University of Tsukuba (National)
Graduate School of Science and Technology

◆ **Program name**
Master's Program in Environmental Sciences (SUSTEP Program)

◆ **Degrees:**
Master of Environmental Sciences

◆ **Credit and years needed for graduation:**
30 credits, 2 years

◆ **Address:**
1-1-1 Tennodai, Tsukuba, Ibaraki
305-8577 JAPAN



Features of University https://www.tsukuba.ac.jp/en/about/#disclosure

1.1 History and unique features

The University of Tsukuba was established in 1973 as the first comprehensive university in post-WWII Japan to spearhead nation-wide university reform policy. The main campus is in the northern part of Tsukuba City, 60 km northeast of Tokyo with one of the largest campuses of the country (2,700 hectares). The city center is only 45 minutes from Tokyo by train or bus. There are direct bus services to the Narita International Airport, the Haneda Airport, and Tokyo Disneyland.

The University has emphasized openness, innovative systems for education and research, and new university self-governance. Through its unique curriculum and research incentives, it has cultivated many leaders and scholars with advanced knowledge. The size of the University has expanded since its foundation and, as of June 2026, 9,605 undergraduate students and 7,243 graduate students are studying in two campuses. Among them were 2,367 international students from 116 countries. The total number of faculty members is 1,751.

We have always strived to be a unique, active, and internationally competitive university with superlative education quality and research facilities. Our effort has proved to be successful as the Japan Ministry of Education, Culture, Sports, Science and Technology recognized our university in 2009 as one of the thirteen “leading universities” in Japan. In 2014, the Ministry also selected us as one of 13 Top Universities to be funded for attaining the highest global research and education. In 2020, it further gave us legal designation as 9 top “designated universities” with more freedom in conducting world-class education and research in order to be among world’s top universities. The University has produced three Nobel Prize laureates in physics and chemistry along with many distinguished scholars in sciences and humanities. Our distinguished kinesiology and sports department has produced several Olympic medalists.

Another distinctive characteristic of the University is to have many affiliated universities and several overseas offices throughout the world. As of July 2024, we have 382 agreements (13 CiC, 171 university level, 198 department level) with universities and research institutions in 68 countries and regions.

1.2 Tsukuba—the Science City

Tsukuba City is known as “Science City,” as it houses more than more than 300 leading research institutions or about 40% of Japan’s research institutions. These include the National Institute for Environmental Studies, the High Energy Accelerator Research Organization, the National Institute of Advanced Industrial Science and Technology, and the Japan Aerospace Exploration Agency. A close collaboration has been established between these research institutions and the University of Tsukuba through joint course/program at graduate levels such as the Cooperative Graduate School System for the Master’s Program in Environmental Sciences and the Doctoral Program in Environmental Studies with the National Institute for Environmental Studies.

The University of Tsukuba has the on-campus headquarters for international industry-university collaboration, which facilitates R&D cooperation between Tsukuba University researchers and several venture companies. As of 2019, the University had launched about 147 businesses, the third largest in Japan, (e.g., software, biomass conversion substances of biological resources, and medical analysis equipment). The University also has about 30 inter-departmental education institutes, including the Agricultural and Forestry Research Center, the Terrestrial Environment Center, the Shimoda Marine Research Center, and the Gene Research Center.

Features of Graduate School http://www.global.tsukuba.ac.jp/graduate



In April 2020, the University of Tsukuba established the new graduate school system by incorporating 85 graduate programs into three schools. The Graduate School of Science and Technology is one of them. It consists of 21 master's programs and 21 doctoral programs, including life and earth sciences, systems and information engineering, and pure and applied sciences. Of these, 35 programs, including the Master's Program in Environmental Sciences and the Doctoral Program in Environmental Studies, offer all required courses in English so that students can complete their degrees without learning Japanese. In order to improve our education quality for students, the University established the Office of Quality Management for Teaching and Learning. This is one of the very best places to advance your professional knowledge in sciences and technologies in Asia.

Features of the Program

http://www2.envr.tsukuba.ac.jp/eng/ http://www.envr.tsukuba.ac.jp/~jds/ http://www.envr.tsukuba.ac.jp/~sustep

3.1 Master's Program in Environmental Sciences

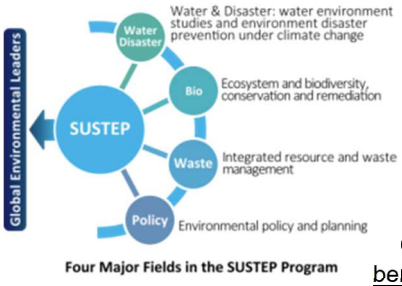
(a) Building the Foundation

After admission, JDS Fellows will belong to the Master's Program in Environmental Sciences, and they will set out the process of acquiring master's degree in environmental sciences in two years. In order to receive the degree, they need to acquire 30 credits or more from the courses that are recognized by the Master's Program. They also complete master's thesis and pass oral examination.

One unique aspect of our Master's Program is that compulsory seminar and fieldwork courses are designed to expand Fellows' knowledge and skill in wide-ranging topics, including sustainability studies, remote sensing, waste management, environmental engineering, environmental economics, meteorology, forestry, ecology, agricultural policies, biology, soil sciences, and environmental leadership and ethics. Here students have rare opportunities to understand that rural/urban developments and environmental issues are interconnected. This education process is uniquely heightened by a set of field activities, in which students learn how to examine some specific case in the field within this interconnected context.

(b) Road to Becoming Leader/Expert

With this basic training as their intellectual foundation, students then focus on some specific topics for their research interests. Here JDS Fellows can choose to take a certificate program called "Sustainability Science, Technology, and Policy (SUSTEP)." This aims to foster global leaders in sustainability related science with broader interdisciplinary understanding. After completing requirements, a student will receive a certificate and a diploma supplement. The supplement verifies the contents of student's learning history, including GPA.



Four Major Fields in the SUSTEP Program

Another distinctive feature of the SUSTEP program is that students have rare opportunities to meet and interact with distinguished leaders and experts from not only Japan but also Australia, Brazil, Canada, Germany, the Netherlands, the United States, and other countries at seminars the SUSTEP Program organizes a few times each year. Through these opportunities, JDS Fellows can establish international networks that can benefit their future career development.



However, global leadership and expertise do not simply mean that students take courses and listen or go abroad for conferences. In our degree program, JDS Fellows actively participate in learning processes. We provide courses that foster their presentation, writing and debating skills in English. The quality of these courses can match the ones at North American graduate schools. In 2020, the SUSTEP program receive University President's award for its excellent in teaching and research. In addition, JDS Fellows can take academic writing seminars for writing reports and journal articles in English.

3.2 Our JDS Specials: Tailor-Made Program

Our educational activities for the JDS Special Program have focused and will focus on four major areas: (1) academic seminar, (2) overseas seminars and field surveys, (3) internship trips in Japan, and (4) the improvement of the educational environment. Each year the SUSTEP Committee of the Master's Program in Environmental Sciences discuss and decide detailed plans for seminars and activities that meet the needs of JDS Fellows. This "tailor-made" practice has become norm among our committee members.

(1) For the international seminars, we invite distinguished experts from renowned universities or research institutions. In these seminars, JDS Fellows not only listen to lectures but present their research topics. The students then receive comments on their presentations from these guest experts so that the Fellows can improve their research and capacities. This interaction also means to expand the Fellows' academic networks, which can be useful after their graduation.

(2) If necessary, JDS Fellows will travel to the country/region to enhance knowledge about their theses research topics with at least one faculty member of the University of Tsukuba. There they learn how to conduct research and survey for data collection. Also, faculty members will establish/maintain the network with JDS alumni in order to self-evaluate the effectiveness of our JDS Special Program. This will provide opportunity to improve our program for JDS Fellows.

(3) The SUSTEP program committee will organize domestic internships that meet the research interests of JDS Fellows each year. In the past, we have taken JDS Fellows to places where they could observe and examine the issues that are related to Japanese waste treatment facilities, recycling technology and policies, forest conservation, protected area policies, rural development, biodiversity and Satoyama, local environmental conservation and traditional knowledge, tourism and local economy, environmental disaster prevention and public works policies, urban planning, pollution, climate change and energy problems. As the city of Tsukuba has about 40% of Japan's national research institutions, and as our faculty members have collaborative relationships with some of them, we sometimes organize internships in collaboration with them.

(4) In the last ten years, the Master's Program in Environmental Sciences has managed webpages that are specifically designed for JDS Fellows. The webpages have provided information for current JDS Fellows, graduates, and prospective Fellows. In 2012, the English version of the official website for the Master's Program in Environmental Sciences was renewed to enhance teaching capacity. In 2014, we launched another website for the SUSTEP program along with our promotion video. The video was made entirely by our students and faculty members. By using the websites, JDS and other students can now receive course information, reading materials and important news about courses. We intend to improve the quality of on-line accessibility and the education environment for JDS Fellows.



Another good news for upcoming JDS Fellows to our Program is that the entire building that our program uses (Natural Science Buildings) is completely renovated with enhanced earthquakes resistance and security. The Fellows have a free Wi-Fi access in their study rooms. There is also a lounge space with kitchen facility. Laboratories and classrooms are designed for multiple purposes to facilitate group discussion or study.

Necessary Curriculum to Obtain the Degrees

http://www2.envr.tsukuba.ac.jp/eng/curriculum-syllabus/

For all students who belong to the Master's Program in Environmental Sciences, the basic requirement for course work is to take 30 credits or more, including 18 credits from compulsory courses. Most of the compulsory courses are directly relevant to thesis completion, which is also required to complete the degree.

Compulsory Courses (Master's Program in Environmental Sciences)

(a) Foundation courses (3 credits):
Introduction to Environmental Sciences (2 credit)
Exercises in Environmental Sciences (1 credit)

(b) Foundation courses (elective/more than 1 credit):
Utilization & Recycling of Bioresources (or common course in Life & Earth Sciences degree programs)
Simulation of Environmental Policy (or common course in Life & Earth Sciences degree programs)

(c) Graduate General Education courses (more than 1 credit)

(d) Specialized courses (18 credits):
Laboratory Seminar in Environmental Sciences 1S, 1F, 2S, 2F
Thesis Seminar in Environmental Sciences 1S, 1F, 2S, 2F

(e) Other courses in the Environmental Sciences Program (more than 6 credits)

Elective Courses (Master's Program in Environmental Sciences) (12 credits from below)

(1) Applied Environmental Ethics (Introduction to English Presentation and Debate); (2) Climate System Study I; (3) Environmental Analysis and Planning; (4) Environmental Field Appraisal; (5) Environmental Law; (6) Environmental Microbiology; (7) Environmental Psychology; (8) Environmental Science Practicum I; (9) Environmental Science Practicum II; (10) Environmental Science Practicum III; (11) Environmental Soil Science; (12) Environmental Microbiology; (13) Environmental Psychology; (14) International Field Appraisal I; (15) International Field Appraisal II; (16) Introduction to Ecology; (17) Introduction to Waste Management; (18) Introduction to Water Environment; (19) Remote Sensing; (20) Soil and Water Environmental Colloid Science; (21) Solid Waste Management Systems Planning; (22) Special Lecture in Environmental Sciences I; (23) Special Lecture in Environmental Sciences II; (24) Vegetation Science.

**In alphabetical order by course title.*

***Courses in other graduate programs are also available.**

List of faculty members capable of guiding JDS Fellows

The List of Faculty Members as Potential Supervisors for JDS Fellows

Please also see : http://www.envr.tsukuba.ac.jp/~jds/people03.html

Professor		
ASANUMA Jun*	NOMURA Nobuhiko*	TSUJIMURA Maki*
ISODA Hiroko*	HIROTA Mitsuru*	UCHIDA Taro*
KAMIJO Takashi*	ONDA Yuichi*	UTSUMI Motoo*
MURAKAMI Akinobu*	SUZUKI Iwane*	YAMAJI Keiko*
LEI Zhonfang*		
Associate Professor		
KAIDA Naoko*	MIYAMAE Yusaku*	TAKAHASHI Shinya*
KAJIYAMA Mikio*	MIZUNOYA Takeshi*	YABAR Helmut*
MATSUI Kenichi*	NASAHARA Kenlo*	YAMAMOTO Sachiko*
MATSUSHITA Bunkei*	TOYOFUKU Masanori*	MAEDA Yoshiaki*
	KAMAE Yoichi*	YOKOI Tomoyuki*
Assistant Professor		
KAWADA Kiyokazu*	OMORI Yuko	YUAN Tian
Cooperative Professor		
Cooperative Associate Professor		
NAGASHIMA Tatsuya	SUGATA Seiji	

**Professors who can be a supervisor of JDS Fellows.*

How You May Choose Your Supervisors

(1) November and December: Several faculty members examine JDS Application Forms for the initial screening; we read their research proposals carefully, examine the contents of research proposals and identify potential supervisors.

(2) January and February: When our delegates interview some JDS candidates, the delegates ask interviewees if they have some professors in mind for research supervision. The delegates report on the results of the

interviews to the SUSTEP Committee and the Faculty Meeting.

(3) March or April: When JDS Fellows are officially chosen, we contact all prospective Fellows through JICE personnel to carefully examine our web pages on our faculty members and select three faculty members as their potential supervisors. The SUSTEP Committee will assist this process and identify the best faculty member from the three. Most supervisors and JDS Fellows begin contacting each other regarding their courses for research.

(4) May-August: In case some Fellows find more appropriate persons to be supervisors or in case assigned supervisors cannot advise the JDS Fellows for some unpredictable reasons, the SUSTEP Committee for JDS matters find alternative supervisors.

(5) October: The Fellows finalize their choice by the end of this month.

Academic Schedule https://www.envr.tsukuba.ac.jp/~jds/about.html#cont06

The Master's Program in Environmental Sciences has adopted the advisory committee system for the instruction of individual study/research. The standard time frame for the completion of the Program is two years or four semesters. The following table shows the academic schedule that is applied to JDS Fellows:

Pre-admission
Orientation (curriculum, campus life, etc.)
First Year (October-March)
Fall semester (October-March) • Officially register academic supervisor and research topic • Submit the test score for the information technology literacy test (end of October) • Enroll in compulsory and elective courses in English • Presentation on one's research background at individual laboratory seminars • Attend the annual "JDS International Seminar" (December-January) • Participate in other JDS domestic internships/academic conferences • If necessary, conduct field surveys under the guidance of one's supervisor
SECOND YEAR (April-March)
Spring semester (April-September) • New budget year JDS Special Program orientation for all JDS Fellows • Continue to take courses that are relevant to JDS Fellow's research interests • Presentation and thesis study on the research topic at individual laboratory seminars • Sign up and join an international internship (May-June, September) • Participate in domestic internship for all JDS Fellows (July-September) Fall semester (October-March) • If necessary, take additional elective courses • Submit the research proposal to the Program (November)

• Present at annual JDS international seminar (December-January) • Engage in thesis writing under the guidance of one's own supervisory committee
THIRD YEAR (April-September)
Spring semester (April-September): • Present research progress at "Interim Oral Presentation" (April) • Completion of "Special Research in Environmental Sciences" • Submission of thesis draft and thesis application (June) • Final presentation (July) • Oral defense of the thesis (July-August)
GRADUATION (September)

Facilities

Accommodation

On the main Tsukuba campus, where JDS Fellows study, there are 68 student residence buildings, which can accommodate about 4,000 rooms (many are being renovated). It is possible that all full-time students, including JDS Fellows, can find a room, if they wish. These housing complexes are conveniently located within the campus. Other apartments are available in proximity from the campus.

Library: The Best in Japan

The University of Tsukuba libraries hold about 2,710,000 books (more than 1,046,000 foreign language books) and 32,756 e-journals. This open-access holding is the largest in Japan. There are also 33 research databases and 36,000 e-book titles (non-Japanese title 34,000). The library website uses OPAC search catalogue, which allows to explore all forms of information (e.g., newspaper articles, magazine, journal articles, and electronic resources) by simple keywords. Considering that Japanese libraries tend to have relatively small collection of books in English, our university libraries offer the best research conditions in English. The main library offers guidance for researchers and students in both English and Japanese.

The Division of Student Exchange

The Division of Student Exchange of the University of Tsukuba is one of the largest international student support facilities among national universities in Japan, offering wide-ranging services. It offers a good range of courses on Japanese language and culture. Past JDS Fellows have taken some of these courses. Another service is the consultation for international students, including concerns about their job search and living. The Center's full-time faculty members and office personnel regularly consult students. The Center also provides information and services for those who are interested in studying at the University of Tsukuba.

World-class Sport Facilities

The University of Tsukuba has provided world-class sport facilities for many Olympic athletes on campus. Not only Olympians but also many other athletes joined professional sports as well. Some of these facilities, including swimming pool, track fields, and gymnasiums are open to all students. Some JDS Fellows have regularly taken advantage of these facilities.

(Reference)

https://www.tsukuba.ac.jp/en/campuslife/welfare-facilities-accommodation/

https://www.tsukuba.ac.jp/en/campuslife/welfare-organization/

https://www.tsukuba.ac.jp/en/campuslife/support-facilities

Message for Applicants

Message to Future JDS Fellows

In March, when you are selected as a JDS Fellow from your country, it is time for you to think about your thesis research supervisor. Then you wonder, other than webpages, what information you can obtain about our teaching staff. If you are not certain yet, you may contact the SUSTEP office for more information. You can also contact our teaching staff directly. Or you may ask other students for suggestion. When you come to our campus in September, and start taking courses in the next month, you can also meet and discuss with potential professors in person before finalizing your decision. In all these processes, we are happy to assist your lifetime choice. But let's remember the decision is yours.

In two years from this time, or late July of your second year, you will experience the fruit of your hard work. You will be standing in front of a podium and presenting about the results of your research. The audience includes those professors who taught you. You may recollect then how you started out this Master's studies. Comparing to that time, you can now see how much you have accomplished and how much your capacity has been expanded. You can communicate with us about their advanced knowledge you attained through your laborious research in English almost fluently. Your face shows confidence. All audiences now listen to you carefully and learn from you. You will see a glimpse of your future as a global leader. This is probably what you expect to have from our program in two years, a very small fraction of your lifetime.