

1. Outline of the program

Joint Degree Doctoral Program in Medical Sciences between Institute of Science Tokyo and Mahidol University

*Tokyo Medical and Dental University (TMDU) and Tokyo Institute of Technology (Tokyo Tech) were integrated and became “Institute of Science Tokyo” (Science Tokyo) as of October 1, 2024.

Human Resource Development Goals

This program is designed to foster advanced medical personnel involved in the treatment of diseases in a super aging society, especially multidisciplinary treatment such as cancer treatment:

- (1) Surgeons who can advance the field of cancer treatments;
- (2) Skilled medical research scientists who can promptly respond to the needs of society;
and
- (3) Leaders who can advance the medical sciences and healthcare fields in Japan, Thailand and throughout the ASEAN region.

Diploma Policy

The Program confers the degree of Doctor of Philosophy on students who attain the required credits, pass the dissertation defense and final examinations and can do all of the following.

- (1) Ability to acquire advanced specialized knowledge, technique, applied skills in the field of surgery and to independently carry out pioneering research activities.
- (2) Ability to accurately summarize, widely explain and disseminate research results in the fields of surgery and biomedical sciences related to surgery.
- (3) Ability to identify international issues related to surgical medicine and solve problems from an international perspective; and the capacity to play a leading role in the field of education and research.

Curriculum Policy

The curriculum has been designed based on the following policies in order to create an environment in which students can acquire the knowledge, skills, experience and leadership abilities necessary to obtain a degree and become a highly specialized medical professional.

- (1) Establish “Clinical Core Subject I” to enable students to acquire advanced skills in specialized fields through specific research themes in clinical surgery. Establish jointly designed “Clinical Core Subject II” to enable students to acquire a wide range of knowledge, analytical abilities, and basic/applied skills in surgery and in biomedical sciences related to surgery, as well as developing an international perspective.
- (2) Establish “Clinical Statistics and Biomedical informatics” to enable students to acquire the basic knowledge of statistics and epidemiology necessary to conduct international-level research.
- (3) Establish “Cancer Professional Training Subjects” to enable students to acquire comprehensive knowledge and skills related to cancer and methodologies for conducting clinical research, which are required of leaders in cancer treatment.
- (4) Establish “Research core subjects” to enable students to cultivate the knowledge and research skills necessary to explore research themes in their surgical specialty, and acquire the knowledge and analytical skills necessary for basic research related to those themes.
- (5) Establish “Experiments and Thesis Writing” under the guidance of both universities to enable students to write original and practical papers based on scientific evidence through independent research on specific research topics related to surgical specialties.
- (6) Evaluate student academic performance based on formative and summative criteria, as described in the syllabus, in order to achieve educational goals.
- (7) Evaluate thesis/dissertation strictly based on diploma policy, and conduct thesis/dissertation defense and final examination appropriately.

Admissions Policy

《What We Expect of Our Students》

This program aims to foster highly skilled experts as well as global leaders who possess a wealth of knowledge in the fields of biomedical and medical sciences, especially in surgery, not only in Japan and Thailand, but also throughout Southeast Asia. Qualified applicants who meet any of the following criteria are therefore highly encouraged to apply for our program.

- 1) Eager to acquire advanced clinical ability, basic knowledge and techniques in the field of surgery, or understanding grounded in the latest research in the field of surgery.
- 2) Eager to be independent basic-clinical researchers in the fields of surgery with the capacity to take the lead in national/international clinical research projects or clinical education upon completion of this course.

《Basic Entrance Examination Policies》

Applicants are evaluated in a comprehensive manner through an oral examination and application document to assess ability to carry out scholarship and research in this program, aptitude and motivation.

Standard Number of Years Required for Completion and Conferral of Academic Degree

Four years are normally required to completion. A degree of “Doctor of Philosophy” will be awarded to students who attain the required credits and pass the dissertation defense.