

Changes in the Admission Process

Introduction

The Medical Science Master's Program in the Graduate School of Medicine of the University of Tokyo trains graduate students to be leaders in basic medical research. Our program is characterized by the following points:

1. A student can enroll before deciding in which laboratory she or he will do research for a thesis.
2. For half a year, students attend lectures and practical classes as an introduction to medical sciences. This is also a good chance to get acquainted with the laboratories affiliated with the program.
3. During that first half year, all students share the experiences of lectures and practical classes, which will be a good opportunity to make friends among future leaders in basic biomedical research.
4. We also offer a Doctoral program. Most of our Master's students transfer into the Doctoral program. Students can thereby do groundbreaking research over 6 years.

Even a student who has not majored in biology or medicine can enter this program and potentially become a leader in biomedical research. To encourage those students as well as biology majors, we changed the admission process.

Changes in the admission process (starting with the class entering in 2014)

1. English

No changes. As before, candidates take a two-hour test of their ability to read, understand, and write English.

2. Subject Test I.

Candidates will now be asked to answer one basic question and one advanced question. (Last year, candidates were asked to answer two mandatory questions and two questions from departments.)

2a Basic question

Basic questions correspond to the "mandatory questions" asked last year. Candidates can choose one of the following subjects:

- **Biology**

Questions about the basics of life sciences. Topics are mostly covered by Essential Cell Biology (Garland Science, Alberts et al.).

- **Physics**

Questions about classical mechanics, wave mechanics, thermodynamics, and/or electromagnetism. Most questions can be answered by students who understand basic physics as it is covered in the first two years at universities and colleges.

- **Chemistry**

One question about physical chemistry, inorganic chemistry, and/or analytical chemistry. One question about organic chemistry. (Two questions in total). Most questions can be answered by students who understand basic chemistry as it is covered in the first two years at universities and colleges.

2b Advanced question

This question corresponds to the “questions from departments” asked last year. Candidates will be asked to select and answer one question from the following four categories:

- **Cell biology, Molecular biology, and Pathology**

Questions about cell biology, molecular biology, and pathology, as covered in the second half of Essential Cell Biology (Garland Science, Alberts et al.). This corresponds to the questions in last year's examination from the Department of Molecular & Cellular Biology and from the Department of Pathology, Immunology, and Microbiology.

- **Physiology and Brain sciences**

Questions about physiology and brain sciences. Candidates are asked about basic facts regarding molecular and cellular physiology and brain sciences. The focus is on molecules, cells, and circuits.

- **Statistics**

Candidates are asked about the theory underlying biostatistics.

- **Chemical Biology**

In chemical biology, the ideas and technology of chemistry are applied to answer questions in biology. The candidate's general understanding of this field will be evaluated. Topics will include imaging, perturbation, screening, omics analysis, and functional analyses of biological systems.

3. Subject Test II: Essay

There is no change from last year's examination. Candidates will have one hour in which to write a short essay on a given topic.

4. Interview

Based on the results of examinations 1 through 3, a maximum of 45 candidates

will be interviewed. Three interviewers will evaluate each candidate's activities as an undergraduate and enthusiasm for research.

5. Announcement of the examination results

The names of successful candidates will be announced two weeks after the examination (for the students who will enter in 2014, **September 5, 2013**).

6. Summary

Our major aim in giving the entrance examinations is to recruit students who can be leaders in basic biomedical research, irrespective of their nationality, sex, and current academic major. Any students, even those whose major is not in a biological science, can qualify for our graduate program if they have enough intellectual strength in their major.

As one possible scenario, a student who is a biology major can select the category of "Biology" for the "2a Basic Question" and can select either "Cell biology, Molecular biology, and Pathology" or "Physiology and Brain sciences" for the "2b Advanced Question." Such a student can then prepare for the examination the same way that students prepared for last year's examination.

In addition, students who are not biology majors can select a subject in their area of expertise. For example, a student who is a physics major can choose "Physics" for the "2a Basic Question" and "Statistics" for the "2b Advanced Question."

We invite applications from those who can become leaders in basic biomedical sciences.