

Course Handbook for 2021-April Entrants

Joint Doctoral Program for Sustainability Research

Tokyo University of Foreign Studies (TUFS)
Tokyo University of Agriculture and Technology (TUAT)
The University of Electro-Communications (UEC)

This Handbook is delivered at entrance of this program and serves as a guide to check as needed until graduation. For the latest course/class information, please check your emails and announcements on the Google Classroom daily.

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**New Student Orientation,
and
Sustainability Research Advanced Practicum**
I (for 2021-April entrants), II (for 2020-October entrants), III (for 2020-April
entrants), and IV (for 2019-October entrants)

Time & Date: 14:30pm-19:00pm (JST), Saturday, April 10th, 2021

Venue: Zoom

Schedule:

1. Sustainability Research Advanced Practicum I, II, III and IV

14:30-16:00 Presentation by the three from the D2 students

2. Orientation

16:00-16:10 Opening Remarks: Welcome 2021-April Entrants! (Prof. Nomura)

16:10-16:30 About JDPSR (Prof. Misawa)

16:30-16:50 Self-introduction by Faculty Members

16:50-17:30 Curriculum & Research Ethics (Prof. Chitose)

17:30-17:50 Course Guidance and Class Schedule (Prof. Yamamoto)

17:50-18:00 Announcement of Supervisors for 2021-April Entrants

18:00-18:20 Self-introduction by New Students (5 minutes each)

18:20-19:00 Self-introduction by Current Students (3 minutes each)

Note 1: Please prepare one-page slide for 5-minute self-introduction. The slide used in the entrance examination can be accepted. The submission rules and the deadline will follow later.

Note 2: Please attend 1. Sustainability Research Advanced Practicum and 2. Orientation.

Welcome to the Joint Doctoral Program for Sustainability Research!

The Joint Doctoral Program for Sustainability Research is jointly offered by the Tokyo University of Foreign Studies (TUFS), the Tokyo University of Agriculture and Technology (TUAT), and the University of Electro-Communications (UEC). This program represents a new kind of graduate research and course study that encompasses a collaborative humanities and sciences colloquium. Many of you probably do not yet fully understand the extent of research and course study involved. Today's class is an orientation to introduce you to the program and its contents.

Before going into details, we would like you to take note of the following important points.

- This is a doctoral course for practical research related to sustainable development goals (SDGs) that is jointly administered by the Tokyo University of Foreign Studies (TUFS), the Tokyo University of Agriculture and Technology (TUAT), and the University of Electro-Communications (UEC).
- The program offers a forum for students from the three universities, regardless of whether their specialties are in the humanities or in the sciences, to work together on their doctoral degrees.
- The objective is to enrich their research by coming into contact with and absorbing academic knowledge and expertise in fields and disciplines different from your own.
- The intent of the program is to help you master the practical skills needed to communicate and interact with researchers and experts outside of your own field of expertise and to collaborate through team projects and the like so as to enrich your own research as well as to contribute to the research of others.
- You will be studying the basic knowledge needed to understand SDGs, but there might certainly be wide divergence in your interpretations of this knowledge according to your different areas of specialty. With this in mind, you will be expected to communicate with those in other fields as you pursue your research.
- You are expected to master the skills required for you to apply your field of expertise within the international community and to achieve the level of a social literacy that will enable you to return the fruits of your study to society.
- You must carry out your research with a high degree of professionalism and make broad contribution to the realization of a more sustainable society.

This is a completely new kind of doctoral program. We look forward to seeing students and faculty collaborating to create a stimulating, rich, and substantive forum of learning.

Sustainability Research Program Concept

In recent years we have seen an acceleration of industrial production since the Industrial Revolution and an expansion of a consumption culture of unprecedented proportions. This, in conjunction with the growing world population, is depleting the world's resources, causing global climate change, and triggering critical shortages of water and food, and the disastrous spread of infectious diseases, all of which threaten the continued existence of humanity. Economically, we are seeing a growing gap between rich and poor, and in societal terms, structural conflicts between ethnic and regional groups.

The Sustainable Development Goals (SDGs) adopted by the United Nations in 2015 prioritize economic, societal and environmental problems confronting the global community. The objective is to solve these problems by the year 2030. Specifically, they involve a variety of efforts to achieve developmental goals that will eradicate poverty and improve health, sanitation, and education in developing countries so as to put the world on a sustainable track. A healthy global environment is the foundation of a sustainable society, but improving environmental conditions alone is not enough to achieve a sustainable society.

Society cannot be sustained if, in exchange for curbing the use of resources and energy, we see an increase in infectious diseases and conflicts. Even though social order may be maintained through might, we do not want a society that represses freedom and cultural activity. Today's world must be sustainable, not only environmentally, but socially and culturally as well. Additionally, such social and cultural sustainability must be not only supported by a sustainable economy, but also further progress in such areas of advanced science and technology as engineering, agriculture, and informatics. In other words, we must aim for sustainable designs in science and technology innovation taking into consideration economic possibilities, the need for social and cultural meaning and the environmental harmony essential to sustain human life as well.

In 21st century higher education, it is important to develop human resources that can break through the existing frameworks and overcome the rigid environment of international society through collaboration between different fields. The industrial world has also highlighted the importance of understanding cultural and social diversity through various experiential activities (e.g., study abroad programs) and fostering human resources capable of resolving various issues through cross-disciplinary projects. What society requires of higher education

today are:

- Education in not only theory but practice that can be implemented within society, and
- Experience in tackling specific problems through teamwork.

But neither of these areas are being adequately address by today's universities and graduate schools.

Since April 2016, the Council for a West Tokyo International City for Scientific Research, co-chaired by the presidents of each of the three universities, has been promoting the concept of a three-university joint program to foster global human resources with an integrated education in the humanities and sciences. The Council aims to bring together the educational strengths in languages, the liberal arts, and area studies at TUFs, the strengths in food, energy, and life sciences at TUAT, and the strengths in information and communication technology (ICT), artificial intelligence (AI), robotics, and photonics at UEC, by taking advantage of the three universities' close proximity. The Joint Program seeks to train global human resources with practical skills by promoting collaboration bringing together the humanities, social sciences, science and engineering, and agriculture.

To this end, the Tokyo University of Foreign Studies (TUFs), the Tokyo University of Agriculture and Technology (TUAT), and the University of Electro-Communications (UEC), all three of which are located in western Tokyo, started to offer the Joint Doctoral Program for Sustainability Research. This collaborative three-year doctoral program integrates training in the needs-oriented problem-setting skills of the humanities and social sciences with the seeds-oriented problem-solving skills of science and technology in order to foster global human resources at the doctoral level capable of finding sustainable, creative, and collaborative solutions. Our objective is to train and educate human resources having practical interdisciplinary skills and expertise in both the humanities and the sciences. These will be people firmly grounded in their particular specialty while also being capable of incorporating the outcomes of other fields to envision and design new innovations for a sustainable society and innovative science and technology.

Faculty

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For inquiries related to home universities, please contact each coordinator or department at the above address.

Sustainability Research and the SDGs

0. Why Sustainability Research?

■ Sustainability

According to an ordinary dictionary, "sustainability" refers to the ability to sustain or continue something or to use a resource without depleting or destroying it. More recently, however, the meaning of terms like "sustainability" and "sustainable" has broadened to encompass more than just environmental concerns, and it is in this broader sense that we are using the term for this Program.

If "sustainability" refers to more than the environment, how far afield does it cover? In considering this, the Sustainable Development Goals (SDGs) set by the United Nations in 2015 provide a good reference. The SDGs include not only environmental problems, but also poverty, health, education, and peace.

The next question is, what is the common denominator of the diverse problems addressed by the SDGs? And the answer is: all are interdisciplinary problems that cannot be solved by any single discipline alone; and the causes of these problems have global linkages that cannot be solved by any one country alone. "Sustainability," therefore, is a concept that closely ties in with global problems.

■ Global Problems

What are the global problems confronting us today? The easiest to understand are the environmental issues. Climate change caused by global warming, conservation of biological diversity, garbage disposal, the 3Rs (reduce, reuse, and recycle), and the development of clean energy sources. These are all issues that transcend national boundaries. The need to eradicate poverty and improve the economies of the developing countries in Africa and Asia is another global concern. In addition to significant efforts made by the international organizations, such as the United Nations Development Program (UNDP) and Food and Agriculture Organization (FAO), government agencies including the Japan International Cooperation Agency (JICA) and the UK's Department for International Development (DFID), as well as numerous non-governmental organizations (NGOs) work in countries other than their own to help governments and societies of Asia, Africa, and Latin America develop communities, eradicate infectious diseases, promote education and gender equality, and otherwise improve people's lives.

Expanding economic disparity within and between countries is another global problem. The low interest rates that are part of economic stimulus packages in the developed countries, combined with economic growth in China and other emerging countries, have helped to stave off a global recession, but economic growth is primarily benefitting the wealthy and widening the disparity. There is much discussion of the need to tax multinational corporations and do something about tax havens so as to shrink economic disparity. In this context, international cooperation is essential to effectively implement these kinds of measures.

Armed conflicts and religious extremism are also global issues that need to be addressed. Since the end of the Cold War, the international community, led by the United Nations, has endeavored to solve regional conflicts in Africa and Asia, implement peacekeeping activities, and taken

initiatives to support reconstruction. An especially urgent issue for the international community is the need to counter the spread of religious extremism. Though proponents speak of a global jihad, the roots of individual movements are strongly local in nature and clearly point to failures in development and growing dissatisfaction with an existing international order that tolerates the kind of injustice that can be seen, for example, in the Palestinian problem. Common understandings are primordial to tackle global problems through international cooperation, but as the case of conflict and religious extremism show, because of their complexities often hamper building such a consensus.

■ Global issues and the sustainability

The various issues raised above can be consolidated into three basic categories: development and economic disparity, the environment, and peace. These are the three major global issues that confront us today.

These three issues are interdependent and related to the same question: Where do the rapid globalization bring us? Is the current global situation sustainable? Are our current approaches to development and economic growth sustainable? Are they not causing extreme economic disparity, putting an undue burden on the environment, and, as a result, proving detrimental to world peace? Isn't the worsening environmental situation caused by climate change leading to development failures and political unrest? Are not the roots of terrorism to be found as much in economic disparity, development failure, and the injustices of the current international order, as they are in religious differences? Questions abound. "Can humanity continue in this way?" The whole of the international community is wrestling with this question today.

This awareness is behind the SDGs referred to earlier. Not all of the SDGs address problems transcending national boundaries, but nevertheless have at their core the same shared awareness of the global ramifications. This Joint Doctoral Program has been organized on the basis of this shared awareness.

1. What are SDGs?

The United Nations agenda adopted on September 25, 2015, titled "Transforming Our World: The 2030 Agenda for Sustainable Development," mainly consists of 17 Sustainable Development Goals, (SDGs), and 169 targets.

The Sustainable Development Goals are:

Goal 1: No Poverty

Goal 2: Zero Hunger

Goal 3: Good Health and Well-Being

Goal 4: Quality Education

Goal 5 Gender Equality

Goal 6: Clean Water and Sanitation

Goal 7: Affordable and Clean Energy

Goal 8: Decent Work and Economic Growth

Goal 9: Industry, Innovation and Infrastructure

- Goal 10: Reduced Inequalities
- Goal 11 Sustainable Cities and Communities
- Goal 12: Responsible Consumption and Production
- Goal 13: Climate Action
- Goal 14: Life below Water
- Goal 15: Life on Land
- Goal 16: Peace and Justice, Strong Institutions
- Goal 17: Partnerships for Goals

■ Points to note

For those of you who will be researching sustainability in this program, it is important to remember that memorizing the SDGs is *not* sustainability research. The SDGs are not infallible scripture. They appear in a political agenda approved by the United Nations General Assembly and there remain many problems they do not address. For example, Goal 10 is to reduce inequalities, but debate on *how* to do that is far from sufficient. Some NGOs have already proposed a few specific measures, such as taxing and regulating financial transactions across borders and taxing online transactions, but the General Assembly Agenda avoids sparking debate on such measures. In other words, political concerns make it difficult to address specific policies. The SDGs should be viewed as simply an index of how the United Nations perceived global issues in 2015.

What you do need to do is to link your research thesis to the various problems addressed by the SDGs as that should help you to envision how your research might contribute to solving global issues. Additionally, as you review the related goals and targets, it is important that you do so with a critical perspective of whether the objectives are appropriate and warranted.

2. What Led to the Formulation of the SDGs?

■ The significance of sustainability research today

What is the significance of carrying out research on sustainability in this day and age? A start at answering this can be made by looking at the SDGs.

The SDGs are notable for their universal character, to which at least two reasons are attributed. At first, it is now clear that all humanity including people in the advanced countries are affected by various global problems. And secondly, these problems can only be resolved if the whole world works together. In other words, human beings are obliged to cooperate to confront problems they are facing. What brought us to this situation? There are three interrelated causes have been identified.

■ Responding to the problems created by globalization

The most significant factor is globalization. The notion of globalization here includes not only economic aspects, but also political and social aspects. The globalization, which has accelerated since the 1980s, has carried serious implications throughout the world.

The globalization has had positive as well as negative effects. There is no denying that the increased activity of private companies across national borders has spurred economic growth that has benefited many people with increased incomes. Regarding its political effects, we can point out that the concept of inherent human rights that had been formally recognized after the Second World War is widely shared today by the international community and has significantly expanded

the rights of women and the disabled. In addition, the surge in people crisscrossing across borders has contributed to the rise of multicultural societies throughout the world. In many countries, tremendous efforts have been made to accommodate people with different cultures who have recently arrived as immigrants.

At the same time, its negative effects have been also significant. The growing economic disparity, both internationally and domestically, is the most striking one. We have observed that a small group of wealthy people have been benefitting from globalization to the detriment of overwhelming majority. In some advanced countries, the demise of the middle class is clearly evident in the so-called “elephant curve” (Branko Milanovic, *Global Inequality: A New Approach for the Age of Globalization*. 2017), and this trend has led to a new brand of nationalism that rejects migrants. Globalization has led to the shifting of resources from governments to private corporations. The conventional pattern of wealthy nations acting to support the poor countries of the world is faltering as governments everywhere struggle to secure funds.

Globalization has had enormous impacts also with regard to political phenomenon. On one hand, it has helped to spur the dissemination of the concept of basic human rights. On the other hand, pressure has grown—particularly since the end of the Cold War—to impose the Western ideals of human rights and democracy upon the countries of Asia and Africa. This pressure has taken a number of forms, from demands for authoritarian regimes to democratize to the creation of international criminal tribunals, and military intervention rationalized under the principle of “Responsibility to Protect (R2P).” As a consequence, these actions have triggered strong resistance by the countries of Africa and Asia.

In conclusion, the advance of globalization has given rise to new world problems that urgently need to be addressed by the international community.

■ The appearance of new actors

While ballooning budget deficits restrict the governments of advanced countries to actively commit to global issues, new actors are emerging on the global stage. First are the rapidly growing BRICS countries of Brazil, Russia, India, China, and South Africa. Of these, China, in particular, has grown into a major world power since the implementing reforms to open up its markets in the late 1970s. Second is the burgeoning private sector. Private corporations with sales figures equivalent to the GDP of some of the newly industrializing countries are not unusual. The lowering of corporate taxes by governments eager to attract investment has accelerated the flow of money to the private sector.

It is no longer possible for the governments of the advanced countries to solve global-scale problems on their own. It is already evident that funding from sources other than the countries participating in the OECD Development Assistance Committee is of increasing importance to the developing countries. These new sources of funding are diverse and include the BRICS, Saudi Arabia and the other Gulf countries, and also such private sources as the Bill and Melinda Gates Foundation. Given these circumstances, it is only a matter of course that the strategies for achieving the SDGs will incorporate many actors.

■ Seeking new models for governance

As the welfare policies of the advanced countries arrive at an impasse, we are forced to redefine the role of the conventional public sector. Efforts are already underway in the fields of medical care, education, and regional revitalization to find ways for those involved to effectively collaborate to

build sustainable systems. To put it another way, we are seeking new systems of governance.

Similar efforts are being carried out at local, national, and global levels. Of particular note in recent years is the need for global governance to tackle global problems. Advancing globalization is weakening the effectiveness of the advanced countries who are being superseded in importance by new actors, including the newly emerging economies and the private sector. There are numerous problems that cannot be solved by any one country. Not only do these problems transcend national boundaries, the actors needed to solve them are many and diverse. Currently, a number of schemes of global governance to tackle such issues like climate change, terrorism, and the spread of infectious diseases, have been developed.

3. What you do in this PhD course

Above is a rough description of the relationship between the sustainability studies and current global problems. In actual practice, there are many and diverse topics to be analyzed in dissertations.

There are no simple solutions for global problems. Whatever area you choose to examine, it will be linked to other topics; none can be considered independently of the others. China's growth has contributed to the eradication of poverty and provided support for the surge of growth in Africa. At the same time, it has led to worsening environmental conditions and proliferation of "land grabbing". Both the positive and negative effects must be carefully examined in every case.

In your PhD thesis, you will be expected to define a problem of sustainability and postulate your own answers. Writing a PhD thesis is first and foremost an academic task requiring academic integrity. Given the broad and interwoven nature of problems related to sustainability, it is imperative that you clearly indicate your area of focus and find an answer that can withstand rigorous academic scrutiny.

A broad range of course work and joint projects are prepared for this Program. The intent is to make you more keenly aware of the vast extent and complexity of sustainability research and to guide you as you work with your principal as well as assistant supervisors to consider how your own research can be tied into sustainability research. We also expect you to follow your principal supervisor's guidance to ensure that you maintain the highest academic standards in your endeavor.

Curriculum

■Outline

Categories	Courses	Provided	Number of Credits	First Year (D1)		Second Year (D2)		Third Year (D3)	
				1st Semester	2nd Semester	1st Semester	2nd Semester	1st Semester	2nd Semester
Basic Studies in Sustainability Research	Foundations of Sustainability Research A	Jointly	2 (Compulsory)	*					
	Foundations of Sustainability Research B	Jointly	2 (Compulsory)		*				
Seminar and Laboratory Work for Sustainability Research	Interdisciplinary Seminar I	Jointly	1 (Compulsory)	*					
	Interdisciplinary Seminar II	Jointly	1 (Compulsory)		*				
	Interdisciplinary Seminar III	Jointly	1 (Compulsory)			*			
	Interdisciplinary Seminar IV	Jointly	1 (Compulsory)				*		
	Interdisciplinary Seminar V	Jointly	1 (Compulsory)					*	
	Interdisciplinary Seminar VI	Jointly	1 (Compulsory)						*
Practicum and Internship	Sustainability Research Advanced Practicum I	Jointly	1 (Compulsory)	*					
	Sustainability Research Advanced Practicum II	Jointly	1 (Compulsory)		*				
	Sustainability Research Advanced Practicum III	Jointly	1 (Compulsory)			*			
	Sustainability Research Advanced Practicum IV	Jointly	1 (Compulsory)				*		
	Intramural Internship	Home university	2 (Compulsory)		*	*	*		
	Extramural Internship	Home university	2 (Compulsory)		*	*	*		

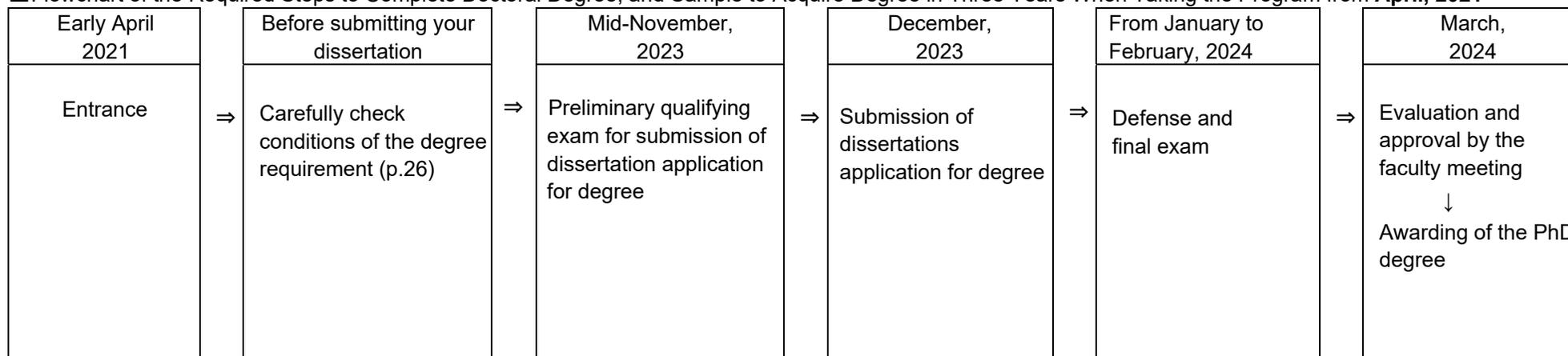
Note: It is strongly recommended that **2021-April entrants** acquire at least one of the compulsory courses of **intramural or extramural internship** during the period from the second semester of the first year to the second semester of the second year: **from Oct. 2021 to Mar. 2023**. However, due to the global COVID-19 (Coronavirus) pandemic, when you have difficulty in taking part in any internship program during the above recommended period, please consult with your academic principal supervisor and educational affairs section in charge of internship of your home university. When the situation gets better, please catch up on the course as early as possible.

Note 2: **First semester** in the chart above indicates not spring semester of academic calendar, but **the first half year of the first grade level**, i.e. **for October entrants**, the first semester and the second semester represent October-March and April-September, respectively.

■ Degree Requirements

Categories	Courses	Required Credits for Degree: 16 in total
Basic Studies in the Sustainability Research	Foundations of Sustainability Research A and B	4 credits: 2 from Foundations of Sustainability Research A 2 from Foundations of Sustainability Research B
Seminar and Laboratory Work for Sustainability Research	Interdisciplinary Seminar I to VI	6 credits: 1 from each Interdisciplinary Seminar I to VI
Practicum and Internship	Extramural or Intramural Internship, and Sustainability Research Advanced Practicum I to IV	6 credits: 2 credits from Internship 4 credits from Advanced Practicum

■ Flowchart of the Required Steps to Complete Doctoral Degree, and Sample to Acquire Degree in Three Years When Taking the Program from **April, 2021**



■ Lecture Schedule by Semester for **2021-April Entrants**

1st year (Apr. 2021- Mar. 2022)		2nd year (Apr. 2022- Mar. 2023)		3rd year (Apr. 2023- Mar. 2024)	
1st Semester	2nd Semester	1st Semester	2nd Semester	1st Semester	2nd Semester
Foundations of Sustainability Research A	Foundations of Sustainability Research B				
Sustainability Research Advanced Practicum I	Sustainability Research Advanced Practicum II	Sustainability Research Advanced Practicum III	Sustainability Research Advanced Practicum IV		
Interdisciplinary Seminar I	Interdisciplinary Seminar II	Interdisciplinary Seminar III	Interdisciplinary Seminar IV	Interdisciplinary Seminar V	Interdisciplinary Seminar VI
	—— Extramural	(Intramural)	Internship ——		

Class Schedule for Spring, 2021

Course Title		Time & Date	Venue	Presenters	1.Class Name & 2.Code in Google Classroom
Orientation for New Students		16:00-19:00, April 10	Zoom	Self-introduction by Current and New Students	
Sustainability Research	1	14:30-16:00, April 10	Zoom	D2: Specially Appointed Students	
Advanced Practicum	2	10:00-14:00 July 17	Zoom	D1: Oct-2020 & Apr- 2021 Students	
Foundations of Sustainability Research A	1	9:00-16:00 April 17	Zoom	None	
	2	9:00-16:00 May 8	Zoom	None	
	3	9:00-16:00 May 22	Zoom	None	
	4	9:00-16:00 June 5	Zoom	None	
	5	9:00-16:00 June 26	Zoom	None	
	6	9:00-16:00 July 3	Zoom	D2: Oct-2019 & Apr-2020 Students	
Workshops / Interdisciplinary Seminars	1	16:10-17:40 May 22	Zoom	Applicants those who would like to give a presentation 1.Consult with your supervisors 2.Email Ms. Murai no later than two weeks before the desired workshop day	
	2	16:10-17:40 June 5	Zoom		
	3	16:10-17:40 June 26	Zoom		

Course Title	Provided by		Time & Date	Venue	1.Class Name & 2.Code in Google Classroom
Academic Literacy / Interdisciplinary Seminars	TUFS	1	17:40-19:10 Tue April 13	Zoom	
		2	17:40-19:10 Tue April 27		
		3	17:40-19:10 Tue May 18		
		4	17:40-19:10 Tue June 8		
		5	17:40-19:10 Tue June 22		
		6	17:40-19:10 Tue July 6		
	TUAT	1	17:40-19:10 Tur June 3	Zoom	
		2	17:40-19:10 Tur June 10		
		3	17:40-19:10 Tur June 17		
		4	17:40-19:10 Tur June 24		
		5	17:40-19:10 Tur July 1		
		6	17:40-19:10 Tur July 8		
	UEC	1	18:00-19:30 Wed June 16	Zoom	
		2	18:00-19:30 Wed June 23		
		3	18:00-19:30 Wed June 30		
		4	18:00-19:30 Wed July 7		
		5	18:00-19:30 Wed July 14		
		6	18:00-19:30 Wed July 21		

Note 1: **Foundations of Sustainability Research A** is mandatory only for Oct- 2020 and Apr-2021 students. But all students are always welcome to join, if they like.

Note 2: **Sustainability Research Advanced Practicum I, II, III and IV** for 2021-April, 2020-October, 2020-April, and 2019-October entrant, respectively are mandatory.

Note 3: **Interdisciplinary Seminars** consist of the three parts noted below: For more details, please see P22.

1) Tutorial under triplet research supervision scheme

2) Workshop

3) Academic Literacy provided by every three University so that students can acquire the basic skills and practical knowledge required succeed at the university level.

Note 4: **Academic Literacy** is mainly for the first year students, but all students are also welcome if they like.

Course Description

■ Foundations of Sustainability Research A

The lectures aim to enable students to comprehensively and systematically acquire the basic knowledge needed in the Joint Doctoral Program for Sustainability Research. In particular, the lectures are aimed at cultivating a sense that serves as the foundation of ethical and pluralistic ways of thinking called for in international settings. The students learn about SDGs, global issues, and intellectual properties.

■ Foundations of Sustainability Research B

The course aims to enable students to practically and cooperatively acquire skills in communicating (writing) and applying basic theories and analysis method, which are necessary in articulating ethical and pluralistic ways of thinking called for in international settings and are needed in the Joint Program. In particular, the course trains students to master and practice effective English writhing techniques and basic theories and analysis methods, which can be used in formulating and implementing internationally acceptable international development strategies and plans.

Lecture Schedule-Foundations of Sustainability Research A

1. 4/17 Foundations of Sustainability Research A(1)
 - 09:00-12:00 Takeuchi Shinichi (TUFS): Context and Backgrounds of SDGs
 - 13:00-16:00 Chitose Atsushi (TUAT): Targets and Examples of Sustainability Research
2. 5/8 Foundations of Sustainability Research A(2)
 - 09:00-12:00 Chitose Atsushi and Nomura Yoshihiro (TUAT): Human Development, Food, Resources and Energy
 - 13:00-16:00 Nakayama Chikako (TUFS): Economy and Ecology: Theories of Endogenous Development
3. 5/22 Foundations of Sustainability Research A(3)
 - 09:00-12:00 Demachi Kazue (TUFS): Analyzing the Relationships between Natural Resources and Society
 - 13:00-16:00 Kawabata Yoshiko (TUAT): Water Resources in Drylands
4. 6/5 Foundations of Sustainability Research A(4)
 - 09:00-12:00 Eto Manabu (Hitotsubashi Univ.): Standardization and Intellectual Property Rights
 - 13:00-16:00 Yamamoto Kayoko (UEC): Environmental Problems and Disaster Resilience
5. 6/26 Foundations of Sustainability Research A (5)
 - 09:00-12:00 Nakamura Keiko (TMDU) Public Health and Planetary Health
 - 13:00-16:00 Group Discussion– What is Sustainability Research?
6. 7/3 Foundations of Sustainability Research A (6)
 - 09:00-16:00 Student Presentations (2019-Oct and 2020-Apr (D2) Entrants)

■ Interdisciplinary Seminar I & II

Students attend tutorial under a triplet research supervision scheme: one academic principal supervisor and two supervisors. The course is aimed at enhancing core competency in the doctoral dissertation research field and at enabling students to explain the purpose and significance of their research in relation to current research trend, through discussions with the academic principal supervisor. In addition, the course trains students in each aspect of research, namely, comprehension, analysis, and implementation, which require a higher level of competency, through discussions with supervisors. The course helps students acquire consensus-building skills and the capacity to adapt to diverse value systems and environments, while leveraging new ideas, knowledge, and information obtained through meaningful academic exchanges with researchers not only in their specialized fields but also from other disciplines, into the design of their doctoral dissertation research.

Interdisciplinary seminars consist of the three parts noted below:

©Tutorial under Triplet Research Supervision Scheme

Students take seminars tutorially by academic principal supervisor. While holding regular seminars with an academic principal supervisor, students attend seminars provided by supervisor or laboratory work.

©Workshop

The workshop is held after lecture of Foundations of Sustainability Research. Students report and hold Q&A on their doctoral dissertation research concepts. They are held in intensive sessions on May 22, June 5 and June 19. Students will make a decision to give a presentation after consulting with academic principal supervisor.

©Academic Literacy provided by three Universities

The lecture trains students that enable to acquire the basic skills and practical knowledge required at the university level. Please consult with your academic principal supervisor.

¶Academic Literacy Seminar provided by TUFSS

Venue : Zoom
Subject : English Discussion Training Class
Instructor : SUZUKI, Steven Taro

Summary and goals of the course :

The course is designed to improve presentation skills in academic and professional contexts. In order to achieve this goal, higher-level intellectual skills will be developed and improved through engaging in, and performing various tasks and discussions. A natural by-product will be students improving their analytical, rhetorical, and critical thinking skills. These skills are abstract and difficult to measure; however, they are important in terms of being able to collaborate and cooperate effectively with colleagues, superiors, subordinates, and clients in future professions.

Overview of the course :

Students will focus on learning important skills for presenting at professional conferences, and also how to adroitly handle Q&A sessions. A short presentation will be conducted by each student in every class. The presentations will start on a basic level, and will increase in analytical and rhetorical difficulty as the course progresses. The course will conclude with a basic full length presentation with a Q & A session performed by each student.

Schedule : (17:40-19:10)

- 1) Tuesday, April 13 Discussion Skill Training in English 1
- 2) Tuesday, April 27 Discussion Skill Training in English 2
- 3) Tuesday, May 18 Discussion Skill Training in English 3
- 4) Tuesday, June 8 Discussion Skill Training in English 4
- 5) Tuesday, June 22 Discussion Skill Training in English 5
- 6) Tuesday, July 6 Discussion Skill Training in English 6

TUFS English Learning Center (ELS)

All JDPSR students are eligible for participating programs offered by TUFS English Learning Center (ELC) to enhance their autonomous English learning. ELC provides four programs: speaking, writing, e-Learning, and English library. To join the speaking and writing session, it needs to make a reservation at the center. For more details, please refer to the link below with which they can learn how to use the center.

English Learning Center (ELC):

Room 304, Research and Lecture Building, TUFSS

Phone: 042-330-5416

E-mail: tufs-elc@tufs.ac.jp

Website: <https://mdle.tufs.ac.jp/elc/public/students/>

¶Academic Literacy Seminar provided by TUAT

Google Classroom: Class code 4mtvdfp

Subject : Basic Statistics

Instructor : CHITOSE, Atsushi

Summary and goals of the course :

The objectives of this course are i) to acquire basic skills of statistical analysis and correct knowledge in dealing with statistics; and ii) to know how to perform basic statistical tests and interpret their results using the Excel worksheets.

Overview of the course :

This course will be provided online on Thursday evening in June and July. In each class, students will be given the instruction regarding a special topic by the instructor, followed by the practice for statistical analysis using “Function” and/or “Analysis ToolPak” of Excel.

Note : Please prepare your own PC, in which Microsoft Excel has been installed.

Schedule : (17:40-19:10)

- 1) Thursday, June 3 Descriptive Statistics 1) Univariate case
- 2) Thursday, June 10 Descriptive Statistics 2) Bivariate case
- 3) Thursday, June 17 Inferential Statistics 1) Statistical distribution, t-test
- 4) Thursday, June 24 Inferential Statistics 2) Hypothesis testing (t-test, F-test)
- 5) Thursday, July 1 Inferential Statistics 3) Hypothesis testing among groups (ANOVA)
- 6) Thursday, July 8 Inferential Statistics 4) Regression Analysis (OLS)

¶Academic Literacy Seminar provided by UEC

1. Subject: AI (Artificial Intelligence)

Venue : Zoom

Overview of the course: Introduction and some practice in Machine Learning and Artificial Intelligence

Text: TBA

Schedule : (18:00-19:30)

- 1) Wednesday, June 16
- 2) Wednesday, June 23
- 3) Wednesday, June 30

Note : Bring your own PC when switching to face-to-face classes

Contact :

Prof. Hashiyama

E-mail: hashiyama.tomonori@uec.ac.jp

2. Subject : GIS (Geographic Information Systems)

Venue : Zoom

Overview of the course : Learn the basic techniques of GIS referring textbook edited by the GIS Association of Japan. (<http://www.kokon.co.jp/book/b313385.html>)

Schedule : (18:00-19:30)

- 1) Wednesday, July 7
- 2) Wednesday, July 14
- 3) Wednesday, July 21

Note : Bring your own PC when switching to face-to-face classes

Contact :

Prof. Yamamoto

Phone: 042-443-5728

E-mail: Kayoko.yamamoto@uec.ac.jp

■ Interdisciplinary Seminar III

Students report internship outcomes with attendance of an academic principal supervisor and supervisors. It should be done during the semester, between Advanced Practicum III(1) and III(2). Also, students attend laboratory works with an academic principal supervisor and supervisors as needed during the semester.

■ Interdisciplinary Seminar IV

Students attend tutorial seminars provided by academic principal supervisor and supervisors for preparing a presentation at an international conference and publication of their drafts to an international scholarly journal.

■ Interdisciplinary Seminar V

Students attend tutorial seminars on vision and structure of their drafts of dissertations.

■ Interdisciplinary Seminar VI

Students attend tutorial seminars on their dissertations.

■ Sustainability Research Advanced Practicum I-IV

Sustainability Research Advanced Practicum is organized by all the professors of the course as an occasion to discuss the participants' research outcomes intensively and interdisciplinary. Sessions are held in April and July during the 1st semester, and in October and January during the 2nd semester. The 1st and 2nd year students are obligated to attend all sessions.

■ Degree Requirements

To fulfill JDPSR degree requirements, a student must meet the following criteria.

	Criteria
1	A total of 16 credits from JDPSR courses
2	At least one academic paper accepted by an international peer-reviewed journal or a Japanese peer-reviewed journal published by an academic association recognized and registered with the Science Council of Japan
3	Successful submission, defense, and final examination of doctoral dissertation

With regard to No.2, please note the following:

1. Whether a publication is to be considered an "international peer-reviewed journal" shall be determined at a program faculty meeting.
2. Co-authored academic papers will only be accepted if the doctoral candidate is the first and/or corresponding author, subject to final approval at a program faculty meeting.
3. An applicant's academic paper must have been accepted before the final dissertation examination, but only its submission is required at the time of the preliminary examination.

About the language of the dissertation

In principle, dissertations for the JDPSR program must be written in English. An exception will be made for a dissertation written in Japanese only if the candidate's three supervisors unanimously recognize the pertinence of writing in Japanese because of the nature of the topic.

Extramural / Internal Internship Guide

■ Deciding the host organization

- Submit the **Internship Questionnaire** (Form 1) to your academic principal supervisor and consult as to whether your choice of host organization is appropriate and whether it will be able to accept you.
- Once your host organization has been decided and it is confirmed that they will accept you as an intern, be sure to contact them to introduce yourself and express your appreciation. If the host organization requests a change in the dates and duration of the internship, notify the office for your university listed below.

TUFS	TUAT	UEC
SUS Program Office sus_tufs@tufs.ac.jp Tel: 042-330-5876 Fax: 042-330-5876	Educational Affairs Section II, Koganei Student Support Office tkyomu1@cc.tuat.ac.jp Tel: 042-388-7010 Fax: 042-388-7013	SUS Program Office office-ss@is.uec.ac.jp Tel : 042-443-5677(ext. 5677) Fax : 042-443-5682

■ Before starting the internship

• Insurance:

You must have insurance to participate in an internship program. For details, please refer to page 30 of the “Insurance”. If you do not know if you have insurance, check with the appropriate office listed below. Also, make sure to get an insurance certificate in case your host organization asks for it.

TUFS	TUAT	UEC
Welfare Desk, Student Affairs Section, Student Affairs Division Tel: 042-330-5175 gakusei-kakari@tufs.ac.jp	Admissions Section, Koganei Student Support Office Tel: 042-388-7014 tknyusi@cc.tuat.ac.jp	Extramural Activities & Welfare Desk, Student Affairs Section Tel: 042-443-5086 kagai-k@office.uec.ac.jp

• Procedure:

Once the dates and duration of the internship is fixed, you must submit the following 5 completed forms to the appropriate department at your university (see the next page), and follow the required process. You will not get credit for the internship if you fail to submit these forms.

- **Internship Application** (Form 2)
- **Internship Agreement** (Form 3)
- **Pledge** (Form 4)
- **Internship Notice** (Form 5)
- **Internship Subsidy Application** (Form 6)

TUFS	TUAT	UEC
Graduate School Educational Affairs Division kyoumu-daigakuin@tufs.ac.jp	Educational Affairs Section II, Koganei Student Support Office tkyomu1@cc.tuat.ac.jp	Education Affairs Section, Graduate School Desk daigakuin-k@office.uec.ac.jp

- (1) You must sign and submit the **Pledge** and the **Internship Agreement** to your host organization no later than the first day of your internship. The **Pledge** and **Internship Agreement** are agreements between you and the host organization. Make sure you read and fully understand its contents before you sign the form. If the host organization has its own **Pledge** or similar document, you should use that document instead.
 - (2) Fill out the **Internship Notice** and have it signed and stamped by your academic principal supervisor and the Program Director.
- Preparing for your internship beforehand:
 - (1) Check the website of your host company or organization and otherwise do some research to learn as much about it as you can.
 - (2) Reconfirm your working hours and location, especially the time and place for your first day as an intern.
 - (3) Check to make sure how you should dress and what items you should take with you.
 - (4) Check on your commute: what kind of transportation you will use and the route you will take. If you have the time, it may be good to do a trial run before your internship starts.
 - (5) Be sure to read through any documents your host organization has provided concerning your work location and duties as an intern and take the documents with you on your first day.
 - (6) You should not work at any side jobs during your internship.
 - (7) Make sure you get plenty of rest the night before your first day. Go to bed early and do not be late to your appointment!

■ During the internship

- With 2 days of starting your internship:
Send an email notice that you have started to the appropriate office at your university. For contact details, see “Before starting the internship / Procedure” above.

- Important reminder:
 - (1) Always make sure you are on time. Especially on the first day, leave early so you will have plenty of time to get to work. If circumstances permit, it may be a good idea to try out your commuting route and see your work location before the start of the internship.
 - (2) Always try to arrive at least 15minutes early.
 - (3) Always notify your supervisor at the host organization when you cannot get to work because of illness or injury.
 - (4) Input into your cellphone or smartphone the contact information for your host organization and the responsible office at your university so that you can contact them in an emergency.
 - (5) Always contact your host organization when there are train delays or other reasons that you may be late to work. Explain why you are delayed and how late you may be. If the trains are delayed, make sure to get a train delay slip issued by the railway lines to submit to your host organization.

■ After the internship

- Send a letter or email or make a phone call to thank your supervisor and coworkers at your host organization.
- Fill out the **Internship Report** (Form 7), have it signed and stamped by your supervisor at the host organization, and submit it to your academic principal supervisor.

■ Required documents

- Form 1: Internship Questionnaire
- Form 2: Internship Application
- Form 3: Internship Agreement
- Form 4: Pledge
- Form 5: Internship Notice
- Form 6: Internship Subsidy Application
- Form 7: Internship Report

■ Important

You may have difficulty in laying out your internship plan due to the global **COVID-19** (Coronavirus) pandemic. Please have a consultation with your academic principal supervisor on an internship season and host organization.

■ Insurance

The following types of insurance are standard at all three universities, and can be applied to Extramural / Internal Internship programs.

	TUFS	TUAT	UEC
Japanese students	Gakkensai and gakkenbai(course A)	Gakkensai and one out of the following three: <i>gakkenbai</i> (course A), <i>gakubai</i> and <i>personal Insurances</i>	Gakkensai and gakkenbai(course A)
International students	Gakkensai and inbound futai-gakuso	Gakkensai and gakubai	Gakkensai and inbound futai-gakuso
All students undertaking an Internship in overseas	Futai kaigaku	Futai kaigaku	Futai kaigaku

- (1) The above includes abbreviations:
Gakkensai - Personal accident insurance for students pursuing education and research
Gakkenbai (course A) - Liability insurance for students pursuing education and research
Gakubai - Personal liability insurance for students provided by CO-OP, i.e. Seikyo
Inbound futai-gakuso - Comprehensive insurance for students lives coupled with gakkensai
Futai kaigaku - Gakkensai overseas study insurance
- (2) *Gakkensai* will cover accidents and injury incurred during your internship. Most students are enrolled in this insurance when they first enter their university. Check with the office responsible for insurance at your university to confirm that you are covered by this insurance.
- (3) *Gakkenbai (course A)* and *gakubai* will cover liability if you accidentally cause damage to equipment or facility at your host organization during your internship or if you cause injury to another person. Most students are enrolled in one of these insurance programs when they enter their university. If you are not sure that you are covered, check with the office responsible for insurance at your university.
- (4) Students who have no insurance coverage, must enroll and pay for the above types of insurance programs. Approximate insurance premiums for three years are: *gakkensai*, around 1,800 yen; *gakkenbai(course A)*, around 1,020 yen; *Inbound futai-gakuso (type C)*, around 5,000yen. Upon payment you will be issued a receipt that also serves as your insurance certificate. Please store in a safe place.
- (5) Keep your health insurance card (or a copy) on you at all times during your internship. There have been cases of students requiring emergency care and a trip to a hospital in an ambulance because they became ill or were injured during their commute to work. It is also recommended that you confirm beforehand that your *gakkensai* or *gakkenbai (course A)* will cover accidents that may occur during your internship.