Tokyo Tech's definition of Entrepreneurship

To survive in an era of VUCA (Volatility, Uncertainty, Complexity and Ambiguity), it is necessary to be equipped with entrepreneurship mindset and skills.

Entrepreneurship ≠ Start-up

Entrepreneurship >> Start-up

At Tokyo Tech, entrepreneurship is defined as "a system of behaviour to create new value and implement it in the real world for the well-being of society" in Tokyo Tech,

so that you will be able to act autonomously

- Compared to other countries, indicators related to are rather low.
- Approx. 30,000 out of 3 million students take entrepreneurship education at universities (bachelor and master levels, with a participation rate of only 1%.

Entrepreneurship Ranking

→G7主要国：6位　アジア諸国：6位（調査数：137か国）

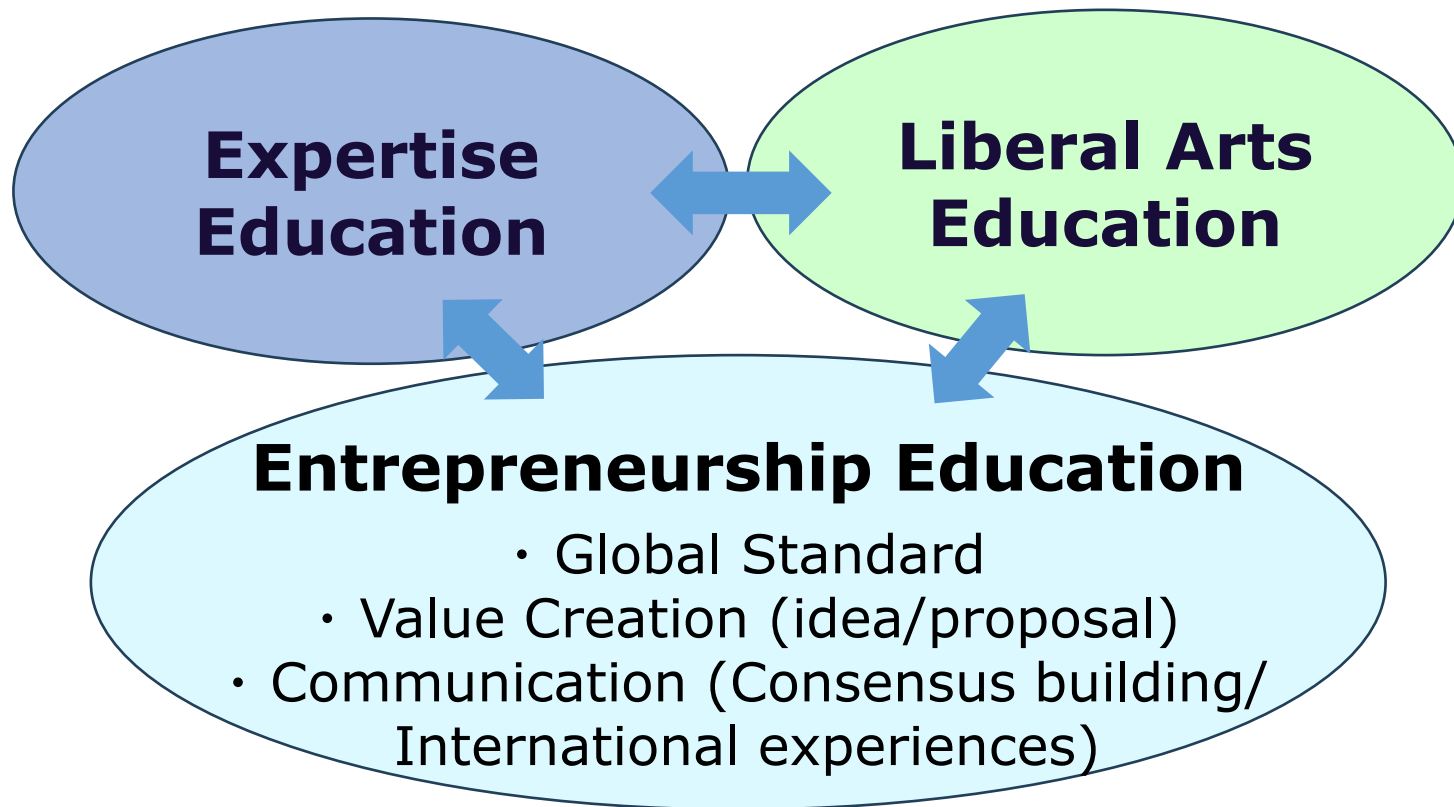| Global rank	Country	Score
1	United States	86.8
2	Switzerland	82.2
3	Canada	80.4
4	Denmark	79.3
5	United Kingdom	77.5
6	Australia	73.1
7	Iceland	73.0
8	Netherlands	72.3
9	Ireland	71.3
10	Sweden	70.2
11	Finland	70.2
12	Israel	67.9
13	Hong Kong	67.9
14	France	67.1
15	Germany	66.7
16	Austria	64.9
17	Belgium	62.2
18	Taiwan	62.1
19	Chile	58.3
20	Luxembourg	58.1
21	Korea	58.1
22	Estonia	57.8
23	Slovenia	56.5
24	Norway	56.1
25	United Arab Emirates	54.2
26	Japan	53.3

出典：Global Entrepreneurship Index 2019（The Global entrepreneurship and Development Institute)

Ranking on conditions for an entrepreneurial framework

項目	日本	米国	イギリス	ドイツ	カナダ	イスラエル
在学段階でのアントレ教育	44位	13位	20位	36位	9位	27位
卒後のアントレ教育	30位	12位	26位	25位	20位	34位
商業的・法的整備	47位	10位	25位	3位	16位	15位
文化的・社会的な規範	39位	1位	19位	32位	10位	2位

出典：Global Entrepreneurship Monitor 2019/2020 Global Report

By MEXT (2021) 2

Three Pillars of Tokyo Tech's Education

Expertise Education

Liberal Arts Education

Entrepreneurship Education
・Global Standard
・Value Creation (idea/proposal)
・Communication (Consensus building/
International experiences)

Tokyo Tech aims to develop human resources working for diverse organisations such as not only start-ups but also companies, universities, government agencies, international organisations, NGOs/NPOs, etc. who can solve global issues raised by the SDGs, etc. by creating new value, and can create future societies by utilising their comprehensive knowledge.

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Entrepreneurship Courses

Tokyo Tech will implement entrepreneurship education **for all students in all degree programs**.

Curriculum Models for graduate students:

・ Entrepreneurship Education Core (M/D Compulsory)

・ Global Education Option (M)

・ Entrepreneurship Education Plus (D)

Entrepreneurship is **like an operating system** in computers. It is a system of behaviour (mindset and skills) necessary for all students' future career path to be acquired.

Competencies, Knowledge and Skills to be Acquired

(1) Foresight

Have a clear vision of a better future for society
based on scientific and technological developments

(2) Global Competencies

By understanding the essence of global issues and their relationship with oneself, and through collecting, analysing and elucidating, one should be able to make proposal for solution. Further, one shall be able to equip with collaborative skills with one(s) with different background (culture, custom, and language, etc.) based on respect and mutual understanding.

(3) Leadership

Demonstrate leadership in building consensus among different stakeholders by recognizing hidden assumptions, respecting diversity and expressing subjective opinions based on their own values.

(4) Value Creation

(5) Career Development

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Competencies, Knowledge and Skills to be Acquired

(4) **Value Creation**

Based on insights into essential issues in their own area of expertise, they create new value by repeatedly proposing solutions, implementing them and verifying them from multiple perspectives.

They also increase the probability of the process, bring it to fruition in the real world and achieve it with a sense of purpose.

(5) **Career Development**

Find role models as references for their future and develop their future careers. Basic knowledge required for success in society, including industry and company analysis, organizational financial accounting, laws, standards and other regulations, entrepreneurship, ethics and SGDs.

Social skills such as self-understanding and self-presentation, communication, critical thinking, writing, problem-solving and leadership will be obtained..

- CEE provides entrepreneurship courses on elements (1) to (5) at the 400-600 levels. Take courses at proper levels in each degree program.
- Also available are expertise courses provided by each school that can be regarded as entrepreneurship courses.

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Examples of Courses for Master's Program 1

Table M-2 Entrepreneurship courses provided by CEE (Excerpt.)

Elements	Level	Course Code	Course Title	Credit	Quarter	
Leadership	400	ENT.L456	Effective Teamwork in Global Companies (グローバル企業の効果的なチームワーク)	0-1-0	4Q	English No GA
	400	ENT.L457	Global Leadership Practice (グローバルリーダーシップ実践)	0-2-0	2Q	English No GA
	400	ENT.L458	Global Leadership Training Study Abroad (グローバルリーダーシップ海外研修)	0-0-1	4Q	English No GA
Career Development	400	ENT.C401	修士キャリア構築基礎 (Master's Career Development Basics)	1-0-0	1Q2Q3Q	GA0M
	400	ENT.C406	Master's Global Career Development Literacy (修士グローバルキャリア開発リテラシー)	1-0-0	1Q3Q	English GA0M
	400	ENT.C413	修士キャリアデザイン演習 (Master's Career Design Practice)	0-1-0	1Q2Q3Q4Q	GA0M
	400	ENT.C448	Master's Critical Thinking (修士クリティカルシンキング)	1-0-0	4Q	English GA1M
	500	ENT.C511	修士キャリア構築ロールモデル (Master's Career Development Role Models)	1-0-0	3Q4Q	GA1M
	500	ENT.C527	修士社会・ビジネスのルールと倫理 (Master's Social and Business Rules and Ethics)	1-0-0	2Q3Q	GA1M
	500	ENT.C537	修士研究と社会貢献 (Master's Contributions to the Society through Research)	1-0-0	3Q	GA1M
	500	ENT.C562	Master's Scientific Communication (修士サイエンティフィックコミュニケーション)	1-0-0	2Q	English GA1M

Examples of Courses for Master's Program 2

Table M-3   Courses provided by organisations other than CEE that can be regarded as entrepreneurship courses (Excerpt.)

component	Level	Course Code	Course Title	Credit	Quarter		
Leadership	400	TAL.L442	Graduate Seminar in Liberal Arts (リベラルアーツセミナー)	0-1-0	3Q	ToTAL	English No GA
	400	TAL.L443	マインドフルネス for リーダーシップ （Mindfulness for Leadership）	0-1-0	3Q	ToTAL	No GA
	400	TAL.W401	Introduction to Leadership (リーダーシップ入門)	0-1-0	1Q/2Q/3Q/4Q	ToTAL	English No GA
	500	TAL.W502	Fundamental Group Work for Leadership I (リーダーシップ・グループワーク基礎Ⅰ)	0-2-0	1Q-2Q/3Q-4Q	ToTAL	English GA0M, GA1M
	500	TAL.W503	Fundamental Group Work for Leadership Ⅱ (リーダーシップ・グループワーク基礎Ⅱ)	0-2-0	1Q-2Q/3Q-4Q	ToTAL	English GA0M, GA1M
Value Creation	400	LAW.X418	Study on Japanese Companies and Industries I (日本企業・産業研究 I)	0-1-0	3Q	Breadth courses	English GA0M GA1M
	400	LAW.X419	Study on Japanese Companies and Industries II (日本企業・産業研究 II)	0-1-0	1Q	Breadth courses	English GA0M GA1M
	500	TAL.A501	Master's Essential Course of Group Work for Leadership （修士リーダーシップ・グループワーク特論）	0-1-0	1Q-2Q/3Q-4Q	ToTAL	English GA1M
	500	TAL.S502	プロフェッショナルと価値創造 A (Professionals and Value Creation A)	0-1-0	2Q	ToTAL	GA0M
	500	TAL.S503	プロフェッショナルと価値創造 B (Professionals and Value Creation B)	0-1-0	4Q	ToTAL	GA0M
	500	TAL.S505	Recognition of Social Issues Workshop A (社会課題の認知ワークショップ A)	0-1-0	2Q	ToTAL	English GA1M
	500	TAL.S506	Recognition of Social Issues Workshop B (社会課題の認知ワークショップ B)	0-1-0	4Q	ToTAL	English GA1M

Examples of Courses for Master's Program 3

Each school provides expertise courses that can be regarded as entrepreneurship courses.

Please check the 'Study Guide' for details.

Note Credits for one subject cannot be double-counted for both expertise course and entrepreneurship course.

Entrepreneurship Education Core (Master)

It is **mandatory** for the master to obtain **at least 2 credits to fulfil the following two GAs (GA0M and GA1M)** set out in Table M-1 in the 'Study Guide'.

Table M-1 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, and ethics necessary for realizing your planned career and contribute to societal problem-solving while collaborating with other experts

Note Credits for one subject cannot be double-counted for both expertise course and entrepreneurship course.

Global Education Option is also provided for students who want to study abroad and to improve foreign language communication skills.

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Table D-2 Entrepreneurship courses provided by CEE (Excerpt.)

element	Level	Course Code	Course Title	Credit	Quarter	
Career Development	600	ENT.A621	博士アカデミックリテラシー (Doctoral Academic Literacy)	1-0-0	1Q2Q 3Q4Q	GA1D/原則として博士後期課程入学後半年以内は履修不可
	600	ENT.A631	博士アカデミックティーチング (Doctoral Academic Teaching Practice)	0.5-0.5-0	2Q3Q	GA1D/博士後期課程入学後半年以内は履修不可
	600	ENT.A635	博士アカデミック海外研修 (Doctoral Academic Overseas Training)	0-0-1	1Q2Q 3Q4Q	GA1D/博士後期課程入学後半年以内は履修不可 別途，申請書提出が必要
	600	ENT.A639	博士アカデミック国内研修 (Doctoral Academic Domestic Training)	0-0-1	1Q2Q 3Q4Q	GA1D/博士後期課程入学後半年以内は履修不可 別途，申請書提出が必要
	600	ENT.A641	博士アカデミックプレゼンⅠ (Doctoral Academic Presentation I)	0.5-0.5-0	2Q	GA1D/博士後期課程入学後半年以内は履修不可
	600	ENT.A642	博士アカデミックプレゼンⅡ (Doctoral Academic Presentation II)	0.5-0.5-0	2Q 4Q	GA1D/博士後期課程入学後半年以内は履修不可
	600	ENT.A643	博士アカデミックプレゼンⅢ (Doctoral Academic Presentation III)	0.5-0.5-0	3Q	GA1D/博士後期課程入学後半年以内は履修不可

Examples of Courses for Doctoral Program 2

Table D-3　Courses provided by organisations other than CEE that can be regarded as entrepreneurship courses (Excerpt.)

E;leme nt	Level	Course Code	Course Title	Credit	Quarter		
Value Creation	600	TAL.A601	Doctoral Essential Course of Group Work for Leadership （博士リーダーシップ・グループワーク特論）	0-1-0	1Q-2Q/3Q-4Q	ToTAL	English GA1D
	600	TAL.I602	Leadership Interdisciplinary Research Project （リーダーシップ・異分野研究プロジェクト)	0-0-4	1Q-2Q/3Q-4Q	ToTAL	English GA0DGA1D
	600	TAL.I601	リーダーシップ・オフキャンパスプロジェクト (Leadership Off-Campus Project)	0-0-4	1Q-2Q/3Q-4Q	ToTAL	GA0DGA1D
	600	TAL.W602	Doctoral Practical Group Work for LeadershipⅠ （博士リーダーシップ・グループワーク実践Ⅰ）	0-2-0	1Q-2Q/3Q-4Q	ToTAL	English GA0D GA1D
	600	TAL.W603	Doctoral Practical Group Work for LeadershipⅡ （博士リーダーシップ・グループワーク実践Ⅱ）	0-2-0	1Q-2Q/3Q-4Q	ToTAL	English GA0D GA1D
	600	TAL.W612	Advanced Group Work for LeadershipⅠ （リーダーシップ・グループワーク発展Ⅰ）	0-2-0	1Q-2Q/3Q-4Q	ToTAL	English GA0DGA1D
	600	TAL.W613	Advanced Group Work for LeadershipⅡ （リーダーシップ・グループワーク発展Ⅱ）	0-2-0	1Q-2Q/3Q-4Q	ToTAL	English GA0DGA1D

Examples of Courses for Doctoral Program 3

Each school provides expertise courses that can be regarded as entrepreneurship courses.

Please check the 'Study Guide' for details.

Note Credits for one subject cannot be double-counted for both expertise course and entrepreneurship course.

Entrepreneurship Education Core (Doctoral)

It is **mandatory** for the master to obtain **at least 4 credits to fulfil the following two GAs (GA0D and GA1D)** set out in Table D-1 in the 'Study Guide'.

Table D-1 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 the advanced leadership skills, entrepreneurial skills, knowledge and expertise, and by developing social responsibility necessary for materializing your designed career.

Note Credits for one subject cannot be double-counted for both expertise course and entrepreneurship course.

・If you have earned at least two credits in addition to the four compulsory credits (core), '**Entrepreneurship Education Plus**' certificate will be issued.

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Summary of Graduate Study Models (Important)

Elements	Master		Doctoral	
	Core (Compulsory)	**Global Education Option**	**Core (Compulsory)**	**Plus**
Global Competencies	**2 (GA0M and GA1M)**	**3** ⇧ From courses specified by 'Option'	**4 (GA0D and GA1D)**	**2**
Leadership				
Value Creation				
Career Development				
Total Credits	**2**	2+**3**	**4**	**4**+2

⇩ **Certificate for Option**   ⇩ **Certificate for Plus**

・ **Only course registration** is required for each model.
(application or no other procedure is necessary)

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Global Education Option (Master's Program) 1

In addition to the compulsory GA-attached courses in the Entrepreneurship Education Core (Master's program), **this option also offers courses for studying abroad and improving foreign language communication skills.**

- This option can be undertaken in parallel with the Entrepreneurship Education Core.

- **A certificate of completion for the Global Education Option (Master's Program) will be issued** if, by the end of the Master's Program, **a minimum of five credits have been obtained** to meet the following conditions on next page, **in addition to the two credits that fulfil the GA required in the Education Core.**

Global Education Option (Master's Program) 2

Option Prerequisites:

- At least 1 credit from the courses of "Global Competencies" and "Leadership" in the entrepreneurship courses designated in the 'Option'.

- At least 1 credit from the courses designated by the university for the recognition of international experience. (Studying abroad for at least 1 month is recommended.)

- At least 1 credit from the communication courses or the entrepreneurship courses designated by the 'Option' in Table M-2 and Table M-3.

アントレプレナーシップ教育（大学院）オリエンテーション
ORIENTATION FOR ENTREPRENEURSHIP EDUCATION（GRADUATE LEVEL）

録画・資料/ RECORDING& ORIENTATION MATERIAL

録画と資料を公開しますので、サイトをご確認ください。

Recording and material will be released on following the website.

https://www.titech.ac.jp/0/students/entrepreneurship

いつでも録画をご覧になれるようになりました。
Watch the recording anytime.

対象/TARGET

4月入学の大学院生(修士課程/博士後期課程)
NEWLY ENROLLED GRADUATE STUDENTS IN APRIL 2024

言語/LANGUAGE

日本語または英語

内容/TOPICS

大学院修士課程／博士後期課程修了にはアントレプレナーシップ科目の単位取得が必要です。どのようにアントレプレナーシップ科目を履修するべきか、アントレプレナーシップ科目を全学に提供しているアントレプレナーシップ教育機構（CEE）が説明します。
How to register Entrepreneurship courses and earn the necessary credits to complete your graduate program

問い合わせ先/ CONTACT

アントレプレナーシップ教育機構
cee.info@jim.titech.ac.jp