



TOHOKU
UNIVERSITY

TSSP 2023

Sendai

June 19th - July 14th 2023

(Tentative)



TOHOKU UNIVERSITY **STEM** SUMMER PROGRAM: Exploring the Frontier of Science & Technology for undergraduates in partner universities

About Tohoku University

Since its founding in 1907, Tohoku University has engaged in world-class education and research with an emphasis on global education and exchange. Along with Tokyo and Kyoto Universities, Tohoku University is also officially authorized as one of the *Designated National Universities in Japan*, a strong endorsement of our commitment to higher education. Sendai, where Tohoku University is located, is a Big City yet remains traditional and intimate, with many sites where you will have the chance to extensively experience Japanese culture.

Program Description

The **Tohoku University STEM Summer Program (TSSP)**, *Exploring the Frontier of Science & Technology* is designed specifically for freshmen and sophomores majoring in science and engineering (STEM) fields. Students will be given insight into the global trends of the needs of world society based on advanced science and technology of the future. The program will offer cutting-edge classes in next generation science and engineering with a focus on contributing to society through research. This 4-week program consists of the following 4 parts: **(1) cutting-edge science and technology being developed at Tohoku University; (2) science and technologies related to disasters and reduction of damage based on experiences of the Great East Japan Earthquake; (3) group problem-solving activities (hands-on experiments) to gain experience with the frontier science and technology; and (4) Japanese language and culture.** At the end of the program, students will make a final (wrap-up) presentation on the category (1) or (2) of their experience. The program includes experiments, lectures, facility/ laboratory visits, presentations and field trips. The following topics will be covered.

(1) Cutting edge Science & Technology

- Spintronics • Biomolecular Design • Robotics • Materials Science • Information Science

(2) Disaster Science & Technology

- Earth Science • Disaster Science in Japan • Disaster Response

(3) Group Activities (Hands-on Experiments)

- Challenging Experiments for Quantum Phenomena
- Make and Handcraft an Efficient Motor and a Paper Airplane based on the Science and Engineering Theory

(4) Japanese Culture

- Aikido • Zen Meditation • Calligraphy • Flower Arrangement

*** Field Trips**

- Swordsmith in Miyagi
- Tsunami Damaged Local Areas
- TOYOTA Factory in Miyagi
- Next Generation Synchrotron Radiation Center in Sendai: NANOTERASU

Number of Enrollments: 30 students

Home Page: <https://www.insc.tohoku.ac.jp/english/short/tssp/>

東北大学

Eligibility

Applicants must be enrolled in full-time undergraduate degree programs at one of the listed partner institutions below (**tentative**). Freshmen and sophomores may be more suitable for this summer program.

Australia: Univ. of Melbourne, **China:** Tsinghua Univ., **Canada:** Univ. of Waterloo

Singapore: National Univ. of Singapore

United Kingdom: Univ. Col. of London, Univ. of York, Univ. of East Anglia

U.S.A.: Penn State Univ., Purdue Univ., SUNY-Albany, The Univ. of California (Berkeley, Davis, Irvine, Los Angeles, San Diego, Santa Barbara, Santa Cruz, Riverside), Univ. of Hawaii at Manoa, Univ. of Maryland, Univ. of Washington

Application Procedures

We accept the application only from nominated students by each university above. The application details will be sent to eligible students by email.

Application Deadline to Tohoku Univ.: March 3, 2023 (JST)

Credits

Participating students are required to take hands-on experiments and lectures, attend facility/laboratory visits and participate in group-work sessions, after which they will give wrap-up presentations. On completing these requirements, students are eligible for 8 ECTS*. These credits are not conferred at Tohoku University. Students who require credits for this program should inquire at their home universities.

**1 ECTS credit is equivalent to 25 hours of workload. ECTS credits used to evaluate the student workload required for completion.*

Program Cost

Program expenses

(100,000(education)+50,000(facilities) = 150,000 JPY)

These program expenses have to be paid separately by the specified payment deadline of each category by credit card.

Additional non-refundable processing fee (approx. US\$ 10) will be charged for each payment.

Accommodation expense

(180,900 JPY)

+ 6,700 JPY per night including tax and breakfast

Full payment is requested at the start of the program.

= **Total
330,900 JPY**

All participants are requested to pay the total program expenses of 150,000 JPY that covers all expenses for various activities during the program by specified payment deadlines. Travel, accommodations, insurance, meals, and personal daily expenses are to be paid individually. Students are advised to have sufficient money for meals and personal expenses. Payment instructions for the program expenses will be informed to the admitted applicants.

Scholarship

A JASSO (Japan student services organization) scholarship of 80,000 JPY will be offered to outstanding students who meet the JASSO requirements and successfully complete the program.

Accommodation

Off-campus accommodation is ten-minutes away by subway from the Aobayama campus, where most activities are held during the program. Each student will be accommodated in a furnished individual bedroom and a bathroom. The accommodation cost is 6,700 JPY per night with breakfast. (June 18th IN, July 15th OUT)

HOTEL PEARL CITY SENDAI: <https://www.pearlcity.jp/sendai/en/>

Insurance

Summer program participants are required to buy travel insurance in their own country BEFORE coming to Japan. Students will be solely responsible for any accidents that occur while staying in Japan. Their insurance must cover death and medical care expenses not only due to accidental bodily injury but also for sickness.

VISA

Those who need a visa to enter Japan should indicate this on their application forms. Tohoku University will provide an invitation letter to admitted students. Passport holders of certain countries do not need a visa to enter Japan for periods of less than 90 days.

CONTACT

Tohoku University Global Learning Center/Student Exchange Division

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