

February 17, 2022

**Notification: Changes in the April 2023 Doctoral Course Entrance Examination
Due to Reorganization of the Graduate School of Engineering**

The Graduate School of Engineering plans to reorganize from April of the FY2023. When this reorganization is approved, the following changes will be made to the selection method for the doctoral students from April of 2023. **We assume the Ministry of Education, Culture, Sports, Science, and Technology will approve the reorganization according to our plan.** If there is a change to the reorganization plan, it will be announced on the university website, so please check the website regularly.

In addition, recruitment of students who will enroll in October 2022 will be carried out as usual for the current major. For information on student recruitment in your current major, please refer to the *Student Recruitment Guidelines*. The Faculty of Engineering will publish these Guidelines in early May, 2022.

Outline of the reorganization of Doctoral Course

From April 2023, we plan to reorganize the current four majors (Biotechnology and Life Science, Applied Chemistry, Mechanical Systems Engineering, and Electronic and Information Engineering) in the Doctoral Program of the Graduate School of Engineering so that they correspond to the six departments and six majors in the Faculty of Engineering and master's course (Biotechnology and Life Science, Biomedical Engineering, Applied Chemistry, Applied Physics and Chemical Engineering, Mechanical Systems Engineering, Electrical Engineering and Computer Science.)

1. Recruitment of students

The number of students recruited will be changed as follows.

Major	Recruited students
Department of Biotechnology and Life Science	14
Department of Applied Chemistry	14
Department of Mechanical Systems Engineering	13
Department of Electronic and Information Engineering	15
Total	56



Major	Recruited students
Department of Biotechnology and Life Science	14
Department of Biomedical Engineering	5
Department of Applied Chemistry	10
Department of Applied Physics and Chemical Engineering	6
Department of Mechanical Systems Engineering	14
Department of Electrical Engineering and Computer Science	10
Total	59

2. Selection Method

The selection will be based on document screening and a comprehensive test of academic ability. There will be no changes in the submitted documents or in the methods of the academic ability test.

3. Application and recruitment schedule for entrance to TUAT in April 2023

Student recruitment for entrance to TUAT in April 2023 will be carried out by promptly publishing the student application after the reorganization plan is approved by the Ministry of Education, Culture, Sports, Science and Technology. Please note that the times of application and examination in 2023 will differ from those of the usual year. The application and examination for entrance to TUAT is planned to be carried out according to the following schedule.

Schedule	Process
Early July, 2022	Publish the <i>Student Recruitment Guidelines</i>
Late July, 2022	Start accepting applications for 1 st entrance examination
Early-September, 2022	Hold 1 st entrance exams
Mid-September, 2022	Announce successful examinees for 1 st examination
Early December, 2022	Start acceptance of applications for 2 nd entrance examination
Mid-December, 2022	Hold 2 nd entrance examination
Mid-January, 2023	Announce successful examinees for 2 nd exam
Late-February, 2023	Start Acceptance of applications for 3 rd entrance examination
Early March, 2023	Hold 3 rd entrance examination
Mid-March, 2023	Announcement of successful examinees for 3 rd exam

* **Please note that the above schedule is only planned and may be postponed or changed according to when the reorganization is approved by the Ministry of Education, Culture, Sports, Science, and Technology.** When the reorganization is approved, the approval will be announced via the university website, and the recruitment schedule will be posted in the *Student Recruitment Guidelines*.

Educational Objectives and Admissions Policies

1. Education objectives

The Graduate School of Engineering (Doctoral Program) accepts students from Japan and overseas who are interested in the natural environment and scientific technology and making efforts to improve themselves. They seek to broaden their vision and acquire thorough knowledge, and supported by a strong sense of ethics and personal autonomy, they want to become engineers and researchers who play an active role in international society. Recently, we have seen remarkable developments in science and technology, and ICT has become more sophisticated and advanced. We have also seen developments in border areas as well as in specialized comprehensive fields related to various specialized fields. These advances have been astounding, and in the Graduate School of Engineering we are engaged in a wide range of research and education from basic science and engineering to applied advanced technology designed to meet these kinds of current demands. Our goal is to foster researchers and specialists who have a wealth of imagination and creativity and can carry out wide-ranging, advanced research and development.

2. Admissions policy

Aiming to develop individual students, the Graduate School of Engineering is looking for applicants who meet the following requirements:

- (1) Applicants who have a high level of ethics, sufficient basic academic knowledge of their field of study, and a broad view of their area of specialization.
- (2) Applicants who are on a quest to find truth in nature, have a manufacturing mindset, and are interested in science and technology. They should also be able to think independently in pursuing their research and cooperate and collaborate with others while being dedicated to solving research problems and contributing to society.
- (3) Applicants who are willing to take on the challenges facing humankind and can consider and judge from multiple perspectives and set their own research themes.
- (4) Applicants who have a high level of communication ability in Japanese or English.

Persons who are at a higher level regarding the above qualities and abilities.

Department of Biotechnology and Life Science

Our aims are twofold: (i) to train students to acquire an international mindset, communication skills, and the ability to make presentations at domestic and international conferences and write technical papers and (ii) to develop human resources who, as experts in cutting-edge biotechnology, can act immediately in response to the needs of modern society while being active at the core of society as

researchers, specialists, and professionals with the ability to discover new needs and seeds of new technologies. In consideration of these aims, we therefore seek people who satisfy the following: admissions policy:

- (1) The applicant must have (i) advanced specialized knowledge and academic ability in chemistry, life sciences, and engineering to engage in cutting-edge research in the field of biotechnology and life science and (ii) acquired a bird's-eye viewpoint and high ethical standards essential for researchers who lead the field.
- (2) The applicant must have (i) an inquisitive mind for cutting-edge research in the field of biotechnology and (ii) a strong desire to contribute to society through interdisciplinary and international cooperation and collaboration.
- (3) The student must be willing to (i) set research questions proactively and logically through cutting-edge expertise, advanced analytical skills, and insight in the field of biotechnology and (ii) boldly face challenges concerning technological innovation, planning of unexplored technologies, and original advanced research on various issues facing humankind.
- (4) The student must possess the advanced language and communication skills necessary to disseminate research results internationally.

Department of Biomedical Engineering

While aiming to give students specialized knowledge related to the leading technology at the core of modern medicine, through collaboration with specialists from different fields, we aim to foster students who can acquire practical abilities based on biomedical innovation processes and develop as leaders in international society. As researchers, specialists, and professionals, these leaders can serve as bridges between various industrial fields and sow the seeds for developing the medical devices and health practices of the future. In consideration of these aims, we therefore seek people who satisfy the following: admissions policy:

- (1) Applicants who have a high sense of ethics, basic academic knowledge and ability, and a broad vision to learn from biomedical engineering
- (2) Applicants who are on a quest to find truth in nature, have a manufacturing mindset, and are interested in biomedical fields. They also think independently while pursuing their research, can cooperate and collaborate with various researchers, engineers, and specialists who cross borders between discipline, and are dedicated to solving research problems and contributing to society.
- (3) Applicants who are able to (i) consider and judge various problems facing humanity related to health, medicine, and sanitation from multiple perspectives, (ii) set their own research agenda, and (iii) be willing to boldly take on challenges connected to the development of new fields of research, medicine, and healthcare technology.
- (4) Applicants who are highly skilled in communicating in Japanese or English.

Department of Applied Chemistry

The purpose of this program is to develop talented people who can (i) lead the development of highly specialized science and technology internationally as chemists and materials scientists related to the fields of nature, life, the environment, and energy and (ii) contribute to the formation of a safe and secure sustainable society. Accordingly, we seek talented persons who satisfy the following admissions policy.

- (1) Applicants must have (i) systematic and abundant basic academic ability in the fields of chemistry and physics and related fields and (ii) the ethical standards necessary for researchers and engineers.
- (2) Applicants must be highly motivated and proactive in regard to (i) creating new value regarding chemical substances from the atomic and molecular perspective and (ii) contributing to society both domestically and globally as world-class experts in their field.
- (3) Applicants must be willing to set their own research agenda in the field of chemistry and materials science related to nature, life, the environment, energy, etc., from an academic and industrial perspective. Moreover, they must be prepared to boldly pursue unexplored theories, pioneer new research fields, and advance science and technology by synthesizing a wealth of knowledge and engaging in independent research.
- (4) Applicants must have excellent communication skills in Japanese or English and be able to publicize their research results to the world.

Department of Applied Physics and Chemical Engineering

The objective of the doctoral program is to foster engineers and scientists who can solve problems related to energy, the environment, and new materials through (i) an integrated understanding of chemical engineering and physical engineering and (ii) advanced professional leadership skills that will allow them to play a leading role in the solution process. As a result, by playing a social and international role, they will contribute to the creation of a sustainable society. We therefore seek people who satisfy the following requirements:

- (1) Applicants must have the following skills: (i) sufficient basic academic skills in chemistry, physics, mathematics, English, etc. for studying chemical engineering and physical engineering, (ii) master's level research skills, and (iii) a broad perspective and a strong sense of ethics.
- (2) Applicants must have the following: (i) an interest and track record in research in the fields of chemical and physical engineering related to energy, the global environment, medicine and food, materials, or the process and measurement technologies that form the basis for solving problems in those fields and (ii) a desire to make social and international contributions through world-leading research activities in one or more of those fields.
- (3) Applicants must be able to (i) consider and judge various problems facing humanity from

multiple perspectives by integrating and utilizing chemical engineering and physical engineering, (ii) set their own research agenda, and (iii) be willing to boldly take on challenges as an independent researcher aiming to solve those problems.

- (4) Applicants must have a high level of communication skills, in Japanese or English languages, and the ability to discuss research both orally and in writing.

Department of Mechanical Systems Engineering

Based on a high level of fundamental analytical ability in mathematics and physics and a broad and deep expertise in mechanical-systems engineering, the department's aim is twofold: (i) design and create unique and world-leading advanced mechanical systems to create a science-and-technology-driven society on a global scale that can develop sustainably in harmony with the environment and (ii) train advanced engineers and researchers who can work internationally with a deep understanding and insight into world society and culture through their rich communication skills. To meet those aims, the Department seeks talented people who satisfy the following admissions policy:

- (1) Applicants must have (i) a high level of academic ability for applying oneself to cutting-edge research concerning mechanical-systems engineering and (ii) a strong desire to contribute to humanity and society through international activities in their field of specialization.
- (2) Applicants must have (i) the ability to identify and solve problems with their advanced analytical skills, specialized knowledge, and insight in mathematics, physics, and mechanical-systems engineering and (ii) the ability to think flexibly to deal with research issues in new research fields and interdisciplinary areas.
- (3) Applicants must have acquired intellectual curiosity and insight in each specialized field of mechanical-systems engineering so as to be able to discover development goals on their own, personify the routine of experimentation and analysis, and develop considerations and discussions.
- (4) Applicants must have the language skills necessary for internationally disseminating their research results and the adaptability to handle the diversification of science and technology.

Department of Electrical Engineering and Computer Science

The purpose of this program is to train talented people with (i) the ability to discover issues suitable for independent researchers who will learn leading academic knowledge about electrical engineering and computer science that supports the foundation of modern society by fostering flexibility for meeting social needs, (ii) the ability practical to execute research and technological development, and (iii) an international mindset and ability to disseminate information. In consideration of these aims, we therefore seek people who satisfy the following: admissions policy:

- (1) Applicants must have a broad perspective, sufficient basic academic skills to study electrical

engineering and computer science, and a high level of ethics.

- (2) Applicants must be interested in research in the fields of electrical engineering and computer science and have a strong desire to contribute socially and internationally through activities in these fields.
- (3) Applicants must be able to (i) consider and judge various issues facing humanity from multiple perspectives on the basis of basic knowledge of electrical engineering and computer science, (ii) be able to set their own research agenda, and (iii) be willing to boldly take on challenges.
- (4) Applicants must have advanced communication skills in Japanese or English languages.