



Global Scientists &
Engineers Program

MESSAGE FROM THE TOKYO TECH PRESIDENT

The challenges that our society will face in the years to come will grow increasingly complex, and collaboration between scientists and engineers possessing knowledge, experience, and expertise across a range of disciplines has become imperative.

Boundaries are being blurred to advance the cooperation and teamwork needed to address complex, multidisciplinary problems.

Tokyo Tech has proactively increased its efforts to promote internationalization by launching the Global Scientists and Engineers Program (GSEP)—the first undergraduate engineering program at Tokyo Tech conducted entirely in English.

GSEP provides a unique opportunity for international students to study and work together with Japanese students. This collaboration delivers knowledge and skills through a multi-disciplinary syllabus that focuses on interactive, project-based learning. Through the guidance of our excellent faculty in the Department of Transdisciplinary Science and Engineering, we believe that graduates of GSEP will someday become leaders who tackle real-world global issues.

We look forward to welcoming prospective applicants from every corner of the world who share our passion and strive to create a better society through science and engineering.



Prof. Kazuya Masu
President
Tokyo Institute of Technology

WHAT IS TRANSDISCIPLINARY SCIENCE AND ENGINEERING?

GSEP students will major in Transdisciplinary Science and Engineering, an approach through which researchers go beyond the boundaries of academic fields to solve the complex problems shared by global society.

The Department of Transdisciplinary Science and Engineering (TSE) at the Tokyo Institute of Technology is the fusion of a wide range of fields, including chemical engineering, mechanical engineering, electrical and communications engineering, civil engineering, and biological engineering. It encompasses environmental policy and planning, applied economics, sociology, translation studies, and applied linguistics, and students acquire practical skills hand in hand with academic knowledge.

Specifically, TSE aims to train individuals as global scientists and engineers who can:

- contribute to the innovation of novel technology, values, and concepts needed by society
- define and solve problems
- think creatively and carry out projects
- communicate and co-create with engineers in other fields with a global perspective
- manage complex, large-scale projects and organizations

After taking the majority of their undergraduate subjects and completing the necessary course work, GSEP students affiliate themselves with their chosen research laboratory according to their research interest, choosing from the diverse fields of specialization represented by the TSE faculty. They work on their independent research project under the supervision of their research project adviser from the TSE department. To ensure an environment that enables them to truly concentrate on their own research, they have access to all Tokyo Tech facilities for their research needs. GSEP students are also able to interact and engage in research activities with other members of the laboratory, many of whom are also international students.



GSEP PROGRAM OVERVIEW

GSEPについて



Tokyo Institute of Technology (Tokyo Tech) started the Global Scientists and Engineers Program (GSEP) in April 2016.

GSEP is Tokyo Tech's first international Bachelor of Engineering degree program and allows qualified international students with little or no Japanese language proficiency to pursue a Bachelor of Engineering degree from Tokyo Tech.

We are looking for talented students with:

- an interest in science and engineering and a determination to solve social issues and global problems
- a willingness to explore and create new knowledge
- an interest in understanding different cultures and values
- an open mind toward new activities and new ways of thinking

Students in GSEP belong to the Department of Transdisciplinary Science and Engineering (TSE) where they study science, engineering, and management. GSEP is a transdisciplinary degree program that is not limited to any specific science or engineering field. Most of the core curriculum is conducted through project-based learning or hands-on formats covering various fields of science and engineering. After completing the required number of credits in the undergraduate course—and successfully completing the independent research project—GSEP students earn a Bachelor of Engineering degree.

2016年4月に始動した融合理工学系国際人材育成プログラム GSEP (Global Scientists and Engineers Program) は、世界各国 (特にアジア諸国) の優秀な若者を対象とした英語学位プログラムです。気候変動問題や過剰な都市化に伴う交通渋滞問題に代表される近年のグローバルスケールな問題に対して、その構造や利害関係を理解し、それぞれの専門分野の壁を越えて知見を統合し、新たなアプローチ、ビジョン、そして高い志をもって問題解決にあたる人材を輩出することを目的としています。

- 現在、タイ、モンゴル、インドネシア、ベトナム、フィリピン、台湾出身の学生が所属しており、授業はすべて英語で行われます
- 工学に共通する基礎科目を横断的に学びます
- デザイン思考を実践する問題解決型授業 (プロジェクトベース学習、PBL) が多く取り入れられ、現代エンジニアリングの共通言語・知識として重要になりつつあるプロジェクトマネジメントに関する実践的な講義などを必修科目としています

GSEPで学ぶ留学生は、2年次から融合理工学系コースに所属する日本人学生と共に学ぶ機会が多く、また、日本語を必修の外国語として学ぶなど、日本で学ぶ意義も強調しています。GSEPは融合理工学系の一部として、世界各国からの学生を対象に、マネジメント能力とコミュニケーション能力を備えグローバルな視点を持つ技術者・研究者の育成を目指します。



project-based learning



close relationship with faculty



multicultural learning environment



extracurricular activities

STUDENT VOICES

Tumurbaatar Uyanga
Mongolia
GSEP student



Son Nguyen
Vietnam
GSEP student



“ I can choose from more than 50 laboratories with diverse research themes. ”

When I became a GSEP student, I was exposed to diverse subjects from different types of engineering fields and liberal art studies in the last two years. Thanks to the GSEP curriculum, our teachers, and friends from different backgrounds, my narrow understanding of not only engineering but everything has greatly changed.

Now, I'm very excited about choosing the laboratory where I will do my independent research project next year. I can choose from more than 50 laboratories with diverse research themes in the Transdisciplinary Science and Engineering Department.

If you want to go beyond the boundaries in certain disciplines—and want to see global issues from different perspectives and make a difference—this program is right for you.

GSEP is a program that not only teaches me how science works, but also its practical applications in our daily lives. It gives us, the students, a chance to get into the action, to be involved, and to get our hands dirty as we take a thorough look into society even while we are studying in the university.

For me, my thoughts are sharper after one year in GSEP. I have had the chance to go out of my comfort zone, to learn about things that I have never learned before like Humanities or Sociology, and also to learn a new language (Japanese).

For those who want to explore more about society, GSEP is an ideal program.

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COURSE STRUCTURE

The course begins with foundation subjects focusing on math and fundamental sciences.

In the second and third years, students take courses that will train them to be better engineers and scientists. Students learn practical collaboration through project-based learning. The final year rounds off the undergraduate course, and students conduct specialized studies, projects, and research.

BASIC SCIENCE AND TECHNOLOGY COURSES				Humanities and social science courses, English and Japanese language courses
Year 1	Mathematics (Linear Algebra, Calculus)		Chemistry (Organic, Inorganic, Physical)	
	Physics (Mechanics, Electromagnetics)		Life Sciences	
Year 2	FUNDAMENTALS OF MATHEMATICS	FUNDAMENTALS OF ENGINEERING	FUNDAMENTALS OF CO-INNOVATION	
	Ordinary Differential Equations, Partial Differential Equations for Science and Engineering, Linear Systems, Statistics and Data Analysis	Solid Mechanics, Engineering Measurement, Fluid Engineering, Electrical Engineering, Biological Engineering, Chemical Reaction Engineering, Material and Molecular Engineering, and Engineering experiment subjects	System Design Project, Social Design Project, Project Management, International Development, System Design & Impact Assessment	
Year 3	Subjects on international development, social environment policy, global and local environment, resource and engineering, engineering design, nuclear engineering, etc.			
Year 4	Independent Research Project, Advanced Independent Research Project			

Yaoki Sato
Japan
TSE student



Moe Kobayashi
Japan
TSE student



“The greatest thing is that students from many countries gather in the same classroom and learn together.”

As a Japanese student, sometimes it is hard to communicate with GSEP students because of language. However, it is great and fun to talk and interact with them. Since we have different cultures and sense of value, I’m often surprised at how different we are, and I learn with joy the differences we have. I believe GSEP students have a good effect on other students. Talking with them is good practice for us to use English.

Also, interacting with GSEP students gives us one of the factors needed to foster a global mindset. The greatest thing is that students from many countries gather in the same classroom and learn together. I’m sure you will find something nice here.

I really enjoy attending classes and interacting with GSEP students. They are very enthusiastic in class, and that inspires me to study with them. Even if we come from different countries, I found English useful in communicating with each other.

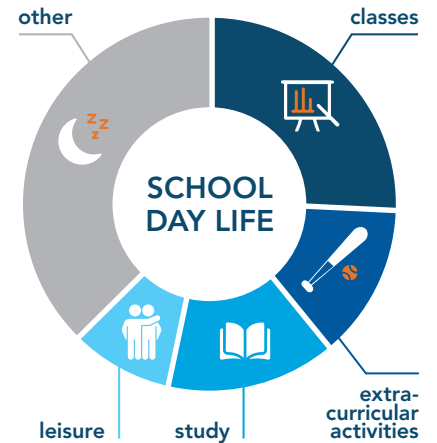
Even without traveling outside Japan, we can learn about foreign cultures. It feels like I am studying abroad. I think this program helped me to improve my English.

The GSEP students teach me words which I couldn’t understand. Likewise, I teach them Japanese. I spend a really good time with them, and feel there is no difference between my Japanese friends and GSEP friends—except in the language that we use.

“Even without traveling outside Japan, we can learn about foreign cultures. It feels like I am studying abroad.”

TYPICAL SCHOOL DAY SCHEDULE OF GSEP STUDENTS

Administrative staff and students of Tokyo Tech offer support to international students, including student tutors who are hired part-time to assist incoming GSEP students. During the first year, accepted students will stay at university endorsed dormitories.



GSEP ACTIVITIES

TOKYO TECH VISIONARY PROJECT

Headed by the Institute of Liberal Arts, the Visionary Project is about exploring a world in which there are no correct answers. It aims to strengthen humanity, sociability, and creativity—pillars that help each student maximize his or her potential in society. Through self-discovery, students are encouraged to set individual goals which help them create a vision of their own unique path for the next four years of university life.

FIELD TRIPS AND STUDY TOURS

GSEP students, together with the faculty and other students of the department, on occasion travel to broaden their perception. Visits to factories, museums, and international companies are quite common. Students also take on internships and participate in competitions abroad.

LUNCH MEETINGS

Frequent lunch meetings are held between the faculty and GSEP students. Here, they can talk freely and share light-hearted moments. Once in a while, guest experts and university staff are also invited to give talks and share upcoming events.



APPLICATION PROCEDURE

The call for applications usually goes out in **June or July**, and documents are accepted until early **September**.

Results are announced around **November**, and successful applicants enter Tokyo Tech in **April** of the following year.

www.titech.ac.jp/english/graduate_school/international/gsep

The application procedure is briefly summarized as follows:

1 CONFIRM APPLICANT ELIGIBILITY

Eligibility conditions will vary depending on the available scholarship opportunities. Please refer to the GSEP Tokyo Tech website for further updates.



2 PREPARE APPLICATION DOCUMENTS

Check the application guidelines, and prepare certificates and other documents.

(2022 guidelines for reference: <https://www.titech.ac.jp/english/admissions/pdf/gsep2022-application-guideline-pdf.pdf>)



3 ONLINE APPLICATION

Apply by filling in the required items and uploading documents on the online application form available on the GSEP Tokyo Tech website by the designated date.



4 PRELIMINARY SCREENING

(Evaluation of application)

Submitted documents will be reviewed by the Undergraduate Admissions Group and professors of the TSE department. The results will be delivered by email to each applicant.



5 SECONDARY SCREENING

(Written exam and interview)

Applicants who pass the preliminary screening will be interviewed by GSEP professors and will take a written examination that covers high school mathematics, physics, and chemistry. The examination is usually conducted in the applicant's country of residence. Further details and instructions will be sent by email immediately after the applicant passes the preliminary screening.



6 ANNOUNCEMENT OF ADMISSIONS

Final results will be delivered by post. Inquiry by email is not accepted.



7 ENROLLMENT AND START OF QUARTER

For successful applicants, enrollment procedures start at the end of March, and the spring quarter begins April 1.



FINANCIAL AID/ SUPPORT

Students who apply to GSEP will have the chance to apply for MEXT scholarships from the Japanese government. Those not receiving a MEXT scholarship may apply for other scholarships, such as those from the Japan Student Services Organization (JASSO) and other private institutions, after their admission.

They may also apply for a tuition fee exemption after fulfilling university requirements.

APPLICATION, ADMISSION, AND TUITION FEES

Applicants who are selected as recipients of the MEXT scholarship are NOT required to pay application, admission, or tuition fees. Applicants who are successful but NOT selected for the MEXT scholarship must pay the following fees*:

Application fee (one-time)	¥17,000
Admission fee (one-time)	¥282,000
Tuition fee (yearly)	¥635,400

*fees are subject to change without notice

CONTACT INFORMATION

For prospective students, please check the official GSEP website:
www.tse.ens.titech.ac.jp/~gsep

For inquiries about GSEP, contact:
UNDERGRADUATE ADMISSIONS GROUP
Student Services Department, Tokyo Institute of Technology
nyu.gak@jim.titech.ac.jp | +81-3-5734-3990
Office Hours: 9:00–12:15, 13:15–17:00 JST



GSEP Official Facebook Page:
facebook.com/gseptitech