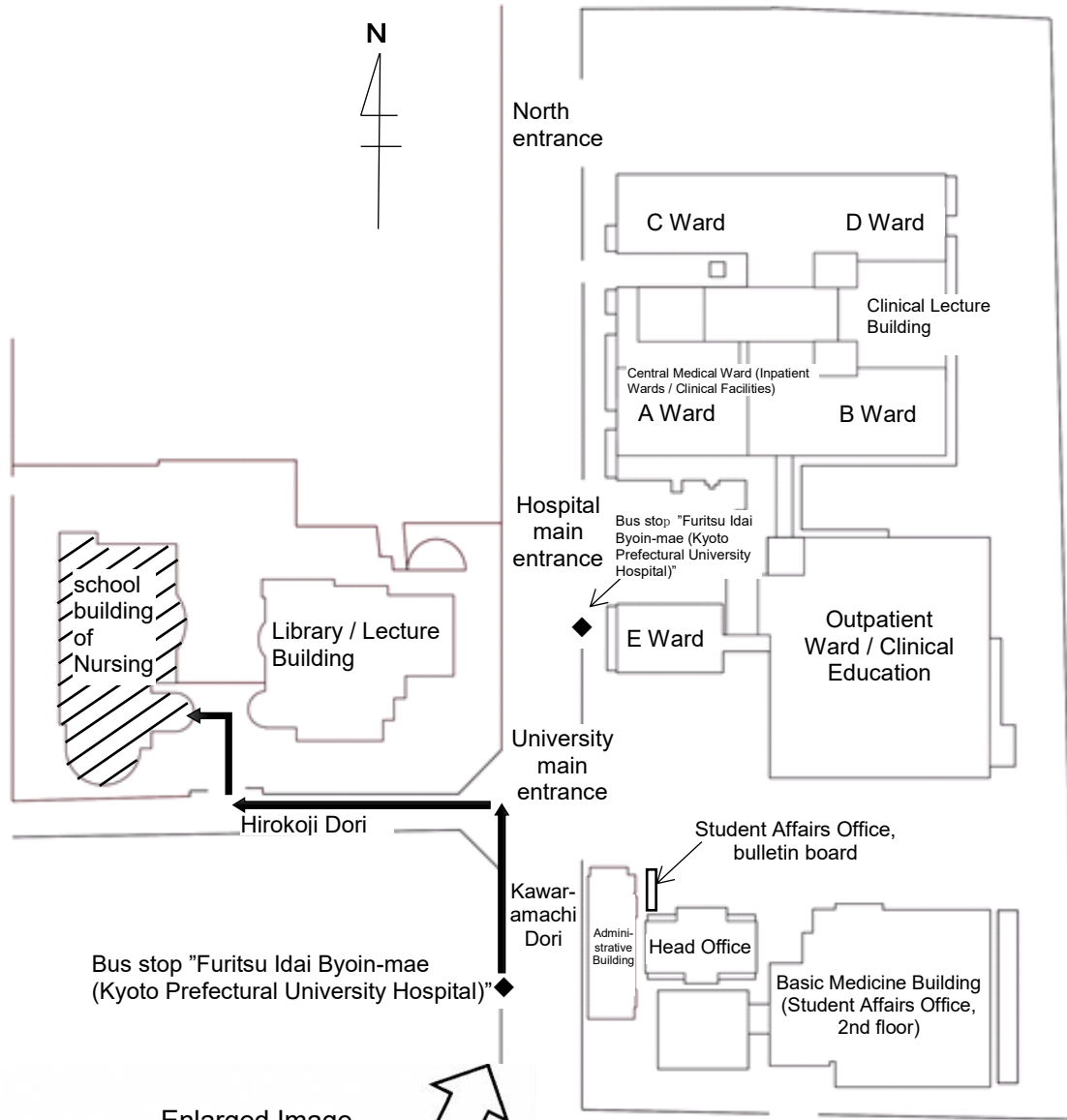| Advisor(s)		Lecture Topics
	2nd year	Students are provided with research guidance related to the diagnosis and treatment of gastrointestinal cancer. They receive instruction concerning research topics such as tailor-made cancer treatments through analysis of blood-based biomarkers, early diagnosis of recurrent cancers, and prediction of radiation and chemotherapy effects.
Professor Yasuto Naoi (Endocrine Surgery)	1st year	This course studies breast cancer surgery, in particular sentinel lymph node biopsy and the prognosis of axillary lymph node dissection/non-dissection, or the prognosis of breast conservation therapy. The course instructs students to identify factors related to the prognosis by retroactively analyzing clinical data.
	2nd year	Students learn about the pharmacotherapy of breast cancer and will receive research guidance to study factors related to drug sensitivity and occurrence of side effects in pharmacotherapy.
Cardiovascular Surgery Professor	1st year	This course provides guidance on the fundamental concepts of cardiovascular surgery—i.e., the morphology (surgical dissection) and physiological functions of the heart and blood vessels—and explains the mechanism of pathogenesis in the heart and blood vessels based on these concepts. From there, the course delves into the fundamental principles and methods of surgical repair of morphological/functional abnormalities.
	2nd year	In this course, students receive guidance in the use of clinical data to analyze the effects of a specified surgical repair method and/or auxiliary measure for morphological/functional abnormalities in the heart and blood vessels, and draw conclusions.
Professor Masayoshi Inoue (General Thoracic Surgery)	1st year	Students are guided to understand the epidemiology, pathology, diagnostic method, treatment method, and prognosis of lung malignancies such as primary lung cancer and metastatic lung cancer, and to consider the significance of surgical treatment for these diseases. Students are also guided to understand surgical indications and the process for choosing a surgical procedure based on the physiology of pulmonary function.
	2nd year	Students deepen their understanding of treatment methods for pulmonary malignancies and receive guidance to identify current problems and future issues based on analysis of clinical data. The course aims to teach the effectiveness of multidisciplinary treatments combining cancer pharmacotherapy and radiotherapy and the merits of minimally invasive surgery, leading to an integrated understanding of surgical treatments in pulmonary medicine.

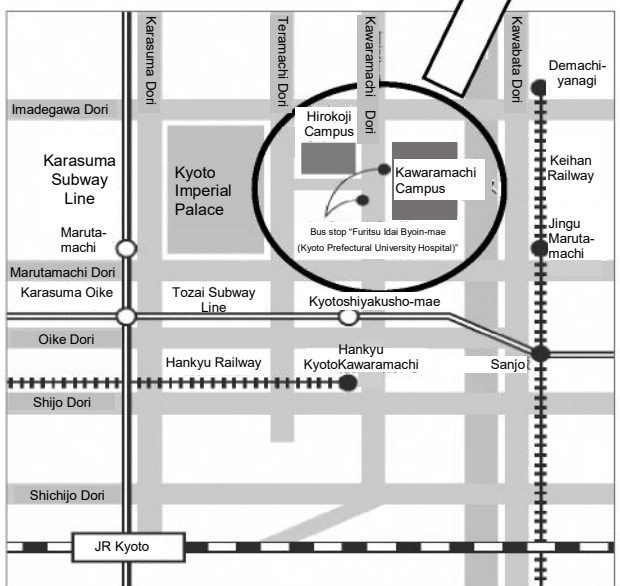| Advisor(s)		Lecture Topics
Professor Naoya Hashimoto (Neurosurgery)	1st year	In neurosurgical field, it is important to make an accurate diagnosis and treat the patients promptly before irreversible neurological damage occurs on the brain. Students learn the deep involvement of neurosurgery with emergency medicine and critical care.
	2nd year	In this course students will be introduced into neurosurgery as the surgical field specializing in treatment of disorders in the central and peripheral nervous systems. In particular, they learn how this field directly observes the brain, which controls life support function and forms the root of personality.
Professor Kenji Takahashi (Orthopaedics)	1st year	Students conduct literary reference research, collect resources, and conduct surveys on recent research trends regarding the symptoms, diagnosis, treatment, and rehabilitation of physical disorders of old age. Based on their findings, students plan and execute their own research, and conduct data analysis and examination with guidance from the faculty advisor.
	2nd year	Students execute the research plan configured in Special Research Project I and develop the study with guidance from the research advisor. Students constantly monitor current research trends and develop their study until they are able to present a solution to an important issue in the field of geriatric medicine.
Professor Yasuo Mikami (Rehabilitation Medicine)	1st year	The role of rehabilitation medicine is crucial, as Japan is becoming a super-aged society. Students deepen their understanding of the disabilities targeted by rehabilitation medicine and the challenges of rehabilitation medicine/medical care. Students select and receive guidance on their own research topics related to the development of new rehabilitation methods.
	2nd year	With respect to the research topic selected in Special Research Project I, students collect clinical data pertaining to advanced rehabilitation techniques that incorporate the latest technology, and receive research guidance to develop new rehabilitation techniques.
Professor Chie Sotozono (Ophthalmology)	1st year	Based on an understanding of the structure and function of the eye and various ocular diseases, conduct research that leads to the elucidation of the pathogenesis of ocular diseases or the resolution of unmet needs. To this end, information is collected through literature and interviews to gain an understanding of the current situation and problems in each field.
	2nd year	Based on the information collected in the first year, research is carried out into new examinations, instruments or treatments that are currently being researched and developed, and the basic technologies that will be needed in the future are developed.

Advisor(s)		Lecture Topics
Professor Shigeru Hirano (Otolaryngology-Head and Neck Surgery)	1st year	Students are provided with research guidance for inner ear development and function, speech language function, swallowing function, and immunology in head and neck cancer. Students are guided for selection of the theme, review of literature, and methodology.
	2nd year	Based on the topics studied in Special Research Project I, students conduct research on communication impairment in hearing and speech, or head and neck immunology by mastering techniques of basic science research. Research for regenerative medicine is also provided for regeneration of head and neck regions including the larynx, and swallowing oragans.
Professor Osamu Ukimura (Urology)	1st year	Prevention and early diagnosis are important as measures against the cancer that is increasing in an aging society. In particular, diagnostic methods for applying of target molecules (markers) specific to each cancer; in this course, students receive research guidance to study target molecules and precision medicine in the urology. In addition, students receive research guidance in the area of regenerative medicine and cytohistologically analysis, in which clinical applications have increased in recent years. Furthermore, students will have opportunity of research related to IT technologies such as artificial intelligence (AI) and Augmented reality/ virtual reality (AR/VR).
	2nd year	Students receive research guidance on a topic covered in Year 1 concerning molecular-targeted diagnosis and/or therapies for urological cancer. In addition, the course guides students to conduct research about precision medicine in the urology as well as research related to IT technologies such as artificial intelligence (AI) and Augmented reality/ virtual reality (AR/VR).
Anesthesiology Professor	1st year	Students analyze how active pre- and postoperative intervention by the anesthesiology department can improve the quality of perioperative management.
	2nd year	This course expands on the topics covered in Special Research Project I to analyze how specific and active interventions by the anesthesiology department (preoperative oral rehydration therapy and postoperative pain management services) in a particular surgery lead to improvements in the specified quality of perioperative management.
Professor Fumimasa Amaya (Palliative Medicine)	1st year	Students are provided with research guidance related to topics such as the diversity of pain not commonly understood ("pain I want people to understand"), the onset mechanism of various types of pain, establishment of treatment methods based on mechanism, diagnoses based on type of pain, and considerations stemming from the causes of cancer pain.

Advisor(s)		Lecture Topics
	2nd year	This course guides students in using the basic knowledge acquired about pain in Special Research Project I to conduct statistical processing and thesis preparation to clarify the predictive factors for various types of pain, such as the mechanism of neuropathic pain onset; intractable chronic pain, such as refractory cancer pain; and complex regional pain syndrome (CRPS).

Testing Center Access Map

N

North entrance

C Ward

D Ward

Clinical Lecture Building

Central Medical Ward (Inpatient Wards / Clinical Facilities)

A Ward

B Ward

Hospital main entrance

Bus stop "Furitsu Idai Byoin-mae (Kyoto Prefectural University Hospital)"

E Ward

Outpatient Ward / Clinical Education

school building of Nursing

Library / Lecture Building

University main entrance

Hirokoji Dori

Kawaramachi Dori

Student Affairs Office, bulletin board

Bus stop "Furitsu Idai Byoin-mae (Kyoto Prefectural University Hospital)"

Administrative Building

Head Office

Basic Medicine Building (Student Affairs Office, 2nd floor)

Enlarged Image

Karasuma Dori

Teramachi Dori

Kawaramachi Dori

Kawabata Dori

Demachi-yanagi

Imadegawa Dori

Karasuma Subway Line

Kyoto Imperial Palace

Hirokoji Campus

Kawaramachi Campus

Keihan Railway

Maruta-machi

Jingu Maruta-machi

Marutamachi Dori

Karasuma Oike

Tozai Subway Line

Bus stop Furitsu Idai Byoin-mae (Kyoto Prefectural University Hospital)

Kyotoshiyakusho-mae

Oike Dori

Hankyu Railway

Hankyu KyotoKawaramachi

Sanjo

Shijo Dori

Shichijo Dori

JR Kyoto

Transportation Guide

From JR Kyoto Station: Kyoto City Bus Lines #4, 17, and 205 to the "Furitsu Idai Byoin-mae (Kyoto Prefectural University Hospital)" bus stop

From Hankyu KyotoKawaramachi Station: Kyoto City Bus Lines #3, 4, 17, and 205 to the "Furitsu Idai Byoin-mae (Kyoto Prefectural University Hospital)" bus stop

From Sanjo Station: Kyoto City Bus Lines #37 and 59 to the "Furitsu Idai Byoin-mae (Kyoto Prefectural University Hospital)" bus stop *or* Kyoto Bus Co. Routes #21, 23, 41, and 43 to the "Furitsu Idai Byoin-mae (Kyoto Prefectural University Hospital)" bus stop

From Keihan Jingu-Marutamachi Station: 10-minute walk