

Entrepreneurship Courses

Master's Students

1) Entrepreneurship Education Core (Required) for Master's Students About

entrepreneurship education at our institute

The world of today is called the “era of VUCA” (volatility, uncertainty, complexity, and ambiguity), where our current society is facing complicated challenges related to globalization, environment due to the rapid development of science and technology. In order to live in a global society in such an era, along with one’s field of expertise, it is necessary to have the mindset and skills to develop and create new values and then to implement them in the real world, which is defined as ‘entrepreneurship’ at our institute. Entrepreneurship is like a computer’s operating system: students are encouraged to participate in the curriculum and acquire a ‘system of actions’ which is essential regardless of the student’s career path.

Learning goals

In this curriculum, students are expected to acquire abilities, knowledge, and skills related to the five elements below through the master's 400- and 500-level courses.

(1) Foresight

Ability to have a clear vision of a better future for society based on scientific and technological developments.

(2) Global competencies

Ability to understand the nature of global issues and their relation to oneself and suggest solutions based on the process of information gathering, analysis, and examination; ability to collaborate with individuals from different backgrounds, culture, customs, language, and values, and work together as a group, based on mutual understanding and respect to each other.

(3) Leadership

Ability to demonstrate leadership in building consensus among different stakeholders by recognizing perception, respecting diversity, and expressing subjective opinions based on one’s own values.

(4) Value Creation

Having **a)** creativity to bring about new values by repeating the problem-solving cycle (planning, doing, and checking from multiple viewpoints) based on the insights into the fundamental challenges in their specialized fields; **b)** applied skills to be able to increase the probability of social implementation of the ideas; and **c)** ability to purposefully take action to achieve the goals

(5) Career Development

Ability to find role models as references for their future, and develop their own future careers:

Basic knowledge required for success in society, such as industry and company analysis, money flow, laws, standards and other regulations, entrepreneurship, ethics and SDGs; social skills such as self-understanding and self-presentation, communication, critical thinking, writing, problem-solving and leadership.

Available courses, related courses, and Graduate Attributes (GA)

Entrepreneurship courses are structured combining the above five elements. Master's students are required to fulfill all of the Graduate Attributes (GA) shown in Table M-1 and acquire at least two credits in relevant entrepreneurship courses by the time they complete their master's degree program. Note that each course is assigned one, all, or neither of the required GAs.

To fulfill the GA and credit requirements, students can take entrepreneurship courses listed in Table M-2 (400- and 500-level courses), as well as courses that can be recognized as entrepreneurship courses listed in Table M-3 (400- and 500-level courses, hereinafter “deemed entrepreneurship courses”). Entrepreneurship courses including deemed entrepreneurship courses are also offered by respective graduate majors, specially offered degree programs for graduate students (Tokyo Tech Academy for Leadership (ToTAL) program, Tokyo Tech Academy for Convergence of Materials and Informatics (TAC-MI) program, WISE (World-leading Innovative & Smart Education) Program for Super Smart Society, and Tokyo Tech Academy of Energy and Informatics program (hereinafter “Specially offered degree programs”), and Center of Data Science and Artificial Intelligence, among others. If you are interested in certain courses, please refer to the study guide of each graduate major and program to check eligibility.

Whether a student has satisfied the GA and credit requirements will be judged at the completion of the program based on completion requirements set for each graduate major. Students are expected to plan and take courses appropriately.

If a course fulfills more than one GA, acquiring credit in that course will fulfill all GAs that it is assigned to. Even if a student takes a deemed entrepreneurship course, but does not count it as an entrepreneurship course, the student will be able to fulfill the GA(s) assigned to the course.

Important points to note:

Those participating in this study model must fulfill both of the GAs (GA0M, GA1M) shown in Table M-1 by acquiring two or more credits from relevant courses. Students are encouraged to plan their course registration to be able to cover as many of the five elements (shown in the course category column) as possible.

Table M-1: Master's Degree Program Graduate Attributes

GA0M	You can clearly plan your own career and recognize the abilities necessary for realizing it while considering ethics and relevance to societal problems.
GA1M	You can acquire the knowledge, skills, ethics, and entrepreneurship necessary for realizing your planned career and contribute to societal problem-solving while collaborating with other experts.

Table M-2: Entrepreneurship courses offered by the Center for Entrepreneurship Education (CEE) (for master's students)

Course category	---	Course number	Course title	Credits	Applicable quarters	Comments
Global competencies	400	ENT.G401	Advanced Global Problem Based Co-Learning	1-1-0	4Q	in English No GA assigned
	400	ENT.G403	Advanced Multicultural Groupwork Study Abroad	0-0-1	2Q	in English (partly) No GA assigned
	400	ENT.G404	Advanced Multicultural Groupwork Practice	1-1-0	3-4Q	in English No GA assigned
	400	ENT.G431	Study Abroad AB	0-0-1	1-2Q	in English No GA assigned
	400	ENT.G432	Study Abroad CD	0-0-1	3-4Q	in English No GA assigned
	400	ENT.G451	Advanced Course of Traditional Technology and Intercultural Collaboration	0.5-0-0.5	1-2Q	in English No GA assigned
	400	ENT.G452	Advanced Course of Innovative Product Design with Traditional Technologies	0-1-0	1-2Q	in English No GA assigned
	400	ENT.G453	Technology and Product in Context	0-1-0	4Q	in English No GA assigned
	400	ENT.G454	Our Sustainable Energy Future: Role of Business and Technology	0.5-0.5-0	3Q	in English No GA assigned
	400	ENT.G455	Science Communication for Global Talents - Overseas Program	1-1-0	2Q	in English No GA assigned
	400	ENT.G456	Free your Creativity through Art (for graduate)	0-1-0	3Q	in English No GA assigned
	500	ENT.G501	Advanced International Experience 1AB	0-0-1	1-2Q	in English No GA assigned
	500	ENT.G502	Advanced International Experience 1CD	0-0-1	3-4Q	in English No GA assigned
	500	ENT.G503	Advanced International Experience 2AB	0-0-2	1-2Q	in English No GA assigned
	500	ENT.G504	Advanced International Experience 2CD	0-0-2	3-4Q	in English No GA assigned
	500	ENT.G505	Advanced International Experience 3AB	0-0-3	1-2Q	in English No GA assigned
	500	ENT.G506	Advanced International Experience 3CD	0-0-3	3-4Q	in English No GA assigned

	500	ENT.G507	Advanced International Experience 4AB	0-0-4	1-2Q	in English No GA assigned
	500	ENT.G508	Advanced International Experience 4CD	0-0-4	3-4Q	in English No GA assigned
	500	ENT.G541	Advanced Online International Experience AB	0-0-1	1-2Q	in English No GA assigned
	500	ENT.G542	Advanced Online International Experience CD	0-0-1	3-4Q	in English No GA assigned
Leadership	400	ENT.L456	Effective Teamwork in Global Companies	0-1-0	4Q	in English No GA assigned
	400	ENT.L457	Global Leadership Practice	0-2-0	2Q	in English No GA assigned
	400	ENT.L458	Global Leadership Training Study Abroad	0-0-1	4Q	in English No GA assigned
Career Development	400	ENT.C401	Master's Career Development Basics	1-0-0	1Q/2Q/3Q	GA0M
	400	ENT.C406	Master's Global Career Development Literacy	1-0-0	1Q/3Q	in English GA0M
	400	ENT.C413	Master's Career Design Practice	0-1-0	1Q/2Q/3Q/4Q	GA0M
	400	ENT.C448	Master's Critical Thinking	1-0-0	4Q	in English GA1M
	500	ENT.C511	Master's Career Development Role Models	1-0-0	3Q/4Q	GA1M
	500	ENT.C527	Master's Social and Business Rules and Ethics	1-0-0	2Q/3Q	GA1M
	500	ENT.C537	Master's Contributions to the Society through Research	1-0-0	3Q	GA1M
	500	ENT.C562	Master's Scientific Communication	1-0-0	2Q	in English GA1M

Table M-3: Deemed entrepreneurship courses offered by those other than the CEE (for master's students)

Course category	---	Course number	Course title	Credits	Applicable quarters	Academic unit or major	Comments
Global competencies	400	LAW.X415	High-Tech Japan	1-0-0	2Q	Breadth Courses	in English No GA assigned
	400	LAW.X416	Modern Japan	1-1-0	2Q	Breadth Courses	in English GA0M, GA1M
	400	LAW.X441	Tohoku Co-learning Camp (Leadership Course)	0-1-0	4Q	Breadth Courses	in English No GA assigned
	400	LAW.X442	CAMPUS Asia Plus Spring Semester Program Research Exchange Project	0-0-2	1-2Q	Breadth Courses	in English No GA assigned
	400	LAW.X443	Campus Asia Plus Fall Semester & Fall-Winter Program Research Exchange Project	0-0-2	3-4Q	Breadth Courses	in English No GA assigned
	500	LAW.X501	International Research Program1A	0-0-1	2Q	Breadth Courses	in English No GA assigned

	500	LAW.X502	International Research Program1B	0-0-1	4Q	Breadth Courses	in English No GA assigned
	500	LAW.X503	International Research Program2A	0-0-2	2Q	Breadth Courses	in English No GA assigned
	500	LAW.X504	International Research Program2B	0-0-2	4Q	Breadth Courses	in English No GA assigned
	500	LAW.X505	International Research Program3A	0-0-4	2Q	Breadth Courses	in English No GA assigned
	500	LAW.X506	International Research Program3B	0-0-4	4Q	Breadth Courses	in English No GA assigned
	400	TAL.C402	Global Communication	1-0-0	2Q/4Q	ToTAL	in English No GA assigned
	500	TAL.C502	Multicultural Collaborative Leadership	0-1-0	2Q/4Q	ToTAL	For Japanese students (alias for ILA's Japanese courses for international students) No GA assigned
	500	TAL.C503	Multicultural Business Leadership	0-1-0	1Q/3Q	ToTAL	For Japanese students (alias for ILA's Japanese courses for international students) No GA assigned
	400	TAL.L442	Graduate Seminar in Liberal Arts	0-1-0	3Q	ToTAL	in English No GA assigned
	400	TAL.L443	Mindfulness for Leadership	0-1-0	3Q	ToTAL	No GA assigned
Leadership	400	TAL.W401	Introduction to Leadership	0-1-0	1Q/2Q/3Q/4Q	ToTAL	in English No GA assigned
	500	TAL.W502	Fundamental Group Work for Leadership I	0-2-0	1-2Q/3-4Q	ToTAL	in English GA0M, GA1M
	500	TAL.W503	Fundamental Group Work for Leadership II	0-2-0	1-2Q/3-4Q	ToTAL	in English GA0M, GA1M
	400	LAW.X418	Study on Japanese Companies and Industries I	0-1-0	3Q	Breadth Courses	in English GA0M, GA1M
	400	LAW.X419	Study on Japanese Companies and Industries II	0-1-0	1Q	Breadth Courses	in English GA0M, GA1M
Value Creation	500	TAL.A501	Master's Essential Course of Group Work for Leadership	0-1-0	1-2Q/3-4Q	ToTAL	in English GA1M
	500	TAL.S502	Professionals and Value Creation A	0-1-0	2Q	ToTAL	GA0M
	500	TAL.S503	Professionals and Value Creation B	0-1-0	4Q	ToTAL	GA0M
	500	TAL.S505	Recognition of Social Issues Workshop A	0-1-0	2Q	ToTAL	in English GA1M
	500	TAL.S506	Recognition of Social Issues Workshop B	0-1-0	4Q	ToTAL	in English GA1M
	500	TAL.S507	Professionals and Value Creation C	0-1-0	2Q	ToTAL	GA0M

	500	TAL.S508	Professionals and Value Creation D	0-1-0	4Q	ToTAL	GA0M
	500	TAL.S509	Recognition of Social Issues Workshop C	0-1-0	2Q	ToTAL	in English GA1M
	500	TAL.S510	Recognition of Social Issues Workshop D	0-1-0	4Q	ToTAL	in English GA1M
	500	TAL.W504	Master's Practical Group Work for Leadership I	0-2-0	1-2Q/3-4Q	ToTAL	in English GA0M, GA1M
	500	TAL.W505	Master's Practical Group Work for Leadership II	0-2-0	1-2Q/3-4Q	ToTAL	in English GA0M, GA1M
Career Development	400	TAL.S406	Introduction to Work Rules I produced by JTUC-RENGO	1-0-0	3Q	ToTAL	GA0M
	500	TAL.S504	Introduction to Work Rules II produced by JTUC-RENGO	1-0-0	4Q	ToTAL	GA1M

2) Global Education Option (GEO) for Master's Students

Global Education Option (Master's Program) focuses on providing opportunities to study abroad and improve foreign-language communication skills. Study model details are provided below.

Global competencies are one of the five elements (skills and mindset) to be developed through our entrepreneurship education. For this specific element, we aim to develop talented individuals who are able to understand the nature of global issues and their relation to oneself and suggest solutions based on the process of information gathering, analysis, and examination; able to collaborate with individuals from different backgrounds, culture, customs, language, and values, and work together as a group, based on mutual understanding and respect to each other.

Global Education Option was launched in AY 2024 as part of our institute's entrepreneurship education and as a new form of previous educational programs through AY 2023 that focused on cultivating the global mindset. The optional study model is designed to organically link with other elements (foresight, leadership, value creation, and career development) and cultivate more comprehensive capabilities. Available courses under the GEO include those with GAs that are required in the Entrepreneurship Education Core (Required) for Master's Students, as well as those intended to provide opportunities to study abroad and improve foreign-language communication skills.

Students participating in the Entrepreneurship Education Core can take the GEO simultaneously. Students participating in this option must acquire five or more credits in total including the two credits required in the Entrepreneurship Education Core satisfying the two GAs. The following criteria must also be met.

(1) At least one credit is required from the courses listed below.

Course category	---	Course number	Course title	Credits	Applicable quarters	Comments
Global competencies	400	ENT.G401	Advanced Global Problem Based Co-Learning	1-1-0	4Q	in English No GA assigned
	400	ENT.G404	Advanced Multicultural Groupwork Practice	1-1-0	3-4Q	in English No GA assigned
	400	ENT.G451	Advanced Course of Traditional Technology and Intercultural Collaboration	0.5-0-0.5	1-2Q	in English No GA assigned
	400	ENT.G452	Advanced Course of Innovative Product Design with Traditional Technologies	0-1-0	1-2Q	in English No GA assigned
	400	ENT.G453	Technology and Product in Context	0-1-0	4Q	in English No GA assigned
	400	ENT.G454	Our Sustainable Energy Future: Role of Business and Technology	0.5-0.5-0	3Q	in English No GA assigned
	400	ENT.G456	Free your Creativity through Art (for graduate)	0-1-0	3Q	in English No GA assigned
Leadership	400	ENT.L456	Effective Teamwork in Global Companies	0-1-0	4Q	in English No GA assigned
	400	ENT.L457	Global Leadership Practice	0-2-0	2Q	in English No GA assigned
	400	ENT.L458	Global Leadership Training Study Abroad	0-0-1	4Q	in English No GA assigned

(2) At least one credit is required from the “courses certified for international experience” (study-abroad programs for one month or longer is recommended).

Course number	Course title	Department (Graduate major in brackets)
ARC.D422	Architectural Design Studio II	Architecture and Building Engineering (Architecture and Building Engineering)
CVE.P433	International Internship	Civil and Environmental Engineering (Civil Engineering)
EEE.R551	Study Abroad (Master Course) A	Electrical and Electronic Engineering (Electrical and Electronic Engineering)
EEE.R552	Study Abroad (Master Course) B	Electrical and Electronic Engineering (Electrical and Electronic Engineering)
EEE.R553	Study Abroad (Master Course) C	Electrical and Electronic Engineering (Electrical and Electronic Engineering)
EEE.R554	Study Abroad (Master Course) D	Electrical and Electronic Engineering (Electrical and Electronic Engineering)
GEG.F531	Global Engineering International Workshop A	Transdisciplinary Science and Engineering (Global Engineering for Development, Environment and Society)
GEG.F532	Global Engineering International Workshop B	Transdisciplinary Science and Engineering (Global Engineering for Development, Environment and Society)
GEG.F533	Global Engineering International Workshop C	Transdisciplinary Science and Engineering (Global Engineering for Development, Environment and Society)
GEG.F534	Global Engineering International Workshop D	Transdisciplinary Science and Engineering (Global Engineering for Development, Environment and Society)
GEG.F541	Global Engineering Fieldwork A	Transdisciplinary Science and Engineering (Global Engineering for Development, Environment and Society)
GEG.F542	Global Engineering Fieldwork B	Transdisciplinary Science and Engineering (Global Engineering for Development, Environment and Society)
GEG.F543	Global Engineering Fieldwork C	Transdisciplinary Science and Engineering (Global Engineering for Development, Environment and Society)
GEG.F544	Global Engineering Fieldwork D	Transdisciplinary Science and Engineering (Global Engineering for Development, Environment and Society)
GEG.F551	Global Engineering Internship A	Transdisciplinary Science and Engineering (Global Engineering for Development, Environment and Society)
GEG.F552	Global Engineering Internship B	Transdisciplinary Science and Engineering (Global Engineering for Development, Environment and Society)
GEG.F553	Global Engineering Internship C	Transdisciplinary Science and Engineering (Global Engineering for Development, Environment and Society)
GEG.F554	Global Engineering Internship D	Transdisciplinary Science and Engineering (Global Engineering for Development, Environment and Society)
GEG.P451	Project Design & Management S	Transdisciplinary Science and Engineering (Global Engineering for Development, Environment and Society)
GEG.P452	Project Design & Management F	Transdisciplinary Science and Engineering (Global Engineering for Development, Environment and Society)
GEG.S413	Science Media and Communication	Transdisciplinary Science and Engineering (Global Engineering for Development, Environment and Society)

ICT.O518	Information and Communications Engineering Course Off-Campus Project (Master Course)	Information and Communications Engineering (Information and Communications Engineering)
LAE.E491	Scientific Technical English Study Abroad Practicum III	For Master's students in all Schools
ENT.G455	Science Communication for Global Talents - Overseas Programme	For Master's students in all Schools
LAW.X417	Sustainable Engineering Technology	For Master's students in all Schools
ENT.L458	Global Leadership Training Study Abroad	For Master's students in all Schools
ENT.G431	Study Abroad AB	For Master's students in all Schools
ENT.G432	Study Abroad CD	For Master's students in all Schools
LAW.X440	Advanced Course of Traditional Technology and Intercultural Co-learning	For Master's students in all Schools
LAW.X441	Tohoku Co-learning Camp (Leadership Course)	For Master's students in all Schools
LAW.X501	International Research Program 1A	For Master's students in all Schools
LAW.X502	International Research Program 1B	For Master's students in all Schools
LAW.X503	International Research Program 2A	For Master's students in all Schools
LAW.X504	International Research Program 2B	For Master's students in all Schools
LAW.X505	International Research Program 3A	For Master's students in all Schools
LAW.X506	International Research Program 3B	For Master's students in all Schools
ENT.G501	Advanced International Experience 1AB	For Master's students in all Schools
ENT.G502	Advanced International Experience 1CD	For Master's students in all Schools
ENT.G503	Advanced International Experience 2AB	For Master's students in all Schools
ENT.G504	Advanced International Experience 2CD	For Master's students in all Schools
ENT.G505	Advanced International Experience 3AB	For Master's students in all Schools
ENT.G506	Advanced International Experience 3CD	For Master's students in all Schools
ENT.G507	Advanced International Experience 4AB	For Master's students in all Schools
ENT.G508	Advanced International Experience 4CD	For Master's students in all Schools
ENT.G541	Advanced Online International Experience AB	For Master's students in all Schools
ENT.G542	Advanced Online International Experience CD	For Master's students in all Schools
MAT.A462	Off-campus Project in Materials Science and Engineering B1	Materials Science and Engineering (Materials Science and Engineering)
MAT.A463	Off-campus Project in Materials Science and Engineering B2	Materials Science and Engineering (Materials Science and Engineering)
MEC.M432	Practical Space Engineering Project	Mechanical Engineering (Mechanical Engineering)
MEC.S532	Overseas Research Project M2c	Mechanical Engineering (Mechanical Engineering)
MEC.S533	Overseas Research Project M3c	Mechanical Engineering (Mechanical Engineering)
MEC.S534	Overseas Research Project M4c	Mechanical Engineering (Mechanical Engineering)
PHY.P413.L	Practical Exercises in International Research I	Physics (Physics)
PHY.P414.L	Practical Exercises in International Research II	Physics (Physics)
SCE.I404.L	Automobile Transportation System and Environmental Impact	Systems and Control Engineering (Systems and Control Engineering)
SCE.Z401.A	Cyber-Physical Innovation	Systems and Control Engineering (Systems and Control Engineering)
SCE.Z402	International Dispatch Project A	Systems and Control Engineering (Systems and Control Engineering)
SCE.Z403	International Dispatch Project B	Systems and Control Engineering (Systems and Control Engineering)
SCE.Z510.L	MC Internship (Systems & Control) A1	Systems and Control Engineering (Systems and Control Engineering)

SCE.Z511.L	MC Internship (Systems & Control) A2	Systems and Control Engineering (Systems and Control Engineering)
SCE.Z512.L	MC Internship (Systems & Control) B1	Systems and Control Engineering (Systems and Control Engineering)
SCE.Z513.L	MC Internship (Systems & Control) B2	Systems and Control Engineering (Systems and Control Engineering)
UDE.S435	Earthquake and Tsunami Disaster Reduction	Transdisciplinary Science and Engineering (Urban Design and Built Environment)

(3) At least one credit is required from the GEO communication courses and courses listed in Tables M-2 and M-3.

Course number	Course title	Credits	Applicable quarters
LAE.E401	Study Abroad Program in English IIA 1 • 2	0-2-0	1-4Q
LAE.E402	Study Abroad Program in English IIB 1 • 2	0-2-0	1-4Q
LAE.E431	Oral Expression in English 13	0-1-0	1Q
LAE.E432	Oral Expression in English 14	0-1-0	2Q
LAE.E433	Oral Expression in English 15	0-1-0	3Q
LAE.E434	Oral Expression in English 16	0-1-0	4Q
LAE.E435	Oral Expression in English GIII	0-2-0	2Q
LAE.E436	Oral Expression in English GIV	0-2-0	4Q
LAE.E441	Academic Presentation in English 13	0-1-0	1Q
LAE.E442	Academic Presentation in English 14	0-1-0	2Q
LAE.E443	Academic Presentation in English 15	0-1-0	3Q
LAE.E444	Academic Presentation in English 16	0-1-0	4Q
LAE.E451	TOEFL Seminar 13	0-1-0	1Q
LAE.E452	TOEFL Seminar 14	0-1-0	2Q
LAE.E453	TOEFL Seminar 15	0-1-0	3Q
LAE.E454	TOEFL Seminar 16	0-1-0	4Q
LAE.E461	Academic Writing in English 13	0-1-0	1Q
LAE.E462	Academic Writing in English 14	0-1-0	2Q
LAE.E463	Academic Writing in English 15	0-1-0	3Q
LAE.E464	Academic Writing in English 16	0-1-0	4Q
LAE.E471	English Speech Seminar 13	0-1-0	1Q
LAE.E472	English Speech Seminar 14	0-1-0	2Q
LAE.E481	English Language and Cultures 13	0-1-0	1Q
LAE.E482	English Language and Cultures 14	0-1-0	2Q
LAE.E483	English Language and Cultures 15	0-1-0	3Q
LAE.E484	English Language and Cultures 16	0-1-0	4Q
LAL.C431	Chinese Seminar: Culture and Society 1	0-1-0	1Q
LAL.C432	Chinese Seminar: Culture and Society 2	0-1-0	2Q
LAL.C433	Chinese Seminar: Culture and Society 3	0-1-0	3Q
LAL.C434	Chinese Seminar: Culture and Society 4	0-1-0	4Q
LAL.F431	French Seminar: Culture and Society 1	0-1-0	1Q
LAL.F432	French Seminar: Culture and Society 2	0-1-0	2Q
LAL.F433	French Seminar: Culture and Society 3	0-1-0	3Q
LAL.F434	French Seminar: Culture and Society 4	0-1-0	4Q
LAL.G431	German Seminar: Culture and Society 1	0-1-0	1Q
LAL.G432	German Seminar: Culture and Society 2	0-1-0	2Q

LAL.G433	German Seminar: Culture and Society 3	0-1-0	3Q
LAL.G434	German Seminar: Culture and Society 4	0-1-0	4Q
LAL.R431	Russian Seminar: Culture and Society 1	0-1-0	1Q
LAL.R432	Russian Seminar: Culture and Society 2	0-1-0	2Q
LAL.R433	Russian Seminar: Culture and Society 3	0-1-0	3Q
LAL.R434	Russian Seminar: Culture and Society 4	0-1-0	4Q
LAL.S431	Spanish Seminar: Culture and Society 1	0-1-0	1Q
LAL.S432	Spanish Seminar: Culture and Society 2	0-1-0	2Q
LAL.S433	Spanish Seminar: Culture and Society 3	0-1-0	3Q
LAL.S434	Spanish Seminar: Culture and Society 4	0-1-0	4Q
LAL.Z401	Study Abroad Program in Second Foreign Languages IIA 1 • 2	0-2-0	1-4Q
LAL.Z402	Study Abroad Program in Second Foreign Languages IIB 1 • 2	0-2-0	1-4Q

Those having satisfied the above completion requirements will be issued a certificate of completion for GEO, as a proof that the individual has acquired the qualities specified in our institute's Code of International Experience.

Summary of Master's Study Models

Elements	Master's Degree Program	
	Core (Compulsory)	Global Education Option
Global Competencies	2 (GA0M and GA1M)	3 ↑ From courses specified by 'Option'
Leadership		
Value Creation		
Career Development		
Total Credits	2	2+3



Certificate of Completion for Option

- Credits for deemed entrepreneurship courses offered in graduate majors cannot be counted more than once towards degree program completion requirements as graduate majors or entrepreneurship courses.
- You can follow the regular course registration process for Core and Option study models.

Doctoral students

1) Entrepreneurship Education Core (Required) for Doctoral Students About

entrepreneurship education at our institute

The world of today is called the “era of VUCA” (volatility, uncertainty, complexity, and ambiguity), where our current society is facing complicated challenges related to globalization, environment due to the rapid development of science and technology. In order to live in a global society in such an era, along with one’s field of expertise, it is necessary to have the mindset and skills to develop and create new values and then to implement them in the real world, which is defined as ‘entrepreneurship’ at our institute. Entrepreneurship is like a computer’s operating system: students are encouraged to participate in the curriculum and acquire a ‘system of actions’ which is essential regardless of the student’s career path.

Learning goals

In this curriculum, students are expected to acquire abilities, knowledge, and skills related to the five elements below through the 600-level doctoral courses.

- (1) Foresight
Ability to have a clear vision of a better future for society based on scientific and technological developments.
- (2) Global competencies
Ability to understand the nature of global issues and their relation to oneself and suggest solutions based on the process of information gathering, analysis, and examination; ability to collaborate with individuals from different backgrounds, culture, customs, language, and values, and work together as a group, based on mutual understanding and respect to each other.
- (3) Leadership
Ability to demonstrate leadership in building consensus among different stakeholders by recognizing perception, respecting diversity, and expressing subjective opinions based on one’s own values.
- (4) Value Creation
Having **a**) creativity to bring about new values by repeating the problem-solving cycle (planning, doing, and checking from multiple viewpoints) based on the insights into the fundamental challenges in their specialized fields; **b**) applied skills to be able to increase the probability of social implementation of the ideas; and **c**) ability to purposefully take action to achieve the goals
- (5) Career Development
Ability to find role models as references for their future, and develop their own future careers:
Basic knowledge required for success in society, such as industry and company analysis, money flow, laws, standards and other regulations, entrepreneurship, ethics and SDGs; social skills such as self- understanding and self-presentation, communication, critical thinking, writing, problem-solving and leadership.

Available courses, related courses, and Graduate Attributes (GA)

Entrepreneurship courses are structured combining the above five elements. Doctoral students are required to fulfill all of the Graduate Attributes (GA) shown in Table D-1 in principle, and acquire at least four credits in relevant entrepreneurship courses by the time they complete their doctoral degree program. Note that each course is assigned one, all, or neither of the required GAs.

To fulfill the GA and credit requirements, students can take entrepreneurship courses listed in Table D-2 (600-level courses), as well as courses that can be recognized as entrepreneurship courses listed in Table D-3 (600-level courses, hereinafter “deemed entrepreneurship courses”). Entrepreneurship courses including deemed entrepreneurship courses are also offered by respective graduate majors, specially offered degree programs for graduate students (Tokyo Tech Academy for Leadership (ToTAL) program, Tokyo Tech Academy for Convergence of Materials and Informatics (TAC-MI) program, WISE (World-leading Innovative & Smart Education) Program for Super Smart Society, and Tokyo Tech Academy of Energy and Informatics program (hereinafter “Specially offered degree programs”), and Center of Data Science and Artificial Intelligence, among others. If you are interested in certain courses, please refer to the study guide of each graduate major and program to check eligibility.

Whether a student has satisfied the GA and credit requirements will be judged at the completion of the program based on completion requirements set for each graduate major. Students are expected to plan and take courses appropriately.

If a course fulfills more than one GA, acquiring credit in that course will fulfill all GAs that it is assigned to. Even if a student takes a deemed entrepreneurship course, but does not intend to count it as an entrepreneurship course, the student will be able to fulfill the GA(s) assigned to the course.

Students participating in a specially offered degree program will be considered to have satisfied all required GAs upon completion of the program. Even if a student withdraws from a specially offered degree program, GAs attained from the program will remain effective.

Table D-1: Doctoral Degree Program Graduate Attributes

GA0D	You can clearly design your own career and contribute to realizing scientific, technological, or social innovation through a comprehensive understanding of the knowledge, skills, social responsibilities and ethics required to become an active member of academia and/or industry.
GA1D	You can lead in realizing scientific, technological, or social innovation by acquiring advanced leadership skills, entrepreneurship, knowledge and expertise, and by developing social responsibility necessary for materializing your designed career.

Table D-2: Entrepreneurship courses offered by the Center for Entrepreneurship Education (CEE) (for doctoral students)

Course category	---	Course number	Course title	Credits	Applicable quarters	Comments
Career Development	600	ENT.A621	Doctoral Academic Literacy	1-0-0	1Q/2Q/3Q/4Q	GA1D/Course enrollment unable in principle during the first 6 months of the doctoral program
	600	ENT.A631	Doctoral Academic Teaching Practice	0.5-0.5-0	2Q/3Q	GA1D/Course enrollment unable during the first 6 months of the doctoral program
	600	ENT.A635	Doctoral Academic Overseas Training	0-0-1	1Q/2Q/3Q/4Q	GA1D/Course enrollment unable during the first 6 months of the doctoral program Application form must be submitted.
	600	ENT.A639	Doctoral Academic Domestic Training	0-0-1	1Q/2Q/3Q/4Q	GA1D/Course enrollment unable during the first 6 months of the doctoral program Application form must be submitted.
	600	ENT.A641	Doctoral Academic Presentation I	0.5-0.5-0	2Q	GA1D/Course enrollment unable during the first 6 months of the doctoral program
	600	ENT.A642	Doctoral Academic Presentation II	0.5-0.5-0	2Q/4Q	GA1D/Course enrollment unable during the first 6 months of the doctoral program
	600	ENT.A643	Doctoral Academic Presentation III	0.5-0.5-0	3Q	GA1D/Course enrollment unable during the first 6 months of the doctoral program
	600	ENT.A645	Doctoral Academic Presentation V	0.5-0.5-0	4Q	GA1D/Course enrollment unable during the first 6 months of the doctoral program
	600	ENT.C601	Doctoral Career Design	1-0-0	1Q/3Q	GA0D
	600	ENT.C603	Doctoral Strategy for Balancing Career, Personality and Lifestyle	1-0-0	2Q/3Q	in English GA0D
	600	ENT.C620	Doctoral Social and Business Rules and Ethics	1-0-0	2Q/4Q	GA1D
	600	ENT.C621	Doctoral Ethics of Scientists and Engineers	1-0-0	3Q	GA1D
	600	ENT.C643	Doctoral Developing Career Adaptability for Global Competitiveness	1-0-0	3Q	in English GA0D
	600	ENT.C651	Doctoral Technical Discussion	0-1-0	1Q/2Q/4Q	in English GA1D
	600	ENT.C657	Doctoral Technical Writing	0-1-0	1Q/3Q	in English GA1D

	600	ENT.C663	Doctoral R&D and Business Strategies of Global Companies	1-0-0	3Q/4Q	in English GA1D
	600	ENT.P632	Doctoral Research Internship in Private Companies 1	0-0-1	1Q/2Q/3Q/4Q	GA1D Application form must be submitted.
	600	ENT.P633	Doctoral Research Internship in Private Companies 2	0-0-2	1Q/2Q/3Q/4Q	GA1D Application form must be submitted.
	600	ENT.P634	Doctoral Research Internship in Private Companies 4	0-0-4	1Q/2Q/3Q/4Q	GA1D Application form must be submitted.
	600	ENT.P642	Doctoral Corporate Business/R&D Strategy Planning Program	0-1-0	4Q	GA1D
	600	ENT.P651	Doctoral Case Studies on Corporate Management Strategies and Business Models	1-0-0	4Q	GA1D

Table D-3: Deemed entrepreneurship courses offered by those other than the CEE (for doctoral students)

Course category	---	Course number	Course title	Credits	Applicable quarters	Academic unit or major	Comments
Global competencies	600	TAL.C601	Strategic Debate	1-0-0	1Q/3Q	ToTAL	in English No GA assigned
	600	TAL.C602	Leadership in Conflict	1-0-0	2Q	ToTAL	in English No GA assigned
	600	LAW.X601	International Research Program 1C	0-0-1	2Q	Breadth Courses	in English No GA assigned
	600	LAW.X602	International Research Program 1D	0-0-1	4Q	Breadth Courses	in English No GA assigned
	600	LAW.X603	International Research Program 2C	0-0-2	2Q	Breadth Courses	in English No GA assigned
	600	LAW.X604	International Research Program 2D	0-0-2	4Q	Breadth Courses	in English No GA assigned
	600	LAW.X605	International Research Program 3C	0-0-4	2Q	Breadth Courses	in English No GA assigned
	600	LAW.X606	International Research Program 3D	0-0-4	4Q	Breadth Courses	in English No GA assigned
Leadership	600	TAL.C603	The Psychology of Leadership	1-0-0	4Q	ToTAL	in English No GA assigned
	600	TAL.S603	Leadership Facilitation Practicum	0-1-0	1-2Q	ToTAL	in English No GA assigned

Value Creation	600	TAL.A601	Doctoral Essential Course of Group Work for Leadership	0-1-0	1-2Q/3-4Q	ToTAL	in English GA1D
	600	TAL.I602	Leadership Interdisciplinary Research Project	0-0-4	1-2Q/3-4Q	ToTAL	in English GA0D, GA1D
	600	TAL.I601	Leadership Off-Campus Project	0-0-4	1-2Q/3-4Q	ToTAL	GA0D, GA1D
	600	TAL.W602	Doctoral Practical Group Work for Leadership I	0-2-0	1-2Q/3-4Q	ToTAL	in English GA0D, GA1D
	600	TAL.W603	Doctoral Practical Group Work for Leadership II	0-2-0	1-2Q/3-4Q	ToTAL	in English GA0D, GA1D
	600	TAL.W612	Advanced Group Work for Leadership I	0-2-0	1-2Q/3-4Q	ToTAL	in English GA0D, GA1D
	600	TAL.W613	Advanced Group Work for Leadership II	0-2-0	1-2Q/3-4Q	ToTAL	in English GA0D, GA1D

*Those participating in this study model must fulfill both of the GAs (GA0D, GA1D) shown in Table D-1 by acquiring four or more credits from relevant courses. Students are encouraged to plan their course registration to be able to cover as many of the five elements (shown in the course category column) as possible.

2) Entrepreneurship Education Plus for Doctoral Students

Those who have acquired after enrollment in their doctoral program the four credits required in the Entrepreneurship Education Core (Required) for Doctoral Students, as well as the two or more credits in the entrepreneurship courses and the deemed entrepreneurship courses, will be issued a certificate of completion for Entrepreneurship Education Plus for Doctoral Students.

Summary of Doctoral Study Models

Elements	Doctoral Degree Program	
	Core (Compulsory)	Plus
Global Competencies	4 (GA0D and GA1D)	2
Leadership		
Value Creation		
Career Development		
Total Credits	4	4+2



Certificate of Completion for Plus

- Credits for deemed entrepreneurship courses offered in graduate majors cannot be counted more than once towards degree program completion requirements as graduate majors or entrepreneurship courses.
- You can follow the regular course registration process for Core and Plus study models.