

## **The Graduate Program for Medical Innovation (MIP)**

### **Diploma, Curriculum, and Admission Policies**

#### **Diploma Policy**

Preventing diseases and promoting health are key components of active and healthy societies around the world. In emerging and developed economies, the medical and healthcare industries have attracted interest as a rapidly growing sector, facing fierce global competition. In order to accelerate innovations in the Japanese medical and healthcare industries and help create and market innovative products and services globally, it is important to strategically construct a system for developing experts who can lead research and development activities and facilitate the social application of new findings.

The MIP program aims to empower medical and healthcare innovators to facilitate close partnerships between industry, government, and academia from a global point of view. To achieve this aim, the MIP program provides education and training by Kyoto University's faculty and staff members specializing in medical, pharmaceutical, and health sciences, as well as by experts from external partner organizations in the industry, government, and academic sectors.

Enrolled students who meet the following criteria will be considered as having completed the MIP program, and its successful completion will be noted in their doctoral degree diplomas.

1. Students must complete their doctoral programs at one of the participating graduate school departments. The minimum years of study will be: (i) 5 years for students who are starting their 5-year doctoral courses, (ii) 3 years for students who have completed their 2-year master's courses, (iii) 4 years for students who are starting their 4-year doctoral courses, and (iv) the duration of study specifically defined by their departments for students who request an early completion. Other study requirements include successful completion of the required credits and research training provided by their tutors/advisors, and passing the doctoral dissertation and final examination.
2. Students enrolled in the MIP program must complete the credits and research activities required for the program.

In addition, the following knowledge and skills criteria will be used to evaluate the qualifications of prospective graduates:

- a: Students have gained sufficient medical knowledge and advanced practical research capabilities in their specialties and can implement them with a strong sense of ethical responsibility.
- b: Students have acquired broad perspectives, effective communication skills, and independent and creative thinking abilities that help overcome existing barriers and invent new research fields and approaches.

c: Students have an overarching perspective and understanding of the steps to promote the social application of next-generation medical care.

### **Curriculum Policy**

The MIP program provides education and training to help students: (i) acquire systematic medical knowledge and advanced creative research capabilities that suit their scientific background and personal preferences, and (ii) gain an overarching perspective for the social application of next-generation medical care via tutoring by and interaction with front-line experts from the industry, government, and academic sectors in Japan and overseas. To achieve the aim outlined in the Diploma Policy, the MIP program provides a curriculum based on the following principles:

- To help students with different backgrounds such as working experiences and overseas/domestic education gain systematic medical knowledge and methodologies (whether they may be domestic, international, corporate-sponsored, or self-funded). Core Medical Education Courses include essential anatomy, essential physiology, essential general pathology, and other basic medical subjects.
- In each of approximately 10 specialty areas covered in this program, discussion-based teaching and training sessions that address basic and applied clinical science topics are provided in English to help students gain a broad scientific perspective and practical research, creative thinking, and communication skills.
- Lectures and hands-on workshops are provided to present students with a variety of career path options and to equip them with the expertise, leadership, and high ethical standards that are required for next-generation medical and healthcare innovators.
- Students will plan, organize, and implement (i) internship programs with overseas research institutions or domestic or overseas business enterprises, or (ii) interdisciplinary joint research projects with domestic or overseas research institutions or other organizations. These activities aim to help students develop an international perspective, research skills, and a spirit of collaboration.

Criteria to assess students' academic performance include the ability to plan and complete their projects and logically explain their research results. The latest course tree will represent the structure and hierarchy of the program. The latest syllabus will describe the details of individual classes.

## **Admission Policy**

In order to accelerate innovations in the Japanese medical and healthcare industries and to help these Japanese industries create and market innovative products and services globally, it is important to strategically construct a system for developing experts who can lead research and development activities and facilitate the social application of new findings. The MIP program aims to facilitate the translation of results of biological process and disease research into world-leading healthcare interventions and to accelerate their clinical application. To this end, this program provides a curriculum designed to develop medical and healthcare innovators who are well-versed across a wide range of areas spanning basic research, translational research, and commercialization.

The MIP program provides medical lectures and discussion-based education and training sessions on basic and applied medical science topics. These classes help students acquire systematic medical knowledge and advanced creative research capabilities that fit their educational backgrounds and personal preferences. The MIP program also provides tutoring by and interactions with front-line experts from the industry, government, and academic sectors in Japan and overseas. These activities help students gain an overarching perspective for the social application of next-generation medical products and services.

The MIP program welcomes students who meet the following criteria:

- Understand the objectives of the MIP program, and have the basic abilities, knowledge, ethical qualities, and strong sense of commitment that are necessary to complete it.
- In addition to the basic academic knowledge and skills required in their specialties and related academic fields, students have a positive attitude and enthusiasm to resolve challenges in medical, pharmaceutical, or related interdisciplinary fields. Moreover, they are willing to contribute to exploring new research areas.
- Have basic English fluency and the communication skills to ensure their active participation in the international arena in the future.

Successful program participants will be selected based on their basic academic performance in the specialty of their choosing, competency to study in the program, and English proficiency. The selection process will include screening of application forms, academic transcripts from previous university or graduate schools, and other required documents. In-person interviews may be conducted where necessary.

Application eligibility criteria include new admission to one of the master's programs provided by the following organizations: the Graduate School of Medicine (Master's Program in Medical Science and Master's Program in Human Health Sciences); the Division of Pharmaceutical Sciences, the Graduate School of Pharmaceutical Sciences; and the Division of Bioinformatics and Chemical Genomics, the Graduate School of Pharmaceutical Sciences. Application eligibility criteria also include new admission to a doctoral program provided by the Graduate School of Medicine (Doctoral Program in Medicine) or the Division of Biomedical Sciences, the Graduate School of

Pharmaceutical Sciences, or new admission to a five-year doctoral program provided by the Division of Bioinformatics and Chemical Genomics, the Graduate School of Pharmaceutical Sciences. Moreover, students newly admitted to a Latter Doctoral Program provided by either the Graduate School of Medicine or the Graduate School of Pharmaceutical Sciences are eligible to apply for the third year of the MIP program.