

Course Outline

The Doctoral Program provides well integrated education, offering courses which may be chosen depending on the goals of individual students to meet social needs.

Basic Medicine Course

For future researchers and educators in medical/life sciences

Students acquire broad expertise required to become independent researchers, learn various research approaches including techniques for designing experiments, and develop their research capabilities. They are also expected to acquire the competence and skills to apply and utilize their expertise to medical and life science fields with interdisciplinary approach.

Clinical Medicine Course

For future clinicians who excel in clinical techniques and research competence

Students will gain the research competence by applying methods targeting human rather than traditional methods using model animals or cells. This course provides the Clinical Collaborative Departments, where students can proceed their research in clinical medicine under multiple instructors including dedicated instructors and collaborative leading clinicians at institutions where advanced and specialized diagnoses, examinations and treatments are conducted.

Social Medicine Course

For future professionals who undertake the task of improvement of health and safety at the regional and international levels.

Students start by learning research methods in social sciences including research ethics, basic and applied statistics, medical informatics and EBM (evidence-based medicine). This course emphasizes social medicine and preventive medicine, rather than biology and life science. Students aim at mastering the research approaches and skills that are necessary for research in public health and preventive medicine.

Standard Duration for Completion: 4 Years

- Early Graduation: A doctoral student who publishes at least two main research papers as the first author in English-language journals with impact factor and who meets other requirements may complete the Doctoral Program up to 1 year before the end of the course term.
- Long-Term Study Program: Working students may take up to 6 years, paying tuition for 4 years.

Interim Evaluation

Students have to undergo an interim evaluation at the beginning of the 3rd year, where examiners will check the progress of the work.

Completion Requirements

- 1) Submission of a thesis (Dissertation).
- 2) One main research paper accepted or published in an English-language journal with impact factor (the applicant must be the first author).
- 3) Completion of the required number of credits (30 or more credits).

Clinical Collaborative Departments

A system of clinical collaborative departments was implemented to promote highly advanced clinical medicine research, and it was designed for Doctoral Program students who choose the Clinical Medicine Course. It aims at training students to be excellent clinicians with impeccable clinical skills and research acumen. Under this system, students can receive research instruction from leading clinicians of unique medical institutions where advanced, specialized diagnoses, examination and treatments are conducted and patients' data, the information which may not be readily available at the university hospital, are collected. Furthermore, full-time faculty members also provide consummate theoretical and practical education.

Messages from Students of the Doctoral Program

A scientific trip from Africa to Asia.

Fayrouz Shawky Abdelmoneim Naim

4th-year Doctoral Student
Basic Medicine Course, Department of Molecular Psychoimmunology [Arab Republic of Egypt]

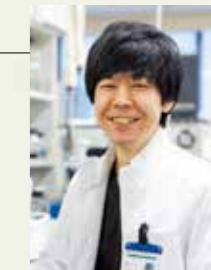


After getting a master degree in Immunology from Alexandria university, Egypt. I decided to complete my studies in Japan by enrolling in the doctoral course of Hokkaido University. I was interested in neuroimmune science. It has been found that polymorphism of some genes could be involved in the pathogenesis of some neurological diseases. Following that discovery, I focused on the mechanism by which some genes can induce the IL-6 amplifier in chronic neurological disorders through activation of the NF- κ B positive feedback-loop in non-immune cells which accumulate immune cells causing chronic inflammation. These would be promising candidates as novel therapeutic targets of various inflammatory diseases. I think I have been lucky to complete my studies in this field, specifically in my department.

Aiming to develop better treatments

SHIRAISHI Masahiro

3rd-year Doctoral Student
Clinical Medicine Course, Department of Pediatrics



After completion of my clinical training, I worked as a pediatric cardiologist. It was in this capacity that I faced numerous challenges and limitations in my practice as a doctor. These experiences as well as my desire to contribute to the development of better medical treatments led me to apply for the doctoral course. Although cardiac stem cell transplantation therapy may be a therapeutic option for heart failure, many issues remain for clinical application, including therapeutic effects. To improve therapeutic effects, we are conducting research in collaboration with the Laboratory of Molecular Design of Pharmaceuticals, Faculty of Pharmaceutical Science. My theme is the development of cardiac stem cell transplantation therapy using cardiac progenitor cells with activated mitochondria. I look forward to working with you on research that will lead to a brighter future for medical care.

New drug development

YOKOSHIKI Saki

4th-year Doctoral Student
Social Medicine Course, Department of Regulatory Science



I work at Hokkaido University Hospital to assist researchers in drug development. It is very important to consider the development strategies for application with researchers, because it is difficult to evaluate efficacy and safety in clinical trials to develop new drugs for rare diseases. I decided to go on to a doctoral program because I wanted to know more about how a drug is being developed until the new drugs are approved. Currently, I am researching into how clinical trials have been performed and what has been achieved for approved drugs. I realize the difficulty to obtain approval for new drugs, but there are many things that I can apply in my daily work. I hope that my research will help in the development of new drugs which I was involved with to ensure that they reach patients in the shortest possible time.