Tokyo University of Agriculture and Technology (TUAT)

WISE Program
(Doctoral Program for World-leading Innovative & Smart Education)

Excellent Leader Development for Super Smart Society
by New Industry Creation and Diversity

WISE-TUAT
東京農工大学
卓越大学院プログラム

Course Guide 2025 (May)

Introduction

The world is moving toward an era with a global population of 9 billion, and Japan is facing many social problems due to its declining and aging population. In response to such issues, the Tokyo University of Agriculture and Technology—in its role as a scientific research university focuses on the fields of agriculture and engineering— is cultivating high-level innovation leaders capable of action on the international stage, through a combination of problem-exploration abilities in agriculture and problem-solving abilities in engineering. Many points of the Sustainable Development Goals (SDGs) for 2030, in particular, involve agriculture and engineering. Furthermore, understanding diversity is respecting each other with respecting minority opinions. That leads us to have a multitude of options for responding to challenges. That increases your individual and organizational resilience, and produces potentials to solve problems as a leader, the core of the team. “Excellent Leader Development for Super Smart Society by New Industry Creation and Diversity”—That is the heart of the WISE Program, which brings together the strengths of the Tokyo University of Agriculture and Technology.

WISE-TUAT
東京農工大学 卓越大学院プログラム

WISE Program, Tokyo University of Agriculture and Technology
http://www.wise.tuat.ac.jp

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1. Overview of the WISE Program

Launched in 2018, the Doctoral Program for World-leading Innovative & Smart Education (WISE Program) is a five-year integrated doctoral degree program bringing together world-class education and research capabilities— a collaboration of universities, research institutions, and private companies structured around the strengths of the individual universities. Based on this approach, the program develops excellent human resources with doctoral degrees capable of driving a variety of sectors in agriculture, engineering, and related fields. Through human resource development and academic/technical exchange both domestic and overseas, we will spark innovation, and form a hub of excellence that can be continually expanded. WISE program offers five-year integrated education from master to doctoral programs in cooperation with overseas research and education institutions and private companies, with the keywords of "collaboration of agriculture and engineering", "creation of new industries" and "diversity". The program promotes research on the "fusion and collaboration of advanced knowledge and technology in agriculture and engineering" and fosters advanced doctoral human resources who will play a key role in building a super-smart society.

1.1 Significance and Distinctive Features of Study in the WISE Program

Significance

Global innovation is accelerating in today's world, and there is a need for human resources with doctoral degrees to spark innovation. Realizing the Society 5.0 “Super Smart Society,” in particular, will require the ability to solve social problems while leveraging academic specialization. At TUAT, we bring together agriculture and engineering capabilities, and enable innovation through creation of new industries and diversity. Furthermore, as social changes—such as shrinking and aging of the population in Japan, and growth of the global population—there is a strong need for diversification of graduate school education and recurrent education across ages and genders as we move toward an era where the human life-span will be 100 years. It is also essential to appreciate diversity of gender, age, cultural/social background, and other characteristics.,

In responding to such demand, this Program provides educational opportunities to foster students’ research and innovation-producing potential with “Creation of New Industries” and “Diversity,” taking advantage of its strengths of collaboration of agriculture and engineering of TUAT. The program has a system to enable students to strengthen their big-picture perspective for using knowledge horizontally while keeping to their existing specialized knowledge and techniques. The curriculum is designed for students to put their acquired academic knowledge into the engineering level.

WISE students are expected to engage in an industry-academic joint research with their own initiatives and acquire the foundation as “a professional of knowledge” who is leading Super Smart Society.

Distinctive Features

The WISE Program provides opportunities to strengthen English language skills in preparation for studying abroad, as well as information on financial support both within and outside the university to assist with overseas travel and study abroad. From the doctoral program onwards, many WISE program students have secured scholarships from within TUAT, such as the FLOuRISH-SPRING scholarships as well as scholarships from outside TUAT.

This program also offers lectures by practitioners working in private companies and research institutions, providing participants with the opportunity to hear about the real-world experiences of industry. This allows the program students to learn about examples of the social application (implementation) of research results and identify related issues, thereby further expanding the depth and breadth of their current research.

We expect students who complete this program to advance into various industries in Japan and overseas on their own initiative, with the aim of creating new industries (i.e., creating new fields through cutting-edge research skills). We will provide opportunities to broaden their horizons and networks, and support their activities.

1.2 Vision of Human Resources Cultivated by the WISE Program

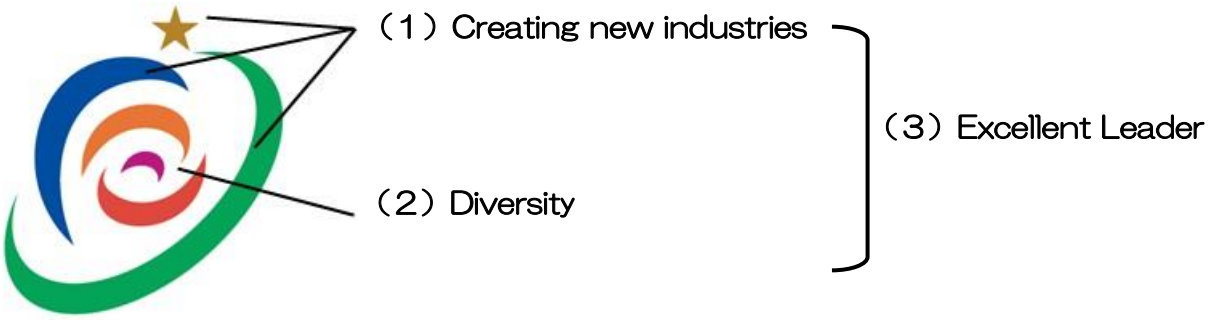
In the WISE program, we provide a 5-year integrated program (master's + doctorate) to foster doctorate-holding human resources with the following three characteristics:. Students who have completed a master's course are also accepted to start a conventional doctoral program (second phase of the integrated program).

The goal of the WISE Program is to foster human resources with the following three characteristics, and the curriculum has been designed for those purposes:

(1) Challenging “creating new industries through agri-engineering collaboration” and thereby leveraging cutting-edge engineering technology to solve the social challenges relating to agriculture,

(2) Strengthening the understanding of diversity (gender, nationality, social experiences, etc.) which is essential for innovative human resources, and

(3) Excellent leadership with a big-picture perspective, originality, appreciation of diversity, international competitiveness, and high-level specialization.



1.3 Admission Policy, Curriculum Policy, and Diploma Policy

Admission Policy

Our aim is to develop excellent leaders with specialization and big-picture thinking from an international perspective, and we are looking for human resources with the following qualifications:

・Admission for the five-year integrated course

- Satisfactory basic academic ability in agriculture, engineering, and related fields
- The diversity mindset needed for research activities in international society and English skills and communication skill for practical activities
- Wide-ranging perspective and interests, with the spirit of inquiry and execution ability for deploying highly creative research and technology to create new industries

・Admission for the doctoral course only

The following in addition to the above:

- Specialized knowledge and skills as a holder of a master's degree, as well as strong interest and desire in a specialized research domain and related fields, and the desire and diversity mindset for driving innovation to create new industries

Curriculum Policy

We offer an educational curriculum for developing excellent leaders capable of driving the creation of new industries based on a diversity mindset in international society.

A) Acquisition of high-level specialized knowledge on international cutting-edge results in agriculture, technology, and related fields, through multifaceted lectures and exercises in areas ranging from natural science to the humanities and social science

B) Cultivation of basic knowledge and techniques in the student's own specialty; acquisition of methods for approaching global social issues, big-picture thinking, and logical thinking; creation of new industries and sparking innovation by learning cutting edge knowledge and experimental techniques; and acquisition of practical techniques

C) Establishing global standard research ethics, intellectual property management, and other attributes needed by a researcher or specialized engineer

D) Cultivation of a global standard diversity mindset, language skills, human skills needed for presentation and debate, and leadership ability for carrying out research or projects

Diploma Policy

We cultivate excellent leaders with the following four characteristics for driving the creation of new industries based on a diversity mindset in the global society.

A) Outstanding specialized capabilities as an independent researcher or creative engineer in the own area of specialization

B) Abilities in big-picture thinking, logical thinking, creative thinking, and practical action enabling execution of industry-academia collaboration and multidisciplinary research to create new industries

C) Leadership ability enabling management of people in different fields from the perspective of diversity to solve problems with both global and local perspectives

D) Ability to bring together the results of one's own research and investigation as reports or academic papers, and produce research results and to present or provide those results at academic meetings and international conferences with research ethics

1.4 Curriculum Characteristics and Course Tree

(1) Curriculum Characteristics

In the WISE Program, years 1–5 of the integrated doctoral course are indicated as follows: 1st year (**P1**), 2nd year (**P2**), 3rd year (**P3**), 4th year (**P4**), 5th year (**P5**).

In P1, through lectures by cutting-edge researchers, students learn about the development of collaborative research in agriculture and engineering and examples of social implementation of research, and consider the development of their own research. In addition, the "Problem Exploration Program" is conducted in collaboration with companies through PBL (Project Based Learning, Problem Solving), in which students tackle problems through group work. In terms of diversity, students will deepen their basic understanding of diversity and inclusion and leadership diversity.

By utilizing overseas training programs conducted in collaboration with FLOuRISH-SPRING program, students will develop the basic English communication skills and international awareness necessary to become globally outstanding human resources. Through these programs, they will gain an understanding of social issues, deepen and develop their specialized research, and advance their understanding of diversity.

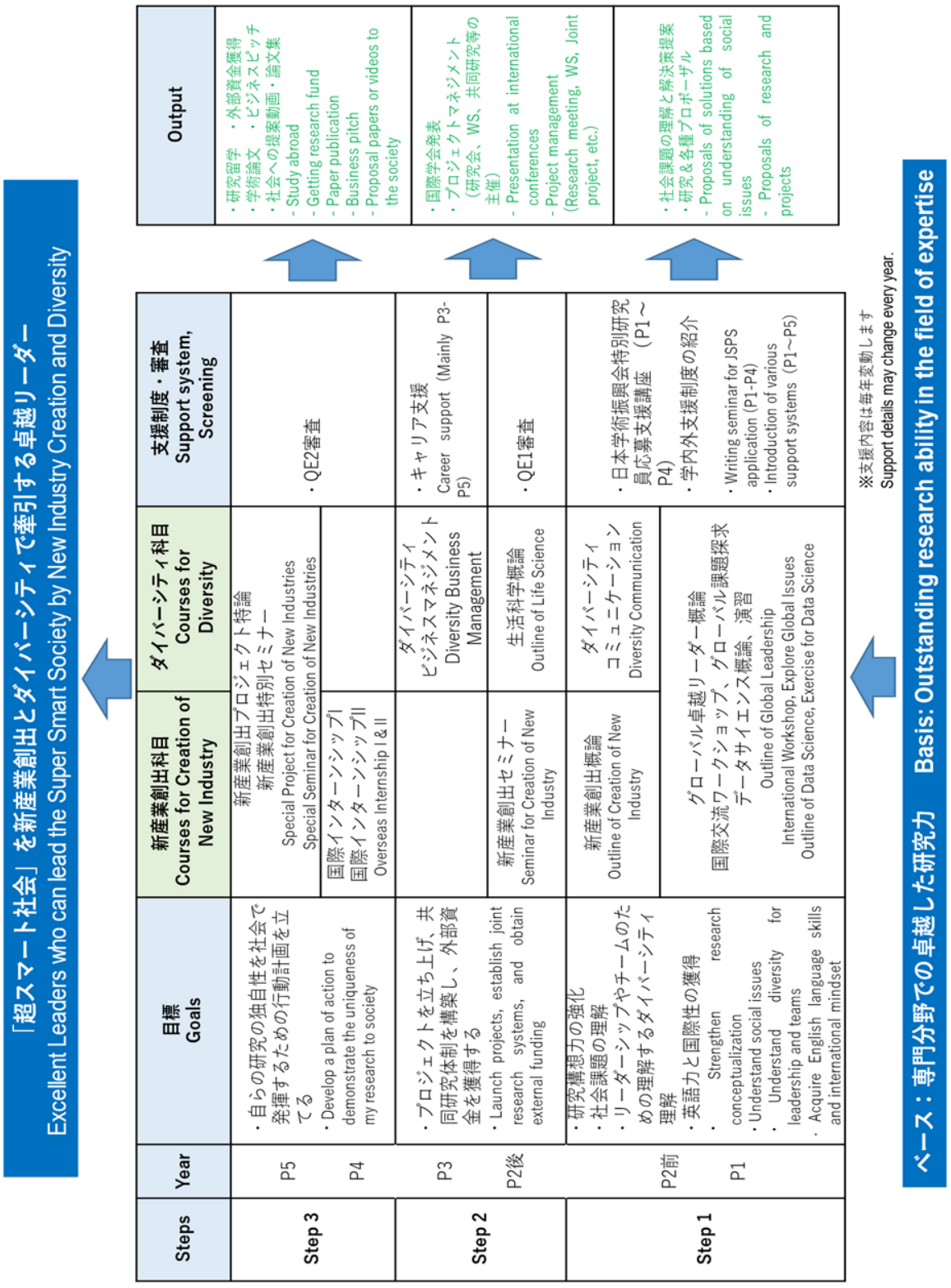
In P2, students learn about R&D in the industrial world and actual examples of commercialization of research, and consider how to develop their research in the real world by applying it to their own research. In addition, students will learn specifically about doctoral careers and life events as a doctoral student, and draw their future life plans based on the various careers and lives that surround doctoral students. At the end of P2, students take the Qualifying Examination (QE1) as a mid-term review of their achievement in the program.

From P3, we will accelerate the strengthening of our research capabilities and at the same time, we will be more active in social implementation and practice. For example, we will engage in global practices such as international joint research and study abroad at overseas partner institutions. Students may also devise commercialization ideas based on the results of their research and challenge business idea contests to engage in agriculture-industry cooperative creation research, prototype production, demonstration experiments, and other practical activities. In the diversity course, students learn the importance of diversity management in academia and industry based on case studies, with a view to after graduation. In the final course, students will develop a vision of the society they wish to create with their research at its core, boldly envision new academic fields and new industries to be pioneered, and work to develop the organizations necessary to achieve these visions and demonstrate them to society. When appropriate, the students can receive advice from leading researchers within the university, faculty members with experience in social implementation, and partner companies.

In P5, each student works toward the completion of the doctoral program in his/her department. If the student is expected to complete the doctoral program, he/she will undergo the Qualifying Examination (QE2), which is the final examination of his/her achievement in the WISE Program in practical skills, diversity acquisition, and leadership for the creation of new industries and the development of new academic fields. Upon successful completion of the QE2, a statement of completion of the WISE Program will be affixed to the student's degree.

(2) Course Map

Ideally, you should take the three steps of the required courses according to this curriculum map. Please work to achieve the goals and output of each step.



2. Courses and requirements

Students in the WISE Program belong to the Graduate School of Agriculture, the Graduate School of Engineering, the United Graduate School of Agricultural Science, the Cooperative Division of Veterinary Sciences, or the Graduate School Bio-Applications and Systems Engineering. To graduate, students must meet the study requirements of their departments. In addition, completion of the WISE Program is recognized when the student completes the following courses offered in the WISE Program and passes the QE1 and QE2.

2.1 Overview of courses categories

The following course groups have been arranged to build the foundation of leaders who can drive innovation by linking and integrating agriculture, engineering, and related fields. Categories (1) – (4) below are studied mainly in the periods P1 and P2, while (5) and (6) are studied from P3 to P5.

(1) Basic Subjects for TUAT Co-Creation

By learning basic courses relating to agriculture, engineering, and related fields, knowledge essential for appreciating diversity, and the basic science of food and living, students are expected to cultivate specialized knowledge and a cross-cutting perspective to build a foundation for generating innovation.

(2) Basic Subjects for Industry-Government-Academia Collaboration

From partner organizations (companies and research institutions) both domestic and overseas, students learn the realities of joint research, and the procedures for securing research funds and reporting on research, and gain a clearer view of the significance in the research and technology development process. Instructors are invited from partner organizations to broaden understanding of technology development in front-line settings such as companies and research centers.

(3) Subjects for International Training

Students acquire a basic foundation for leadership in projects that move from problem-exploration to solution. They do this through double degree programs with overseas partner universities, overseas training, studying abroad, overseas joint research, and similar activities. In addition, students learn the process of research and technology development in diverse environments through activities such as practical internships and joint research with partner institutions.

(4) Special Subjects for TUAT Co-Creation

Students learn the specialized knowledge of agriculture, engineering, and related fields which forms the core of innovation, and then undergo practical training for putting those specialized skills into practice. In particular, we foster the knowledge and techniques of data mining that enable analysis, evaluation, and examination of multifaceted, large-scale data.

(5) Advanced Subjects for TUAT Co-Creation and Industry-Government-Academic Collaboration

Students acquire a foundation enabling formation and management of groups capable of bringing out the best performance from the diverse human resources with various backgrounds needed in research and technology development at universities, research institutions, and companies.

(6) Advanced Exercise for TUAT Co-Creation and Industry-Government-Academia Collaboration

By proposing practical projects using the student's own specialized knowledge, and collaborating with people in the field and partner organizations in Japan and overseas, students learn problem-solving techniques and specific examples of approaches and management for creating new industries.

(7) Subjects for Special Evaluation

Students can apply for credits and competencies in this course group, if they voluntarily attend extracurricular seminars and courses and meet certain conditions aiming to become an outstanding global PhD candidate. Those credits cannot be included in the credits required for QE and completion of the WISE Program.

2.2 Course table (For regular students enrolled from Phase 1 =M1)

See the table for transferred doctor for faculty in charge

科目群 Subject category	科目名 Course name (＊ は科目履修以外に自身の活動による単位申請が可能 ＊ indicates you can apply your own activity other than participating the course)	(参考) 共同開講先科目名 (FYI) Course name jointly offered in other departments	単位数 Number of credits		P1				P2				P3				P4				P5				
			必要数 Required number	科目別 Credits	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
農工協創基盤 科目群 Basic Subjects for TUAT Co-Creation	ダイバーシティコミュニケーション Ⅰ Diversity Communication Ⅰ	異文化コミュニケーション学 (農学府) Multicultural Communication and Transmission (Grad. S. Agr.) 異文化コミュニケーション概論 Global Coodination (BASE)	2	1			●				●														
	ダイバーシティコミュニケーション Ⅱ ★ Diversity Communication Ⅱ	異文化コミュニケーション学 (農学府) Multicultural Communication and Transmission (Grad. S. Agr.) 異文化コミュニケーション概論 Global Coodination (BASE)		2			●	●			●	●													
	生活科学概論 Outline of Life Science	—		1	●	●	●		●	●	●														
	データサイエンス概論 (前期/後期) Outline of Data Science	—		1	●	●	●	●	●	●	●	●													
産官学連携科目群 Basic Subjects for Industry-Government-Academia Collaboration	新産業創出概論 Outline of Creation of New Industries	—	2	1	◎			◎	◎			◎													
	新産業創出セミナー Seminar for Creation of New Industries	—		1	◎	◎	◎	◎	◎	◎	◎	◎													
国際科目群 Subjects for International Training	グローバル卓越リーダー概論 (前期/後期) ▲ Outline of Global Leadership	TUAT-シュタインバイス大学合同研修の事前研修 TUAT-Steinbeis University Joint Program (Pre-training) (BASE)	2	2		●		●		●		●													
	国際交流ワークショップ★▲ International Workshop	TUAT-シュタインバイス大学合同研修の本研修部分 TUAT-Steinbeis University Joint Program (Main Program part) or 中国研修 Chaina Training Program (BASE) or FL Overseas Program 海外研修		2	●	●	●	●	●	●	●	●													QE2
	グローバル課題探究 Explore Global Issues	イノベーション推進特別講義Ⅴ (FL+連大) Special Lecture for Innovation Advancement Ⅴ (FL+U. Grad. S. Agr.)＋事前事後研修		2			●				●														
農工協創専門科目群 Special Subjects for TUAT Co-Creation	国内外実習Ⅰ★▲ Practical Training in Domestic and Overseas I	TUAT-シュタインバイス大学合同研修の事前研修または本体研修 TUAT-Steinbeis University Joint Program (Pre-training or Main Program) (BASE) or 中国研修 Chaina Training Program (BASE) or FL Overseas Program 海外研修 ◆	2	2	◎	◎	◎	◎	◎	◎	◎	◎													
	国内外実習Ⅱ★▲ Practical Training in Domestic and Overseas II			2	○	○	○	○	○	○	○	○													
	データサイエンス演習 (前期/後期) Exercise for Data Science	—		1	○	○	○	○	○	○	○	○													
農工協創産官学連携国際科目群 Advanced Subjects for TUAT Co-Creation and Industry-Government-Academia Collaboration	ダイバーシティビジネスマネジメント▲ Diversity Business Management	イノベーション推進特別講義Ⅳ (FL+連大) Special Lecture for Innovation Advancement Ⅳ (FL+U. Grad. S. Agr.)	1	1											◎				◎			◎		
	新産業創出特別セミナー▲ Special Seminar for Creation of New Industries	イノベーション概論Basic+Advance (FL) Outline of Innovation Basic+Advance (FL)		1									○	○			○	○			○	○			
農工協創産官学連携国際演習科目群 Advanced Excerceise for TUAT Co-Creation and Industry-Government-Academia Collaboration	新産業創出プロジェクト特論▲ Special Project for Creation of New Industries	学際融合合宿 Multidisciplinary Camp (FL)	1	1										●				●				●		
	国際インターンシップⅠ★ Oversea Internship I	—		1									●	●	●	●	●	●	●	●	●	●	●	●	
	国際インターンシップⅡ★ Oversea Internship II	—		2									●	●	●	●	●	●	●	●	●	●	●	●	
特別評価科目群 Subjects for Special Evaluation	卓越大学院展開セミナーⅠ★ Extended WISE Seminar I	—	0	1	随時 As needed								随時 As needed												
	卓越大学院展開セミナーⅡ★ Extended WISE Seminar II	—		1	随時 As needed								随時 As needed												
	卓越大学院展開セミナーⅢ★ Extended WISE Seminar III	—		1	随時 As needed								随時 As needed												

◎：Required, ●：Required elective , ○：Recommended"
★：Transferable Course (The courses in your department and your activities, etc. are transferrable with each course by applying with "WISE Program Credit Application Document". See "Guidelines of Credit Transfer ")
▲：Courses retroactively approvable (If you have already completed the course jointly offered with other department before you enter the WISE Program, the credit can be approved for WISE with the transcript of score.)
◆：Credit transfer from your own learning and research activity in your expertise area is recommended although these courses are applicable for credit transfer to Practical Training in Domestic and Overseas I/ II

For transferring courses, courses offered in the student's department and/or activities applicable to transferring can be transferred upon applying them with "WISE Program Credit Application Form."
Please check "2.7 Credit Transfer Application" for more details before applying

2.3 Completion requirements

To complete the WISE Program, students must meet the completion requirements of their department, and pass the QE below or "Section 2.5" of WISE Program.

✔ QE1 (Basic abilities as WISE Ph.D. holders) requirements

To take QE1, students must have the expectation of passing the final defense of the master's thesis in their departments and have acquired 8 credits or above in total from the following courses.

TUAT Collaboration Basic Courses	2 credits or above
Basic Courses for Industry-Government-Academia Collaboration	2 credits
Courses for International Training	2 credits or above
Special Courses for TUAT Co-Creation	2 credits or above

* Students wishing to complete the program in a shorter period can consult with us.

✔ QE2 (Abilities as WISE Ph.D. holders) requirements

To take QE2, students must have the expectation of passing the final defense of the doctoral thesis in their departments and have acquired 2 credits or above in total from the following courses.

Advanced Courses for TUAT Co-Creation and Industry-Government-Academia Collaboration	1 credit or above
Advanced Exercise for TUAT Co-Creation and Industry-Government-Academia Collaboration	1 credit or above

* Students wishing to complete the program in a shorter period can consult with us.

2.4 Transferred students from Phase 3 =D1

(1) Completion Requirements

Students transferred from P3 to the integrated doctoral course, or only the doctoral portion of the integrated course, must meet all the following requirements to complete the WISE Program.

1 Students should meet the completion requirements in the department to which each student belongs and have acquired 6 credits or above in total; **"Outline of Life Science (1 credit)" or "Outline of Data Science (1 credit)", "Outline of Creation of New Industries (1 credit)", "Outline of Global Leadership (2 credits)" or "International Workshop (2 credits)" or "Explore Global Issues (2 credits)", "Diversity Business Management (1 credit)", "Special Project for Creation of New Industries (1 credit)" or "International Internship I (1 credit)" or "International Internship II (2 credit)"** .

2 The student must take and pass Qualifying Examination 2 (QE2) and Ph.D. defense.

(2) Course table (For transferred students from P3)

科目群 Subject category	科目名 Course name (＊ 付き科目について下記を参照 See below for the courses marked with ＊)	(参考) 共同開講先科目名 ** (FYI) Course name jointly offered in other departments (**下記を参照 See below)	単位数 Number of credits		P3				P4				P5					2025年度 担当教員 Name of the instructors in AY2025 ＊Course Coordinator
			必要数 Required number	科目別 Credits	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q		
農工協創基盤科目群 Basic Subjects for TUAT Co-Creation	ダイバーシティコミュニケーション Ⅰ Diversity Communication Ⅰ	異文化コミュニケーション学（農学府） Multicultural Communication and Transmission (Grad. S. Agr.) 異文化コミュニケーション概論 Global Coodination (BASE)	1	–	3-4Q実施 春期に履修登録して受講可 Open for taking in 3-4Q after the registration in Spring													堀切、＊栗原 Horikiri, ＊Kurihara
	ダイバーシティコミュニケーション Ⅱ ★ Diversity Communication Ⅱ	異文化コミュニケーション学（農学府） Multicultural Communication and Transmission (Grad. S. Agr.) 異文化コミュニケーション概論 Global Coodination (BASE)		–														堀切、＊栗原 Horikiri, ＊Kurihara
	生活科学概論 Outline of Life Science	—		1	●	●	●		●	●	●		●	●	●			大津、吉野、＊栗原 Ohtsu, Yoshino, ＊Kurihara
	データサイエンス概論（前期/後期） Outline of Data Science	—		1	●	●	●	●	●	●	●	●	●	●	●	●		近藤、＊栗原 Kondo, ＊Kurihara
産官学連携科目群 Basic Subjects for Industry-Government-Academia Collaboration	新産業創出概論 Outline of Creation of New Industries	—	1	1	◎			◎	◎			◎	◎			◎		三沢、大津、＊栗原 Misawa, Ohtsu, ＊Kurihara
	新産業創出セミナー Seminar for Creation of New Industries	—		–	履修登録して受講可 Open for taking after the registration													大津、＊栗原 Ohtsu, ＊Kurihara
国際科目群 Subjects for International Training	グローバル卓越リーダー概論（前期/後期）▲ Outline of Global Leadership	TUAT-シュタインバイス大学合同研修の事前研修 TUAT-Steinbeis University Joint Program (Pre-training) (BASE)	2	2		●		●		●		●		●		●		大津、＊栗原 Ohtsu, ＊Kurihara
	国際交流ワークショップ★▲ International Workshop	TUAT-シュタインバイス大学合同研修の本研修部分 TUAT-Steinbeis University Joint Program (Main Program part) or 中国研修 Chaina Training Program (BASE) or FL Overseas Program 海外研修		2	●	●	●	●	●	●	●	●	●	●	●	●		大津、＊栗原 Ohtsu, ＊Kurihara
	グローバル課題探究 Explore Global Issues	イノベーション推進特別講義Ⅴ (FL+連大) Special Lecture for Innovation Advancement Ⅴ (FL+U.Grad.S.Agr.)＋事前事後研修		2			●				●				●			大津、原、＊栗原 Ohtsu, Hara, ＊Kurihara
農工協創専門科目群 Special Subjects for TUAT Co-Creation	国内外実習 Ⅰ ★▲ Practical Training in Domestic and Overseas I	TUAT-シュタインバイス大学合同研修の事前研修または本体研修 TUAT-Steinbeis University Joint Program (Pre-training or Main Program) (BASE) or 中国研修 Chaina Training Program (BASE) or FL Overseas Program 海外研修 ◆	0	2	○	○	○	○	○	○	○	○	○	○	○	○		大津、＊栗原 Ohtsu, ＊Kurihara
	国内外実習 Ⅱ ★▲ Practical Training in Domestic and Overseas II			2	○	○	○	○	○	○	○	○	○	○	○	○		大津、＊栗原 Ohtsu, ＊Kurihara
	データサイエンス演習（前期/後期） Exercise for Data Science	—		1	○	○	○	○	○	○	○	○	○	○	○	○		近藤、＊栗原 Kondo, ＊Kurihara
農工協創産官学連携国際科目群 Advanced Subjects for TUAT Co-Creation and Industry-Government-Academia Collaboration	ダイバーシティビジネスマネジメント▲ Diversity Business Management	イノベーション推進特別講義Ⅳ (FL+連大) Special Lecture for Innovation Advancement Ⅳ (FL+U.Grad.S.Agr.)	1	1			◎				◎				◎			仲井、＊栗原 Nakai, ＊Kurihara
	新産業創出特別セミナー▲ Special Seminar for Creation of New Industries	イノベーション概論 Basic+Advance (FL) Outline of Innovation Basic+Advance (FL)		1	○	○			○	○			○	○				大津、＊栗原 Ohtsu, ＊Kurihara
農工協創産官学連携国際演習科目群 Advanced Excerceise for TUAT Co-Creation and Industry-Government-Academia Collaboration	新産業創出プロジェクト特論▲ Special Project for Creation of New Industries	学際融合合宿 Multidisciplinary Camp (FL)	1	1		●				●				●				大津、＊栗原 Ohtsu, ＊Kurihara
	国際インターンシップ Ⅰ ★ Oversea Internship I	—		1	●	●	●	●	●	●	●	●	●	●	●	●		大津、＊栗原 Ohtsu, ＊Kurihara
	国際インターンシップ Ⅱ ★ Oversea Internship II	—		2	●	●	●	●	●	●	●	●	●	●	●	●		大津、＊栗原 Ohtsu, ＊Kurihara
特別評価科目群 Subjects for Special Evaluation	卓越大学院展開セミナー Ⅰ ★ Extended WISE Seminar I	—	0	1	随時 As needed													大津、＊栗原 Ohtsu, ＊Kurihara
	卓越大学院展開セミナー Ⅱ ★ Extended WISE Seminar II	—		1	随時 As needed													大津、＊栗原 Ohtsu, ＊Kurihara
	卓越大学院展開セミナー Ⅲ ★ Extended WISE Seminar III	—		1	随時 As needed													大津、＊栗原 Ohtsu, ＊Kurihara

◎：Required, ●：Required elective , ○：Recommended"

★：Transferable Course (The courses in your department and your activities, etc. are tranferable with each course by applying with ""WISE Program Credit Application Document"". See ""Guidelines of Credit Transfer "")"

▲：Courses retroactively approvable (If you have already completed the course jointly offered with other department before you enter the WISE Program, the credit can be approved for WISE with the transcript of score.)

◆：Credit transfer from your own learning and research activity in your expertise area is recommended although these courses are applicable for credit transfer to Practical Training in Domestic and Overseas I/II

For transferring courses, courses offered in the student's department and/or activities applicable to transferring can be transferred upon applying them with "WISE Program Credit Application Form."

Please refer to the [2.7Credit (Transfer) application] section.

2.5 Qualifying Examinations (QE)

In the WISE Program, at the P2 and P5 stages, the degree of achievement of the research and other abilities to be acquired in this program is evaluated. Please understand well the "Goals to be achieved" shown below, and engage in research, courses, and activities up to that point.

The following is an overview. For more details, please check the notification to the target person and the related forms.

(1) QE1 (Basic abilities as WISE Ph.D. holders) requirements

To take QE1, students must have the expectation of passing the final defense of the master's thesis in their departments and acquire 8 credits or above in total from the following courses.

TUAT Collaboration Basic Courses	2 credits or above
Basic Courses for Industry-Government-Academia Collaboration	2 credits
Courses for International Training	2 credits or above
Special Courses for TUAT Co-Creation	2 credits or above

* Students wishing to complete the program in a shorter period can consult with us.

(2) Goals and conditions of QE1

Goals to accomplish

QE1 is a midterm evaluation in WISE program. The student must establish a foundation as a leader, with a combined foundation in agriculture and engineering, insight, and high-level research capabilities in a specialized field, as well as innovation-generation abilities, international deployment abilities, and human abilities.

Requirements to pass the QE1

The student must have an understanding of various scientific and technical domains and an appreciation of diversity, a foundation for social implementation abilities and international deployment abilities achieved through practical education making active use of industry-government-academia collaboration and overseas partnerships, and the ability to understand a specialization and fields related to it.

Eligibility

Students who are expected to pass the master's thesis defense in their own major and to acquire the minimum credits (8 credits) required for the WISE program.

Time of evaluation

1–2.5 years after the start of P1. Depending on the completion time of the master's thesis, conducted in January-February or July-August in principle. Students can choose the timing if they need to be conducted after completion of the master (2 to 2.5 years later) or they complete in short-term (within less than one year).

Contents

1. Document screening (created either in English or Japanese)

Evaluation

Evaluation is performed from the achievements and goals/planning.

Documents to be submitted

1. Report for QE1
2. WISE courses transcript by SIRIUS (PDF)
3. WISE Activity Report Sheet -Google Spread Sheet-

(3) QE2 requirements (Examination of abilities as WISE Ph.D. holders)

To take QE2, students must have the expectation of passing the final defense of the doctoral thesis in their departments and have acquired 2 credits or more in total from the following courses.

Advanced Courses for TUAT Co-Creation and Industry-Government-Academia Collaboration	1 credit or above
Advanced Exercise for TUAT Co-Creation and Industry-Government-Academia Collaboration	1 credit or above

* Students wishing to complete the program in a shorter period can consult with us.

(4) Goals and conditions of QE2

Goals to accomplish

The student must be a leader with expertise/specialty through agri-engineering collaboration, insights in the core specialized field, the ability to independently carry out researches and projects, and international deployment abilities and human abilities with the diversity mindset.

Requirements to pass the QE2

The student must have an understanding of various scientific and technical domains and an appreciation of diversity, social implementation abilities achieved through practical research making use of industry-government-academia collaboration and overseas partnerships, the ability to deploy these abilities internationally, and the ability to achieve a big-picture understanding of specialization and related fields.

Eligibility

Students who are expected to pass the doctoral thesis defense in their own major and to acquire the minimum credits (2 credits, or 6 credits for those students who enrolled from P3) required for the WISE program.

Time of evaluation

2.5 - 3 years after the start of P3. Depending on the completion time of the Doctoral thesis, conducted in January-February or July-August in principle. Contact WISE office if the student complete in short-term (less than 2.5 years) or the student is enrolled for more than the standard years and wishes to take the examination during that time.

Contents:

1. Document screening (created either in English or Japanese)

Evaluation

Evaluation is performed from the achievements and goals/planning.

Documents to be submitted

1. Report for QE2
2. WISE courses transcript by SIRIUS (PDF)
3. WISE Activity Report Sheet -Google Spread Sheet-

(5) QE schedule

QE1 and 2 for the students enrolled in spring:

Early January: Receiving the applications from students

January to February. Implementation of QE1 and QE2

March: Reporting the examination results to each department

QE1 and 2 for the students enrolled in autumn:

Middle of July: Receiving applications from students

July to August: Implementation of QE1 and QE2

September: Reporting the examination results to each department

2.6 Course registration and evaluation

(1) Course registration

Students need to register for the courses on the website (Google Form) announced at the beginning of the semester. Students should discuss courses to take with their major supervisor or also with their minor supervisor, plan appropriately, and complete course registration within the specified period.

Note, depending on the course, you will need to enroll/register separately from the above. Therefore, carefully collect the registration information from the orientation guidance and/or the email notifications given at each academic year for details.

If there are any errors in registration, please inquire with the WISE Program Office.

(2) Grades

1. Grading criteria

S, A, B, and C are treated as passing, and credits are awarded. D is non-passing.

2. Checking grades

If you have any questions or other issues regarding your grades, inquire with the WISE Program Office later mentioned in section 6.

2.7 Credit (Transfer) application

Courses with * mark in the list 2.2 and 2.4 are applicable (transferable) as WISE credit after the prescribed procedure.

For the credit(s) to be granted, the required competencies for each course (refer to the list of competencies) must be fulfilled, and the requirements for each course (number of lectures, goals) must be met. Complete the prescribed procedure by the end of February of the fiscal year to surely impart credit.

For details, please refer to the “Guidelines of Credit Transfer” provided separately.

[The procedure for credit application /transfer]

(1) Submit the “Form 7-1 TUAT-WISE Credit Transfer Application Plan（単位申請計画書）” Submit the Form 7-1 by 2 weeks prior to the activity. If it is difficult to submit before the 2 weeks, consult with the lecturer of the course. Also, feel free to contact the lecturer and/or WISE office in case you have any questions during the planning.

(2) Consult with the lecturer of the course beforehand

(3) Conduct the activity

(4) Submit the “Form 7-2 TUAT-WISE Credit Transfer Application & Report（単位申請兼実施報告書）”

(5) Report and presentation on the activity content. Basically, the presentation will be scheduled during the WISE student seminar to share and exchange with all WISE students.

2.8 Sharing with WISE forms

All the forms and documents required for WISE program can be obtained from the shared folder.

To access the folder, login using your TUAT-ID and its password.

WISE office registers students to share, download and/or read them, so if you cannot open the folder, contact WISE program office.

- Forms and documents for download use
  “WISE-TUAT_Data Share_Download_ダウンロード資料共有”

  https://drive.google.com/drive/u/0/folders/0AC8xsQP3eU3bUk9PVA

- Forms and documents for viewing only
  “WISE-TUAT_Data Share_Just for Seeing_閲覧のみデータ共有”

  https://drive.google.com/drive/u/0/folders/0ADpLE4Tv9g8NUk9PVA

3. Financial Support for Students' Activities

The WISE Program provides information on financial support available both within and outside TUAT.

Many WISE students in the doctoral program have received scholarships from FLOuRISH-SPRING program and other internal and external scholarships.

Please check your email carefully as we will notify you of the application guidelines for the support when available.

For Your Reference

※The information below is subject to change. Please be sure to check the latest information by yourself.

https://www.tuat.ac.jp/english/international/for_japanese_students/

As of April 2025

Support for the students who wish to study abroad

※ The information below is subject to change (as of March 2025). Please be sure to check the latest information by yourself.

Title	Duration	Eligibility	Deadline	Number	Contact
JASSO Overseas Study Support Program (Dispatch by Agreement) JASSO	Study abroad for more than 8 days	Students of Japanese nationality or permanent resident status, etc.	Anytime	Many	International Office, Student Affairs Division
TUAT Overseas Research Study Program	Study abroad for more than 2 months	Master students and Senior undergraduate	June 9, 2025	10 students per year	International Office, Student Affairs Division
Overseas Study Program for Doctoral Students	Study abroad for more than 2 months	Doctoral students (Working adults and international students who have not been admitted from TUAT undergraduate are not eligible)	Anytime	10 students per year	University Research Administration Center (URAC) ※ See SIRIUS
IAESTE International Internship	International internship for more than 8 weeks less than 52 weeks	Graduate students, International students, Undergraduates 3rd year and above	Next call in September 2025	Offer system	IAESTE Subcommittee https:/ / web.tuat.ac.jp/ ~iaeste/
Tobitate's Scholarship Program JAPAN	Study abroad for more than 28 days less than 1 year	Students of Japanese nationality or permanent resident status, etc.	Nov.- Dec. Information Session, Apply in Jan. 2026	250 nationwide	International Office, Student Affairs Division

4. Special evaluation

Apart from the regular courses in WISE Program, we will grant credits for the following activities to encourage students to become outstanding global PhD holders to encourage them.

(1) Extended WISE Seminar I, II, and III

If the students voluntarily engaged in input-based learning activities such as attending seminars and lectures that have academic significance, we will evaluate them and grant credits as the course “Extended WISE Seminar”, based on the application from students. Please refer to the “Guidelines of Credit Transfer” for the detailed application procedures.

The regular courses offered in each department are not applicable to this course application. The earned credits obtained in these courses cannot be counted in requirements for QE completion of the WISE Program, or observation evaluation that is examined in QE. Those credits are referred as additional information.

[Examples of targeted seminars]

- WISE Seminars
- Lectures or e-learning which will be announced accordingly

5. WISE Activity Report Sheet (Google Spead Sheet)

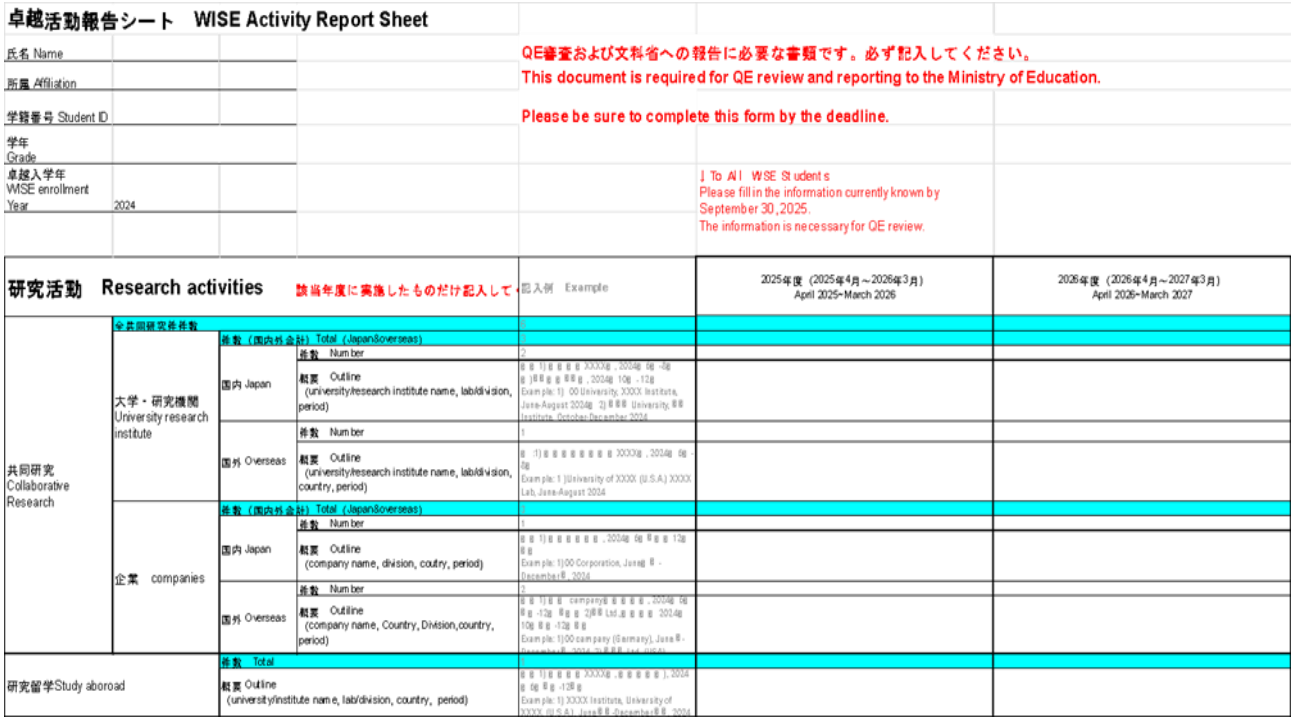
All WISE students are required to submit the WISE Activity report on your research activities once every six months. We will provide a Google Spreadsheet for everyone, so please update your information individually.

As research results of the WISE students are required to be reported to the Ministry of Education, this information will be used as the basis for such reports. Furthermore, this report is an important document for QE review, so please ensure that all information is accurately and completely filled out.

※ The details will be announced later.

■Response deadline (QE candidates will be notified separately as the response deadline is earlier)

- First half: September 30, 2025 (covering activities from April 2025 to September 2025)
- Second half: March 20, 2026 (covering activities from October 2025 to March 2026)



卓越活動報告シート　WISE Activity Report Sheet

氏名 Name	
所属 Affiliation	
学籍番号 Student ID	
学年 Grade	
卓越入学年 WISE enrollment Year	2024

QE審査および文科省への報告に必要な書類です。必ず記入してください。
This document is required for QE review and reporting to the Ministry of Education.
Please be sure to complete this form by the deadline.

To All WISE Students
Please fill in the information currently known by September 30, 2025.
The information is necessary for QE review.

研究活動 Research activities				該当年度に実施したものだけ記入して	記入例 Example	2025年度（2025年4月～2026年3月） April 2025~March 2026	2026年度（2026年4月～2027年3月） April 2026~March 2027
共同研究 Collaborative Research	※共同研究者数						
	大学・研究機関 University research institute	件数（国内外合計）Total (Japan&overseas)					
		国内 Japan	件数 Number				
			概要 Outline (university/research institute name, lab/division, period)				
		国外 Overseas	件数 Number				
			概要 Outline (university/research institute name, lab/division, country, period)				
	企業 companies	件数（国内外合計）Total (Japan&overseas)					
		国内 Japan	件数 Number				
			概要 Outline (company name, division, coutry, period)				
		国外 Overseas	件数 Number				
			概要 Outline (company name, Country, Division,country, period)				
研究留学Study aboroad		件数 Total					
		概要 Outline (university/institute name, lab/division, country, period)					

※The portfolio system used until FY2024 will be replaced and consolidated into the “WISE Activity Report Sheet” from FY2025. By this change, the competency evaluation system has been discontinued.

6. Inquiries

If you have any questions about the course of study, please address your inquiry to one of the following contacts.

[WISE Program Office]

- Fuchu
  Global Information Office, 1F, Main Building
  Tel.: 042-367-5615/ 5618 (Shibata, Kurihara)
- Koganei (Please contact the Fuchu office by phone or email in advance)
  Room 403, 4F, Building 13
  Tel.: 042-388-7773 (Kurihara)

[Common mail address]

tuat-wise@m2.tuat.ac.jp

※For both administrative staff and a coordinator

[Coordinator for WISE Program]

- KURIHARA Kenji (Fuchu / Koganei) k-kurihara@go.tuat.ac.jp

[Administration staff for WISE Program]

- SHIBATA Reina (Fuchu GIO) r-shibata@go.tuat.ac.jp
- NOZAKI Jun (Fuchu・Educational Support Office) kyokai1@m2.tuat.ac.jp

Appendix

(1) Syllabus as of May 2025

Check also SIRIUS.

Ⅰ. Basic Courses for TUAT Co-Creation

Course Name: Diversity Communication Ⅰ
Overview
In this course, students will acquire the knowledge and skills required as a member of an international joint research project in a global society that includes diversity. Students will learn about the actual situation of international joint research through its background, related factors, and examples of researchers and coordinators including following abilities. 1. Understanding of the background and structure of international joint research projects 2. Understanding the factors involved in coordinating within a project team, including diversity 3. Coordination and communication skills required as a researcher 4. Ability to build relationships including diversity and to coordinate problems This course is offered jointly with "Multicultural communication and transmission" in the Graduate School of Agriculture, "Global Coordination" in the Graduate School of Bio-Applications and Systems Engineering (BASE) , and “Diversity Communication Ⅱ”. This course will start from the 2nd of October.
Standard of achievement
1. Acquire the knowledge and ability to be conscious of and utilize one's own expertise to solve domestic and international problems, based on a comprehensive understanding of the role and current situation of international joint research projects. 2. Acquire the analytical, thoughtful, and expressive skills necessary to take the lead in interdisciplinary and multicultural collaboration when solving problems in various fields both in Japan and overseas. 3. Acquire the problem-searching, planning, and practical skills necessary to become a leader who has a broad perspective and practices problem-solving. Corresponding criteria in the Diploma Policy: See the Curriculum maps. (URL: https://www.tuat.ac.jp/campuslife_career/campuslife/policy/)
Class content
*The following schedule is subject to change depending on the number of students and availability of outside lecturers. The location is Room 22, Bldg. 2, Fuchu Campus. From October 2 to November 27, every Thursday (13:00-14:30). 1. What is an international joint research project? 2. Communication theory 3. Intercultural studies, understanding diversity 4. Example of International joint research in the field of agriculture 5. Example of International joint research in the field of engineering 6. Current Status of International Joint Research Projects in Interdisciplinary Fields 7. Introduction of cultural and interdisciplinary research in each field (1) 8. Introduction of cultural and interdisciplinary research in each field (2) 9. Introduction of cultural and interdisciplinary research in each field (3) *In principle, classes will be conducted in English. (Additional Information) The following classes will be offered in addition to the above as "Multicultural communication and transmission", "Global Coordination", and “Diversity Communication Ⅱ.

Every Thursday for 3rd period (13:00-14:30) from December 11 to January 29. (except 12/25 and 1/1) 10. Ability to build multicultural and interdisciplinary relationships and coordinate issues 11. Possibility of interdisciplinary research 12. Intercultural Competence and Leadership (1) 13. Intercultural Competence and Leadership (2) 14. Intercultural Competence and Leadership (3) 15. Summary
Prerequisites, related information
Required elective course for all Master students. Open for transferred Doctoral students
Texts, textbooks
PowerPoint slides and handouts
Reference books
None specified.
Grading method
Participation in discussion 50%, Reaction paper 20%, Presentation 15%, Report 15%

Course Name: Diversity Communication Ⅱ

Overview

In this course, students will acquire the knowledge and skills required as a member of an international joint research project in a global society that includes diversity.

Students will learn about the actual situation of international joint research through its background, related factors, and examples of researchers and coordinators including following abilities.

1. Understanding of the background and structure of international joint research projects
2. Understanding the factors involved in coordinating within a project team, including diversity
3. Coordination and communication skills required as a researcher
4. Ability to build relationships including diversity and to coordinate problems

This course is offered jointly with “Multicultural communication and transmission” in the Graduate School of Agriculture, “Global Coordination” in the Graduate School of Bio-Applications and Systems Engineering (BASE), and “Diversity Communication Ⅰ”.

This course will start from the 2nd of October.

Standard of achievement

1. Acquire the knowledge and ability to be conscious of and utilize one's own expertise to solve domestic and international problems, based on a comprehensive understanding of the role and current situation of international joint research projects.
2. Acquire the analytical, thoughtful, and expressive skills necessary to take the lead in interdisciplinary and multicultural collaboration when solving problems in various fields both in Japan and overseas.
3. Acquire the problem-searching, planning, and practical skills necessary to become a leader who has a broad perspective and practices problem-solving.

Corresponding criteria in the Diploma Policy:
See the Curriculum maps.
(URL: https://www.tuat.ac.jp/campuslife_career/campuslife/policy/)

Class content

*The following schedule is subject to change depending on the number of students and availability of outside lecturers.
@ Room 22, Bldg. 2, Fuchu Campus
From October 2 to January 29. (except 12/4, 25 and 1/1), every Thursday for 3rd period (13:00-14:30)

1. What is an international joint research project?
2. Communication theory
3. Intercultural studies, understanding diversity
4. Example of International joint research in the field of agriculture
5. Example of International joint research in the field of engineering
6. Current Status of International Joint Research Projects in Interdisciplinary Fields
7. Introduction of cultural and interdisciplinary research in each field (1)
8. Introduction of cultural and interdisciplinary research in each field (2)
9. Introduction of cultural and interdisciplinary research in each field (3)
10. Ability to build multicultural and interdisciplinary relationships and coordinate issues
11. Possibility of interdisciplinary research
12. Intercultural Competence and Leadership (1)
13. Intercultural Competence and Leadership (2)
14. Intercultural Competence and Leadership (3)
15. Summary

*In principle, classes will be conducted in English.

Prerequisites, related information

Required elective course for all Master students. Open for transferred Doctoral students

Texts, textbooks

PowerPoint slides and handouts

Reference books
None specified.
Grading method
Participation in discussion 50%, Reaction paper 20%, Presentation 15%, Report 15%

Course Name: Outline of Life Science

Overview

To lead a fulfilling life while being active in society, students will gain knowledge about life events, career, work-life balance, nutrition, etc., to develop the ability to design their own career, life, and lifestyle, as well as the ability to manage a team where diverse ways of working are possible.

Students will participate in lectures and seminars by researchers and practitioners in diverse fields, and through free and vigorous discussions, gain new perspectives and insights, learn about issues, and think about ideal work styles for the next generation.

Through these activities, participants will understand the life events that they or those working around them may experience, and gain knowledge and preparedness for such events.

In addition, students will learn design thinking, which utilizes the process used to devise designs and designs to solve social issues, and learn methods for creating ideas for research and business that are not bound by existing frames. Students will also use these methods to re-analyze themselves in their own life planning, question the true issues in their careers, and develop the ability to think of solutions and make proposals.

This course will be offered in cooperation with the Women's Future Development Organization of TUAT and FLOuRISH-SPRING Program.

English will be used as the course language, but a seminar may be conducted in Japanese. English support/interpreter will be provided for the seminar conducted in Japanese.

Standard of achievement

- To gain knowledge about work-life balance and doctoral careers, and to have your own ideas about them
- To acquire diverse thinking skills that are not limited by existing values

Class content

1st Session
June 25 (10:30 - 12:00)
Theme: Work-Life Balance and Life Planning for Researchers
Lecturers: Prof. Gomi and Prof. Ohtsu
Classroom: Fuchu Campus, Rm 21, Lecture Hall #1

2nd&3rd Session
July 3 and 4 (9:30-17:00)
Theme: Design Thinking (Lecture & Workshop style) co-organized by FLOuRISH-SPRING Program
Lecturer: Prof. Hara
Classroom: Fuchu Campus (TBD)

4th Session “Diversity Seminar”
October 3 (TBS)
Seminar hosted by Women's Future Development Organization
Theme: Diversity & Inclusion, Career Paths (tentative)
Lecturer: TBD Classroom: Koganei Campus (TBD)

5th Session
December (TBS) *Class hours depend on the number of students
Presentation by participants: Summary of the course (what they have learned through the lectures and seminars, what they have tried to do on their own, etc.)
<5-minutes presentation by each participant + 5-minutes Q&A> x 10 participants
Classroom: Koganei Campus (TBD)

Prerequisites, related information
Required elective for all Master students and transferred Doctors (Students who have already taken this course can also attend.)
Texts, textbooks
Introduced accordingly as needed.
Reference books
Introduced accordingly as needed.
Grading method
Lecture participation and attitude 70%, Report 30%
Keywords
PhD career, diversity, work-life balance, design thinking, team management
Office hours
Respond accordingly

Course Name: Outline of Data Science (First Semester)
Overview
Dramatic advances in measuring instruments and communication technology have made it possible to obtain vast amounts of data in a variety of areas, ranging from natural phenomena to human social activities. Data science systematizes methodologies for extracting valuable information from these vast amounts of data, and related fields cover a wide range, including mathematical statistics, information science, machine learning, and information visualization. The purpose of this course is for beginners in data science to learn the methodologies of the field by gaining a broad overview of everything from data preprocessing to the basics of machine learning (both unsupervised and supervised). This course also introduces the latest trends in machine learning in order to direct students' interest toward the ever-evolving technology of data science. All designated online courses must be taken. This course is offered in the first and second semester separately and can be taken in the same semester as “Exercise for Data Science”.
Standard of achievement
・Understand the basics of data science ・Understand the basic methods of machine learning (unsupervised and supervised)
Class content
Read the “MATLAB Campus-Wide License” on the TUAT website carefully and register as a user at first. (https://www.tuat.ac.jp/research/support/MATLAB.html) Each student will take the MATLAB online courses designated below. <Designated Courses> 1. MATLAB Onramp (2 hours) 2. Statistics Onramp (1 hour) 3. Table (2 hours) 4. Clean and Prepare Data for Analysis (1.5 hours) 5. Common Data Analysis Techniques (1 hour) 6. Machine Learning Onramp (2 hours) Submit all of the above 6 courses’ certificates of completion (PDF format) through SIRIUS.
Prerequisites, related information
Required elective for Master students and transferred Doctoral students Must have mastered fundamentals of linear algebra and mathematical statistics
Texts, textbooks
Handed out when appropriate.
Reference books
Introduced as appropriate.
Grading method
Overall evaluation based on the certificate of completion for each course (issued in PDF format)
A word from the teaching staff
We hope that students will master the basics of data science, and apply them to their actual research
Keywords
Data processing, machine learning
Office hours
Questions are always welcome by email.

II . Basic Courses for Industry-Government-Academia Collaboration

Course Name: Outline of Creation of New Industries

Overview

Purpose

- Students obtain basic knowledge for creating new fields and social implementation from their research expertise. They consider the future development of their research from the viewpoints of agricultural-engineering collaboration, diversity, and the creation of new industries.

Overview

- Lectures on how to formulate research concepts and procedures for conducting research in each phase of basic research → applied research → practical application development. If the research theme does not reach to practical application and/or development due to its characteristics, the students are encouraged to envision a new field creation; from basic research to an academic transformation.
- Workshop-style classes will be conducted for the students who are beginning research to construct their ideas based on their individual research theme.
- After attending these lectures and workshop, students will receive credit for this course by applying for the JSPS DC Research Fellowship (except for transfer students who have already received a DC). In this case, it is recommended to take the "JSPS DC Research Fellowships Adoption Support Course" held by TUAT.

(Schedule)
June 5 (Fuchu), June 12(Fuchu), June 19 (Koganei), and June 26(Koganei) (every Thursday),
from 4th to 5th period (14:45-18:00), at room 21 Lecture Hall 1 Fuchu or L1342 Bldg. 13, Koganei.
Face-to-face style, with online (hybrid).

Achievement Criteria

Students are expected to acquire the basis for developing conceptual and step-by-step implementation skills for the future based on their own research theme. We hope students have ideas of what is really required, what are the challenges, and what should be done to implement the results of their own research in society.

Class content

(1) Preliminary study

Lecture on how to formulate research concepts and research execution procedures in each phase of basic research → applied research → practical application development. Based on the above lecture content, students consider the steps to take to develop their own research into a practical application or to create a new field, and submit their ideas on the worksheet and template distributed in advance.

(2) Workshop

Students will present the contents of their preliminary studies and improve their research development plans through discussion among students and guidance from the instructor.

(3) Post-workshop study

Based on what you learnt in the workshop, consider again your own research development and the steps to reach your goals. Take the JSPS Postdoctoral Fellowship Adoption Support Course and apply for it.

Prerequisites, related information

This is a required course for all WISE program students. Students are recommended to take in the first year as it is the foundation for future study in the WISE program.

Texts, textbooks

Hilary Glasman-deal, "Science Research Writing: For Native and Non-native Speakers of English" ISBN-13:978-1786347831 (World Scientific Pub Co Inc)

Reference books

Foong May Yeong "How to Read and Critique a Scientific Research Article: Notes to Guide Students Reading Primary Literature", ISBN-13:978-9814579162 (World Scientific Pub Co Inc)

Devon D. Brewer "Essentials of Scientific Research: A Practical Guide" ISBN-13:?978-0998615400 (Evidence Guides)

Willie Tan "Research Methods: A Practical Guide for Students and Researchers" ISBN-13:?978-9811256936 (World Scientific Pub Co Inc)

Grading method
Evaluation will be based on the content of the presentation at the workshop and final report, and the status of the application to the JSPS DC Research Fellowship.
Message from the teaching staff
To involve in society construction as a high-level Ph.D talent, please learn and consider how you develop your research.
Keywords
Research conceptualization, Agricultural and engineering collaboration, Creation of new industries, Creation of new fields, Diversity
Office hours
Arranged with the lecturer through the WISE course coordinator.

Course Name: Seminar for Creation of New Industries

Overview

Students learn about research developments of universities and examples of how the results are being utilized in the private sector. They will acquire the basic knowledge which is necessary to create new fields using their specialized skills and connect them to social implementation.
Specifically, by attending the Drs' Café hosted by the FLOuRISH-SPRING project, students will explore how to further refine their research skills and knowledge into research seeds through case studies from various research institutions and private companies. This involves considering how to expand their research in the future by observing society from a perspective that takes into account the creation of new fields through cutting-edge research capabilities (i.e., the creation of new industries), the social implementation of such research, agri-engineering collaboration (integration), diversity, new industry creation.

Achievement Criteria

Develop one's own research and have an idea of what is required, what are the challenges, and what should be done to apply the results to society.
Obtain the basic knowledge to acquire the ability to conceptualize the future and the steady implementation ability.

Class content

Attend Drs' Café at least three times within the same academic year and submit a report by the end of January.
However, for the international students who have difficulty attending in Japanese, application for credit over two years will be accepted (in such cases, students will need to register for the following year as well).
The report should be a summary of the content of each session attended, what you have researched in related matters, your opinions and impressions about the content, and your future prospects in relation to your field of research.
Detailed information on the report contents will be provided on the LMS after the course starts.
The report is expected to be approximately 1,000 words in English (approximately 2 A4-size pages).

Schedule of Drs' Café in 2025

- May 21 Food and Agriculture Organization (FAO) (English)
- June 18 Challenges of Social Issues from the Perspective of Manufacturing (in Japanese only) by Shimadzu Corporation
- July 18 Agriculture and Energy (English)
- October 3 Co-organized with Technical University of Munich (tentative)
- November Blue and Green Transformation, Co-organized with TUAT BX-GX International Education and Research Hub
- December Co-organized with TUAT EAGLe (English)
- January Co-organized with West Tokyo Co-Creation Center

The dates and contents are subject to change upon guests' availability.

Prerequisites, related information

This is a required course for Master students. Doctoral students are also welcomed to attend but no credit approved.

Texts, textbooks

Assigned based on the course content.

Reference books

Assigned based on the course content.

Grading method

Grades will be based on attendance and attitude such as speaking up at the Doctor's Café, and the contents of a final report.

Message from the teaching staff

We hope that students know some cases of research development in agriculture, engineering and their related fields, and how their research achievements have been applied in society. Consider to translate them into their own research and deepen their thinking.

Keywords
Agriculture-Engineering collaboration, Applications and implementations of research achievements, Creation of new industries
Office hours
Arranged with the lecturers through the WISE course coordinator

III . Course for International Training

Course Name: Outline of Global Leadership
Overview
This course is offered jointly with "International Communication Exercise I" (Pre-program of TUAT-Steinbeis Joint Program in Japan) by Graduate School of Bio-Applications and Systems Engineering (BASE). This course is intended to hone students' problem-finding and problem-solving skills through fascinating, unresolved themes, to discover deficiencies in their own knowledge, to share knowledge with each other through team activities, and to hone diverse communication skills in the process. As a result, students will cultivate autonomy and develop the foundation for future self-improvement.
Standard of achievement
To be a researcher on an ongoing global basis, knowledge of science is not enough; knowledge and skills in strategy and marketing in business administration are also necessary. Through the training, students will understand the following three points by replacing the 4Ps of marketing (Product: research theme, Price: type of money (budget), Promotion: journal, Product/sales: academic society) and be able to make their own plans. 1) Redefining and understanding the current status of one's own research area or field 2) Differentiation and positioning from competing researchers and groups 3) Which conference will you present your paper at and which journal will you publish it in
Class content
It will be held for 4 days from August 26 to 29. (9:00-18:00 @Koganei Campus) 0. Objectives of the TUAT-Steinbeis Joint Program Diversity and Leadership, Research and Development Management 1. Leadership and Consensus Building Consensus Game 2. What is Marketing? How to Develop a Marketing Strategy, Group Work 3. Environmental Analysis Analysis of External and Internal Environments, SWOT-TOWS Analysis, Core Competencies 4. Market and Customer Analysis STP Marketing 5. Consideration of Tactics 4P (Product, Price, Place, Promotion) 6. Visualizing Business Structure Nine items for Business Model Canvas (BMC) commercialization 7. Business Proposal Presentation Teams present business strategies and marketing strategies
Prerequisites, related information
Required elective for Masters and transferred Doctors In addition to the class and the time required to complete the assignments, students should refer to the distributed lecture materials and reference books, and prepare and review in accordance with the standard number of hours required by TUAT. If you continue to participate in the whole TUAT-Steinbeis Joint Program (scheduled for September 4th – 15th, etc.) after this course, you can apply for credits for the "International Exchange Workshop" in the WISE Program. For details, please refer to the syllabus of the "International Workshop".
Texts, textbooks
Provided accordingly
Reference books
Provided accordingly

Grading method
Contribution to group activities, content of presentations, attitude toward the course as a whole 70% Report (Presentation) 30%
A word from the teaching staff
This is an opportunity to learn how to think about and conduct research, and to acquire knowledge that will be fundamental in situations where you work with business people as a PhD. Active discussion and expression of opinions are expected.
Keywords
PBL, R&D Management, Marketing, New Business, Team Management, Leadership
Office hours
The course instructor will respond based on appointments.

Course Name: International Workshop

Overview

Students will voluntarily visit overseas partner institutions of the WISE Program to discuss global issues and solutions from the viewpoints of agriculture-industry collaboration and smart society, etc., based on scientific evidence in English.

Through this activity, students will develop the qualities of global professionals by understanding the local situation, making comparisons with their own countries, and interacting with other graduate students, faculty members, and researchers at the overseas partner institutions.

This course also aims to develop language skills, global communication skills, and network building that will lead to the realization of future overseas research study abroad (credited through "Overseas Internship I or II"), international joint research, and international co-authored papers, etc.

➢ By applying other activities for credits

In addition to the field visits described above, students will also participate in the TUAT-Steinbeis Joint Program by the BASE Graduate School (the main training program with visiting students from Germany), or the China training program by the BASE Graduate School, or the FLOuRISH overseas training program as well as courses in their own major, courses taken in other majors, and other exchange activities with overseas institutions equivalent to this course.

Students can apply for credit for this course if they are judged to have achieved the course contents, study hours, achievement standards, and competencies of this course through these activities.

* For details, please refer to the " Guidelines of Credit Transfer Application" to be provided separately.

Standard of achievement

- Deepen understanding of issues facing the world from the perspectives of agriculture-industry cooperation and creation, smart society, etc., and to develop logical thinking and explanatory skills based on scientific evidence.
- Develop discussion skills on cutting-edge research in English
- Develop cross-cultural communication and teamwork skills

Class content

※Standard Example
■Prior Learning
Acquire and improve skills in communication, discussion, debate, presentation, etc. in English
Research on workshop topics
Acquire basic knowledge of the history, society, and culture of the partner country, etc.
■Workshops
Attend lectures on the theme
Group discussion and group work on themes
Presentation, etc.
■Post-study
Reflection, discussion, presentation

Prerequisites, related information

Attend all pre-study, workshop, and post-study sessions

Grading method

Studying attitude 50%, Report 50%

Message from the instructor

This is a valuable opportunity to connect with overseas partner institutions with world-class research capabilities, and to discuss, investigate, and make proposals together with other students and faculty members. We strongly encourage you to take on this challenge.

Keywords

International Academic and Cultural Exchange, English Discussion, English Communication, English Presentation

Office hours

WISE program coordinator will respond as needed.

Course Name: Explore Global Issues

Overview

■This course is offered with “Special Lecture for Innovation Advancement V” by the United Graduate School of Agricultural Science and includes pre-study, pre-course training, and post-course training. It is a second-semester course.

■This course provides students with the opportunity to learn about the current status, challenges, and initiatives related to global agriculture, environment, energy, and other fields from the leading lecturers on the global stage. Students will reflect where their research position is and how to utilize them on a global scale, as well as whether their thinking is truly objective and scientific. Additionally, the course aims to enhance students' communication skills, discussion skills, and debate skills in English.

※Please note that if you take this course, you will not be allowed to take “Special Lecture for Innovation Advancement V” again after entering the Graduate School of Agricultural Science.

Standard of achievement

■Acquisition of knowledge

・Deepened understanding of global issues (agriculture, environment, energy, etc.).

・Deepened understanding of innovation through interdisciplinary integration.

■Improvement of soft skills

・Based on scientific evidence, improved logical thinking skills, explanatory skills, and creativity in new fields (interdisciplinary integration).

・Improved cross-cultural communication skills and teamwork skills.

・Improved ability to engage in English discussions related to research content and interdisciplinary integration.

Class content

All dates are tentative. We will notify you as soon as they are confirmed.
Venue: MTG#2, 4F Renda Administration Building, Fuchu

■Pre-study (**November**)

・Extract global issues based on your research theme, analyze them, and prepare ideas for application to other fields.

■Pre-training (half day to one day) **December 3** (TBA)

・Learn and practice the concept of cross-cultural communication and discussion.

・Learn and practice the concepts of innovation through interdisciplinary integration (logical thinking, analogical thinking, list up potential research theme, identification of core technologies, research content portfolio, and diversification strategies, etc.)

■Lecture “Special Lecture for Innovation Advancement V”

・Lecture on agriculture and the environment (half day) **December 4**
Lecturer: HOSHIKAWA Ken / Chief Researcher, Japan International Research Center for Agricultural Sciences (JIRCUS)

・Lecture on energy field (half-day) **December 4**
Lecturer: NEI Hisanori / Professor, National Graduate Institute for Policy Studies (GRIPS)

・Global Economic Structure and Innovation (one day) **December 5**
Lecturer: HARA Kousuke / Lecturer, FLOuRISH

■Post-lecture training (half day to one day) **December 10** (TBA)

・Present and refine the content prepared through pre-study

Prerequisites, related information

This course will open as “Required elective” for Masters and transferred Doctors
In addition to the class and the time required to complete the assignments, students should refer to the distributed lecture materials and reference books, and prepare and review in accordance with the standard number of hours required by TUAT.

Texts, textbooks

Provided accordingly

Reference books

Provided accordingly

Grading method
50%: Contribution to group discussions, presentation content, and overall attitude toward the course 50%: Pre- and post-class assignments
A word from the teaching staff
This is an opportunity to enhance the knowledge and skills that form the foundation for conducting research, advancing research, and working with corporate professionals as a doctoral researcher. Active discussion and expression of opinions are expected.
Keywords
Agriculture, Energy, Environment, Innovation, Interdisciplinary Integration, Logical Thinking, Analogical Thinking, Portfolio, Diversification Strategy, Marketing, New Business, Team Management, Leadership, Cross-Cultural Understanding
Office hours
Questions will be accepted by the lecturers during class or via email.

IV . Special Subjects for TUAT Co-Creation

Course Name: Practical Training in Domestic and Overseas I

Overview

To enhance expertise and experience by engaging in discussions and actions with relevant parties with a view to applying the findings obtained through lectures and practical training at the WISE Program and research in the laboratory to real-world situations in Japan and abroad, or to social implementation of research (e.g., connection to commercialization and technology diffusion).

Specifically, the students will identify issue in the field related to their own research and examine from a broad perspective the research, technologies, and other methods that will lead to solutions, as well as deepen their understanding of the field through exchanges of opinions with those involved in the field and those with practical experience where these methods are applied, and trial implementations. The program will also develop the ability to communicate with stakeholders and to implement solutions.

By gaining practical skills and work experience as engineers and researchers in Japan and abroad, the participants will gain confidence in their ability to apply their knowledge in diverse environments and cultivate the flexibility to respond flexibly. In addition, the participants will recognize how their research fields are (or could be) utilized in the field, and utilize them to build their visions.

This course allows students to apply for credits based on their own activities. Students may apply for credit (transfer) for this course if they have their own activities, courses in their own majors, or courses taken in other majors that provide the course content, study hours, targeted achievement standards, and acquired competencies of this course. You may also take advantage of opportunities to present at academic conferences.
Also refer to the "Guidelines of Credit Transfer," which is provided separately.

Standard of achievement

To integrate specialized knowledge, research results, etc. learned in graduate school with practical experience, and to clarify a sense of purpose for specialized knowledge and research.

Specific goals to be achieved are as follows

1. The students will be able to clarify issues in the application, implementation, and development of knowledge and explore the seeds of research, based on examples of how the knowledge and technologies they have learned through their studies and research have been used in real-world settings in Japan and overseas, or how their research has been implemented in society.
2. To raise awareness of safety and environmental concerns in domestic and international settings, and to take a pro-research stance on research ethics, morals, and responsibility.
3. Gain experience in discovering research needs in the real world.
4. In research and the realization of an ideal society, the student will understand the stakeholders surrounding the subject matter, and acquire communication, negotiation, and etiquette skills with these stakeholders of various cultures, generations, etc.

Class content

This course consists of pre-study, implementation of practical training, and post-study report (report and presentation).

Time allocation will be based on student progress.

1-3 times: Preliminary study (gathering information, reviewing papers, writing a plan, etc.)

4 to 10 times: Practical training

11-15 times: Post-event report (report compilation, data organization, presentation, etc.)

Also refer to the "Guidelines of Credit Transfer," which is provided separately.

Prerequisites, related information
Required for Masters /Required elective for transferred Doctors Willingness to learn and practice in the field at home and abroad.
Texts, textbooks
None
Reference books
None
Grading method
Practical training (50%), report and presentation (50%)
A word from the teaching staff
Discoveries at sites in the field will become seeds of new research, and connect with innovation.
Keywords
Domestic and international training, conference presentations, internships
Office hours
As appropriate

Course Name: Practical Training in Domestic and Overseas II

Overview

To enhance expertise and experience by engaging in discussions and actions with relevant parties with a view to applying the findings obtained through lectures and practical training at the Graduate School of Excellence and research in the laboratory to real-world situations in Japan and abroad, or to social implementation of research (e.g., connection to commercialization and technology diffusion).
The contents and themes of this course are developed from those of "Practical Training in Domestic and Overseas I".

Specifically, the program will identify issues in the field related to their own research and examine from a broad perspective the research, technologies, and other methods that will lead to solutions, as well as deepen their understanding of the field through exchanges of opinions with those involved in the field and those with practical experience where these methods are applied, and trial implementations. The program will also develop the ability to communicate with stakeholders and to implement solutions.
By gaining practical skills and work experience as engineers and researchers in Japan and abroad, the participants will gain confidence in their ability to apply their knowledge in diverse environments and cultivate the flexibility to respond flexibly. In addition, the participants will recognize how their research fields are (or could be) utilized in the field, and utilize them to build their visions.

This course allows students to apply for credits based on their own activities. Students may apply for credits (transfer credits) for this course if they have their own activities, courses in their own majors, or courses taken in other majors that provide the course content, study hours, targeted achievement standards, and acquired competencies of this course.

Also refer to the "Guidelines of Credit Transfer," which is provided separately.

Standard of achievement

Learn practical skills and techniques, integrate them with practical experience, including specialized knowledge and research results learned in graduate school, and clarify a sense of purpose for specialized knowledge and research.

Specific goals to be achieved are as follows

1 The students will be able to clarify issues in the application, implementation, and development of knowledge and explore the seeds of research, based on examples of how the knowledge and technologies they have learned through their studies and research have been used in real-world settings in Japan and overseas, or how their research has been implemented in society.
2 To raise awareness of safety and environmental concerns in domestic and international settings, and to take a pro-research stance on research ethics, morals, and responsibility.
3 Gain experience in discovering research needs in the real world.
4 To be able to practically match research needs and seeds, and to present the results.
5 In research and the realization of an ideal society, to understand the stakeholders surrounding the subject matter, and to acquire communication, negotiation, and etiquette skills with these stakeholders of various cultures and different generations.
6 To be able to summarize the contents of the study as a report, etc., and respond appropriately to presentations and questions.

This course consists of pre-study, implementation of practical training, and post-study report (report and presentation).

Time allocation will be based on student progress.

1-3 periods: Preliminary study (gathering information, reviewing papers, writing a plan, etc.)
4 to 10 periods Practical training
11-15 periods: Post-event report (report compilation, data organization, presentation, etc.)

Prerequisites, related information
Required elective for all Masters and transferred Doctors Willingness to learn and practice in the field at home and abroad.
Texts, textbooks
None
Reference books
None
Grading method
Practical training (50%), report and presentation (50%)
A word from the teaching staff
Discoveries at sites in the field will become seeds of new research, and connect with innovation.
Keywords
Domestic and international training, conference presentations, internships
Office hours
As appropriate

Course Name: Exercise for Data Science (First Semester)
Overview
This is an exercise course linked with “Outline of Data Science”. Using MATLAB, this course will provide practical exercises on data processing, analysis, and visualization, which are the foundation of data science. In addition, students learn and develop an understanding of basic methods of machine learning (e.g., support vector machines, neural networks). This course is offered in the first and second semester separately, and can be taken after or in the same semester as “Outline of Data Science”.
Standard of achievement
- Ability to practice data processing, analysis, visualization, and basic machine learning methods using MATLAB.
Class content
Read the “MATLAB Campus-Wide License” on the TUAT website carefully and register as a user at first. (https://www.tuat.ac.jp/research/support/MATLAB.html) Each student will take the MATLAB online courses designated below. <Designated Courses> 1. Classification Methods with Machine Learning (2 hours) 2. Regression Methods with Machine Learning (1.5 hour) 3. Cluster Analysis with Machine Learning (1.5 hours) 4. Dimensionality Reduction Techniques (1 hour) 5. Explore Convolutional Neural Networks (1 hour) Submit the above 5 courses’ certificates of completion (PDF format) through SIRIUS.
Prerequisites, related information
Recommended for all Masters and transferred Doctors Must take “Outline of Data Science” course before or in the same semester Better to have programming experience
Texts, textbooks
Handed out as appropriate.
Reference books
Books on MATLAB programming
Grading method
Overall evaluation based on the certificate of completion for each course (issued in PDF format)
A word from the teaching staff
We hope that students will master the practical techniques of data science and use those skills in their own research.
Keywords
MATLAB, Data Processing, Machine Learning
Office hours
Questions are always welcome by email.

Ⅴ．Advanced Subjects for TUAT Co-Creation and Industry-Government-Academia Collaboration

Course Name: Diversity Business Management

Overview

This course will be held together with the course "Special Lectures on Innovation Advancement IV" provided by United Graduate School of Agricultural Science.

Day 1: November 27 (Thu) 9:00 - 16:00
Day 2: November 28 (Fri) 9:00 - 16:00

Classroom: #2 meeting room, United Graduate School of Agricultural Science Building, Fuchu Campus

The series of "Special Lectures for Innovation Advancement I - V" is an opportunity for the students to consider and learn about the processes, examples, and abilities necessary to connect ideas based on research and science to the real society, to initiate innovation, and to create and establish new value.
The course is offered to first through third year doctoral students.
This course is "IV" of the above.

The course theme: “Global Communication”
Now is the time for research to form teams that transcend race, nationality, gender, occupation, and field of study, and to communicate and develop globally. In this lecture, students will learn the skills necessary to form and lead a team as a doctoral global leader.
This course will be held in English.

The WISE students belonging to the United Graduate School of Agricultural Science can receive credit for both.
If you have already taken the "Special Lecture on Innovation Promotion IV", please contact us as it will also be retroactively certified as the main course "Diversity Business Management".

Standard of achievement

In this course, students will improve the following skills to form and lead a team as a doctoral global leader and develop international communication skills in English.

- Understanding of one's leadership style and ability to adapt to a team
- Ability to explain persuasively with impact
- Ability to engage in constructive discussions with others
- Ability to work positively and comfortably with others to solve problems

As a viewpoint of the diploma policy, please refer to the following curriculum map of HPU (Three Policies).
https://www.tuat.ac.jp/campuslife_career/campuslife/policy/

Class content

■ Lecturers & Themes
Instructor: Tim Tout (Managing Director, Hummingbird Inc.)
Theme: Leading & Speaking With Impact in Teams
~Designing Mindset & Behavior to Lead Teams & Achieve Positive Impact

By the end of this session, participants will be able to use innovative communication tools to design communication strategies for global business, enabling them to speak more persuasively to a wider and non-academic online audience.
Activities will feature best practices for designing more assertive and strategic approaches to selling your research/work & message.

Session 1: Leadership & Team Fundamentals
Clarify your Styles & Adapt Them for Positive Impact
Session 2: Head & Heart Influence
Speak With Impact ~ with Logical & Emotional Appeals

Session 3: Assertive Communication
Manage your Message, Impact & Audience Perceptions
Session 4: Coaching Skills for Leaders
Coach Colleagues to Help Resolve Key Work Issues

※Contents may be subject to change.

Prerequisites, related information

It is preferred that students have already taken Diversity Communications.
Required for doctoral students

Texts, textbooks

Lecturers will distribute.

Reference books

Information will be provided during the lecture.

Grading method

Comprehensive evaluation will be made based on class participation, in-class presentations, presentations, assignments, etc.

A word from the teaching staff

Blush up your skills necessary to drive and realize innovation on the global stage.
If you are willing to absorb as much as you can, you will surely broaden your horizons and benefit from your research activities.

Keywords

Diversity Management, English Communication, English Expression, Diversity, Cross-Cultural Understanding, Team Building, Team Leading, Assertive Communication

Office hours

Questions and comments will be accepted by the lecturer and the coordinator during class or by e-mail.
<innov@cc.tuat.ac.jp>

Course Name: Special Seminar for Creation of New Industries
Overview
Students acquire a holistic understanding of how researchers create value for society and learn key skills. In particular, they learn about the mindset for value creation, customer value based on Job theory, and pitch. This course is a replacement class for “Outline of Innovation Basic” and “Outline of Innovation Advanced” offered by the FLOuRISH-SPRING program.
Achievement Criteria
Based on one’s own research, students understand and can plan how they bring innovation (bring significant positive impacts and value creation to social systems).
Class content
Students attend both “Outline of Innovation Basic” and “Outline of Innovation Advanced.” [1] Outline of Innovation Basic <On-line (Zoom) lecture> June 17 (Tue) 13:00-15:00 English, 15:00-16:00 Japanese supplementary class June 19 (Thu) 13:00-15:00 English, 15:00-16:00 Japanese supplementary class [2] Outline of Innovation Advanced September (TBD), TBD for the venue **Lecturer**: Dr. TSUDA Shingo, Technical Director & Co-founder, INDEE Japan Ltd. Visiting Professor, Tama Graduate School of Business (MBA) If you have already taken the course [1] or [2] but have not received grade approval from the WISE program, it will be retroactively approved by the WISE program. Turn on the confirmation box and submit your transcript when making a course registration in the WISE program.
Prerequisites, related information
This is for doctoral students, a recommended course.
Texts, textbooks
Assigned based on the lecture contents, as appropriate.
Reference books
Assigned based on the lecture contents, as appropriate.
Grading method
Grading will be made based on class attendance and participation attitude.
Message from the instructor
Any researchers would consider that his/her own research is important and excellent. It is necessary to let others to understand the significance of your research.
Keywords
Bring innovation from research, Create social values
Office hours
Arranged with the lecturer through the WISE coordinator

VI . Advanced Exercise for TUAT Co-Creation and Industry-Government-Academia Collaboration

Course Name: Special Project for Creation of New Industries
Overview
To strengthen research skills, doctoral program students make presentations and thorough discussion by 1 night stay for 2 days. There will be a mentoring from young experts from external organizations in each research areas. Students will obtain discussion skill on their research and explanation ability so that they contribute society from their research expertise by getting to know each other, deepen understanding the research of oneself, and expand research perspective. This class is planned to be held jointly with FLOuRISH-SPRING on August 30-31.
Achievement Criteria
Students should understand their own research and the latest achievements. They are expected to develop skills and ability to engage in in-depth discussions for them with researchers in the same and surrounding fields.
Class content
1 night stay for 2 days: August 30-31 at National Olympics Memorial Youth Center in Yoyogi (https://nyc.niye.go.jp/). DAY 1 Research mentor guidance, group discussion, introduction of mentor research, exchange DAY 2 Research mentor guidance, group discussion Students make presentations on their research background and purpose, results and discussion, progress state, future tasks and plans based on their preparation (data examination, consideration of scope of data disclosure and presentation materials construction). Thereafter, questions and answers are repeated with other students, young researchers assigned as mentors, and experts from external outside organization to further advance the research. Course registration has to be done at both WISE and FLOuRISH. If you have already participated in this 1 night stay training program but have not received grade approval from the WISE program, it will be retroactively approved by the WISE program. Turn on the confirmation box and submit your transcript when making a course registration in the WISE program.
Prerequisites, related information
This is for doctoral students, required elective course.
Texts, textbooks
Assigned based on the lecture contents.
Reference books
Assigned based on the lecture contents.
Grading method
Evaluation is made by presentation content, participation to discussion, post short report. Students are expected to submit post-report for the following items (1) For presentations to people in the proximate field of study, How did you try to prepare better and easy-understanding materials (ppt) before the presentation? How did you speak to deliver easy-understanding but fruitful research presentation? Were they successful and how did you feel about the above efforts after the presentation? (2) How did you feel about the above as a listener from a neighboring field, and how would you like to incorporate them into your own presentation as good points or points that can be improved? (3) Through the discussions with other students and mentors, what kind of career path do you want to take in the future as a doctoral student, current plans.
Message from the instructor
Through discussions with researchers in surrounding fields for sufficient time, re-recognize your own research and have deeper awareness on the issue.

Course Name: Overseas Internship I

Overview

[Purpose] The aim of the WISE Program is to nurture doctoral candidates who are active on the global stage. In this course, students experience short-term (*) study abroad or internship at an overseas organization (e.g., university, research institution, company). The aim is to improve English skills and acquire a global experience and perspective.
[Overview] Students participate in a short-term study abroad in overseas organizations. Experience of short-term study abroad or internship serves as a valuable opportunity for acquiring English skills as well as discussion skill with global perspective, and a basis for full-fledged medium/long-term study abroad.

(*)
- Study or internship abroad for 3 weeks or more.
- Or, an internship in Japan of 45 hours or more of actual work time. However, the activity has to include an international perspective and significance, which should be explained in the Application for Credit Transfer (Form 7-1).

Students are allowed to apply for credits (transferring) to this course based on their own activities. When students took the equivalent courses in their or other departments, or when students conducted activities equivalent to this course, in terms of contents, hours, and desired goals and competencies, they may apply for credit transferring to this course.
For details, please refer to the "Guidelines of Credit Transfer" that will be provided separately.

Standard of achievement

- To be able to learn in an English-speaking environment
- To be able to introduce research, exchange opinions, and obtain information in English by taking advantage of opportunities such as short-term study abroad programs
- To be able to carry out plans to achieve goals as a researcher on the global stage

Class content

The international conference or other events to be participated in is determined by students in the WISE Program through consultation with an advisor in light of each student's research plan. Students can study abroad for a short-term at an overseas organization (e.g., university, research institution, company).
As pre- learning for these activities, students make preparations to improve their English abilities, and their skills for presentation and discussion in English.

1. 3 months before: Determination of activity details (entry in an international conference, negotiation with destination for short-term study abroad, submission of English abstract)
2. 2 months before: Preparation before activities (improvement of English skills, and learning relating to presentation and discussion in English)
3. 1 month before: Preparation before activities (practice for presentation in English, training for discussion in English)
4. Short-term study abroad or presentation at an international conference, etc.
5. 1 month after: Reflection on specifics of activities (communication with destination for study abroad, identification of problems)
6. Report on results (report submission and English oral presentation and exchange of views at such as WISE joint presentation seminars)

Prerequisites, related information

Required elective for both Regular Doctors & Transferred Doctors
Students can apply their activity for credit to this course by applying in advance.

Texts, textbooks
Designated by advisor based on specifics of activities.
Reference books
Designated by advisor based on specifics of activities.
Grading method
Evaluated based on report, English presentation, and discussion.
A word from the teaching staff
We recommend overseas experience and short-term study abroad at overseas institutions as experience toward overseas activities.
Keywords
Short-term study abroad at an overseas institution, Presentation and Discussion in English
Office hours
Offered by the WISE Program coordinator.

Course Name: Overseas Internship II

Overview

[Purpose] To develop human resources with doctoral degrees active on the global stage, learning and/or internship at an overseas institution are effective. In this course, students engage in medium/long-term (*) research activities or training at an overseas organization (e.g., university, research institution, company). Purposes include: improving English communication abilities, improving ability to engage in international research, carrying out research in English at overseas universities or other institutions, carrying out international joint research, and acquiring the ability to propose commercialization at overseas companies.
[Overview] In medium/long-term (*) study abroad at an overseas organization (university, research institution, company, etc.), students carry out international joint research, participate in related academic meetings, and participate in the international community. After returning to Japan, students continue collaborating in international joint research, and writing international co-authored papers. In internships at overseas companies or other organizations, the purpose is to promote concrete participation in business/projects, and more mature proposal abilities in English.

(*) ・Study or internship in foreign organization for 6 months or more.
・Activities with a global perspective in Japan is accepted for International students.

Students are allowed to apply for credits (transferring) to this course based on their own activities. When students took the equivalent courses in their or other departments, or when students conducted activities equivalent to this course, in terms of contents, hours, and desired goals and competencies, they may apply for credit transferring to this course.
For details, please refer to the “Guidelines of Credit Transfer” that will be provided separately.

Standard of achievement

- To be able to conduct mid- to long-term study abroad and promote research activities and international collaborative research in English.
- Participate in business activities in English during internships at overseas companies, etc.

Class content

Students consult with their advisors regarding progress of their own research, plans for presenting results, and other issues, and engage in medium/long-term overseas study at an overseas organization (university, research institution, company, etc.) or internship at an overseas company. As preparation beforehand for these activities, students improve their ability to carry out research activities, paper writing, presentation, and discussion in English, and this makes it possible to obtain beneficial effects from these activities.

1. 6 months before: Determination of activity details (negotiation with destination for medium/long-term study abroad, negotiation with an overseas company, etc.)
2. 2 months before: Preparation beforehand for activities (improvement of English skills, and improvement of ability to engage in research activities in English)
3. 1 month before: Preparation beforehand for activities (travel-related procedures, preparation of housing and other arrangements in the local area)
4. Medium/Long-term study abroad or internship at overseas company, etc.
5. 1 month after: Reflection on specifics of activities (continued communication with destination of study abroad)
6. Research report (report submission and English oral presentation and exchange of views at such as WISE joint presentation seminars)
7. Continuation after activities: Moving forward with international joint research aimed at writing academic papers

Prerequisites, related information
Required elective for both Regular Doctors & Transferred Doctors Students can apply their activity for credit to this course by applying in advance.
Texts, textbooks
Depending on the content of the program, the supervisor and the faculty member who accepted the student for study abroad will designate the program.
Reference books
Depending on the content of the program, the supervisor and the faculty member who accepted the student for study abroad will designate the program.
Grading method
Evaluated based on reports and English presentations
A word from the teaching staff
We hope students will experience mid/long-term study abroad and carry out international joint research.
Keywords
Mid/Long-term study abroad, international joint research, internship at overseas company
Office hours
Offered by the WISE Program coordinator.

VII . Subjects for Special Evaluation

Course Name: Extended WISE Seminar I, II, and III

Overview

Apart from the regular courses of the WISE program, "Extended WISE Seminar I, II, and III" in the category of Subjects for Special Evaluation was established in order to encourage students' activities aimed at becoming outstanding global Ph.D. holders who drive the "super smart society" through the creation of new industries and diversity,

In these courses (I, II, and III), when students voluntarily engage in input-based learning activities, such as attending seminars and lectures of high academic significance, which meet the above objectives, students apply for evaluation together with the submission of the report. The faculty members in charge will evaluate the students' performance and grant credits.

Regular courses offered in students' departments are not eligible for this course. In addition, the credits earned in these courses are not included in the credits required for QE or the program completion, or the observation/behavior evaluations for QE, but will be referred to as additional information.

※ As a reference, the WISE program may provide recommended seminars that are eligible for this course.
※ As a guide, about 12 hours in total and report making will be considered as one course (1 credit). These seminars do not have to be consecutive and their themes can be different from each other. When submitting the report, however, students should comprehensively explain what you have intended to study and acquire in those seminars and your actual acquisitions.
※ The report should be approximately 1500-2000 letters in Japanese; 600-700 words in English per course and should be accompanied by supporting materials that will show the contents of the seminar and lectures. There is no specific form.

Standard of achievement

・Proactively seize opportunities other than curriculum, independently plan and implement learning activities that are consistent with the purpose of the WISE Program.
・Objectively understand the knowledge and experience that should be developed or supplemented in your own growth strategies, and set them to obtain them as goals, and achieve them.
・Report and explain persuasively the outcome of your voluntary learning in the light of your initial goals.

Class content

Depends on the seminars and courses.

Prerequisites, related information

None

Reference books

None

Grading method

・Report contents (in some cases, an oral explanation may necessary)

A word from the teaching staff

This course is aiming at encouraging your positive extracurricular learning activities, so please join the useful seminars and lectures and reflect those opportunities to this course.

Keywords

Proactive activities, competency acquisition, strategic learning.

Office hours

For each seminar or course, please contact the respective instructor or organizer. For consultation as a subject, please consult with the professor (Prof. Ohtsu) and/or coordinator as appropriate.

(2) Sharing of information, forms, etc.

- You can download orientation materials, course information, various forms, and other downloadable materials from the following Google Drive " WISE-TUAT_Data Share_Download_ダウンロード資料共有".
  *You must enter with a TUAT-ID.
  https://drive.google.com/drive/u/0/folders/0AC8xsQP3eU3bUk9PVA

- The video recordings of the orientation, which are not available for download but can be viewed, can be obtained from Google Drive " WISE-TUAT_Data Share_Just for Seeing_閲覧のみデータ共有" below.
  *You must enter with a TUAT-ID.
  https://drive.google.com/drive/u/0/folders/0ADpLE4Tv9g8NUk9PVA

- You are subscribed to the following group email (mailing list) according to your year of participation in the Graduate Program of Excellence. You are free to post to the group mail for your year. If you would like to send information to other distinguished students, please inform the WISE office.
  wise_st_2025-groups@go.tuat.ac.jp
  wise_st_2024-groups@go.tuat.ac.jp
  wise_st_2023-groups@go.tuat.ac.jp
  wise_st_2022-groups@go.tuat.ac.jp
  wise_st_2021-groups@go.tuat.ac.jp
  wise_st_2020-groups@go.tuat.ac.jp
  wise_st_2019-groups@go.tuat.ac.jp

(3) Equipment list

Item	Brand code	Location
Tractor	Kubota MR97QMAXWUR	Large farm equipment storehouse
Panel saw	Synchro HP1-1800	Forestry processing room
Speed-linked organic blade for tractors	Kubota CM601WD-OL	Large farm equipment storehouse
Seed drill tractor	Kubota N250-21D	Large farm equipment storehouse
Planer	Iida Industries EJ304	Forestry processing room
Band sawing machine	Audio BS-1100-5AS	Forestry processing room
JINS MEME ES_R Data measurement equipment	JINS MEME ES_R	Faculty of Engineering Bldg. 7 Room 305 (Laboratory)
Gas fire muffle furnace	1-5925-02 HPM-1G	Faculty of Engineering Bldg. 4 Room 401 (Open lab (laboratory))
Digital lock-in amplifier	LI5645	Faculty of Engineering Bldg. 4 Room 401 (Open lab (laboratory))
High Speed Refrigerated Micro Centrifuge	MX-107	Faculty of Engineering Bldg. 10 Room 114 (Student Laboratory)
Haptic feedback device	3D Systems Touch	Faculty of Engineering Bldg. 4 Room 401 (Open lab (laboratory))
Haptic feedback device	3D Systems Touch	Faculty of Engineering Bldg. 4 Room 401 (Open lab (laboratory))
Medical training system	BSLADV-W / M	Faculty of Engineering Bldg. 4 Room 401 (Open lab (laboratory))
Image analysis system	Neoc-Pro / P	Engineering Building No. 5 (Instrument Analysis) Instrument Room 4
Nanomaterial system	CADE-4T	Engineering Building No. 5 (Instrument Analysis) Instrument Room 4
AI Autonomous Driving Deep Image Analysis System		Engineering Building No. 5, Room 304A (server room)
Smart agricultural data collection system		Faculty of Engineering Bldg. 7 Room 211 (server room 1)
Shimadzu ultraviolet-visible spectrophotometer		Faculty of Engineering New Building No. 1 1N-406B Room (Laboratory)
Multimode microplates	Varioskan LUX	Faculty of Agriculture Bldg.4 Room 323 (Student Lab)
Arbosonic 3D	10 channels	Faculty of Agriculture Building No. 1 Room 314 (Laboratory)
Wood penetration resistance measuring instrument	RESI PD400	Faculty of Agriculture Building No. 1 Room 314 (Laboratory)
Soundproof room	NS NS 2.5 tatami mat Dr-40	Faculty of Agriculture Building No. 2 Room 112 (Common Equipment Room)
Water-cooled GPU calculator	RC GPU Server nami4II	Faculty of Engineering Bldg. 7 Room 211 (server room 1)
Biological reaction sub-molecule quantitative mapping system	NSVW-U Base	Engineering Building No. 5 (Instrument Analysis) Instrument Room 4
Fourier transform infrared spectrophotometer	IRSPIRIT-T	Faculty of Engineering Bldg. 10 Room 221 (Laboratory)
Compact flow cytometer	Decal water tar B4-RO-VO (1L4C)	Faculty of Agriculture Building No. 1 Room 107 (Student Lab)
Fourier transform infrared spectrophotometer	FT / IR-4600AC	Faculty of Engineering New Building No. 1 Room 1N-407 (Laboratory)
Epilog laser cutting machine	Mini24-40W	Faculty of Engineering Monozukuri Creative Engineering Center
High-definition image capture device PCI hardware	PCI SS S / W Ver9.0 and New USB SS H / W P / N: PCI017 / E	Engineering Building No. 5 (Instrument Analysis) Instrument Room 4
Animal breeding system	MH-K1600L	Faculty of Agriculture Building No. 1 Room 409 (Laboratory)

AV equipment set	RICOH PA-904	Faculty of Agriculture Lecture Room 2 Lecture 2-Room 41A (Lecture Room)
AV equipment set	RICOH PA-904	Faculty of Agriculture Lecture Building 2 Lecture Room 2-Room 42 (Lecture Room)
AV equipment set	RICOH PA-904	Faculty of Agriculture Lecture Building 2 Lecture Room 2-31 (Lecture Room)

Usage: please contact the WISE faculty member via email for the first use.

Email information:

- Title: "Request for the use of WISE shared equipment
- To: Assistant professors for WISE Program
- Address: tuat-wise@m2.tuat.ac.jp

- Fuchu Campus

- Koganei Campus (Please contact the Fuchu office by phone or email in advance)