



Orientation for the Freshers

Graduate Major in

Global Engineering for Development, Environment and Society (GEDES)

5th April 2023

Prof. Kayoko NOHARA
GEDES Chair

AGENDA

- Welcome!
- Research Ethics
- Policy on Covid 19 (dated April 2023)
- Course overview
- How to complete your course:
 Master's / Doctoral Curriculum
- More info: *Takuetsu* academies,
 financial support for doctoral candidates...
- Q & A

Welcome to GEDES!

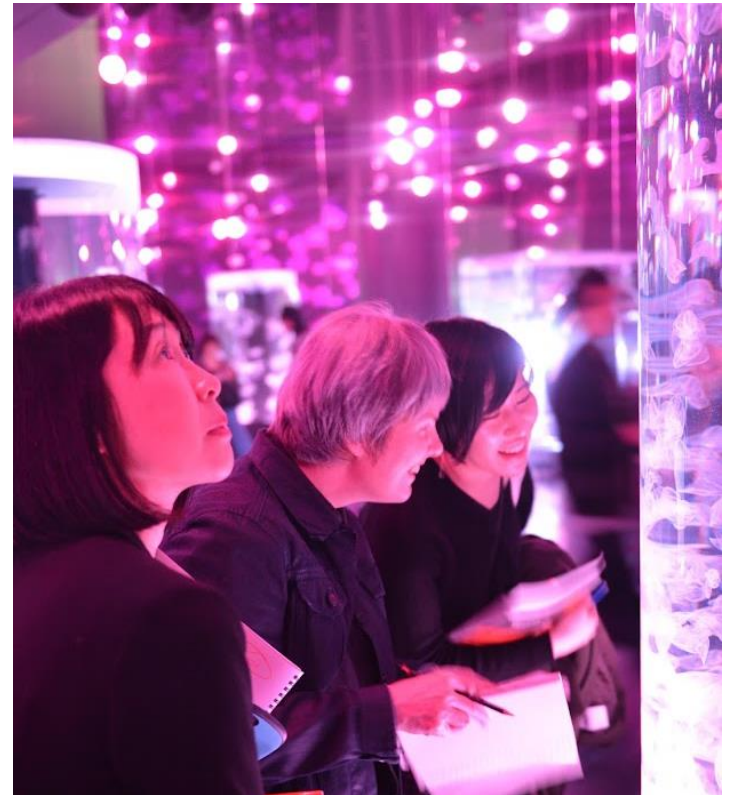
Prof. Kayoko Nohara
@South 5 Bldg is speaking.
Translation Studies, Science Communication,
Science/Technology & Art/Design...

Dear new students: Master's 46,
Doctor 6, 18 are international
students among all.

“To think and to be fully alive are the
same.”

真に人として生きるなら、思考を止め
てはならない

Hanna Arendt





Research ethics education

– Approach in Tokyo Tech –

Office of Education (Japanese only)
<https://www.eduplan.titech.ac.jp/activity/ethics/>

Tokyo Tech Code of Conduct for Researchers

(Basic Responsibilities of Researchers)

1. Researchers shall recognize that they are responsible for assuring the quality of the specialized knowledge and skills that they themselves create, and for using their expert knowledge, skills, and experience to contribute to the health and welfare of humankind, the safety and security of society, and the sustainability of the global environment.

The Science Council of Japan's "Code of Conduct for Scientists" Article 1. Basic Responsibilities of Scientists has similar text.

Features of Tokyo Tech's Education on Responsible Conduct for Research

Three levels of educational targets

Level 1 (1st- to 3rd-year undergraduate students): Basic

Level 2 (4th-year undergraduate students and master's students):
Advanced

Level 3 (Doctoral students): More advanced

Four Categories

1. Academic integrity
2. Roles and social responsibilities of researchers
3. Responsible Conduct of Research (RCR)
4. Compliance with laws and ordinances

→ You will learn how to conduct research appropriately through some courses, books and online materials

→ Check list

Whatever subject you study, your work and behavior need to ethically good.

Univ policy on Covid

April 2023

Graduate classes will be **basically conducted as normal**. There might be local adjustments depending on each class and its content: refer to **the syllabus on the Kyomu WEB System** and **T2SCHOLA** for the specific course implementation methods.

Ventilation, handwash etc. are always encouraged

Wearing a mask is left to individual judgement

<https://www.titech.ac.jp/student/students/health/coronavirus>

Course Overview:

Aim of the GEDES educational program

1. To create a **new technology, value, and concept** responding to the environmental, societal development and their needs.
2. To **find and solve** the numerous **problems around the international society** with an accurate understanding and transdisciplinary perspectives.
3. To equip global scientists and engineers with the “**ability to co-create**” including,
 - **Communication skills** to work effectively in cooperation with people from different fields and cultures.
 - **Management skills** to operate an organization or multiple projects.

グローバル視点で国際開発／環境・資源・エネルギー ／社会的問題に取り組む

地球環境問題、自然災害、人権問題... 国際社会が抱える横断的課題が顕在化、産業構造、政治構造も変化。要素技術の単純な足し合わせでは解決できない

→ 単なるモノづくりでない、学問体系の枠に囚われない**新たな研究開発**

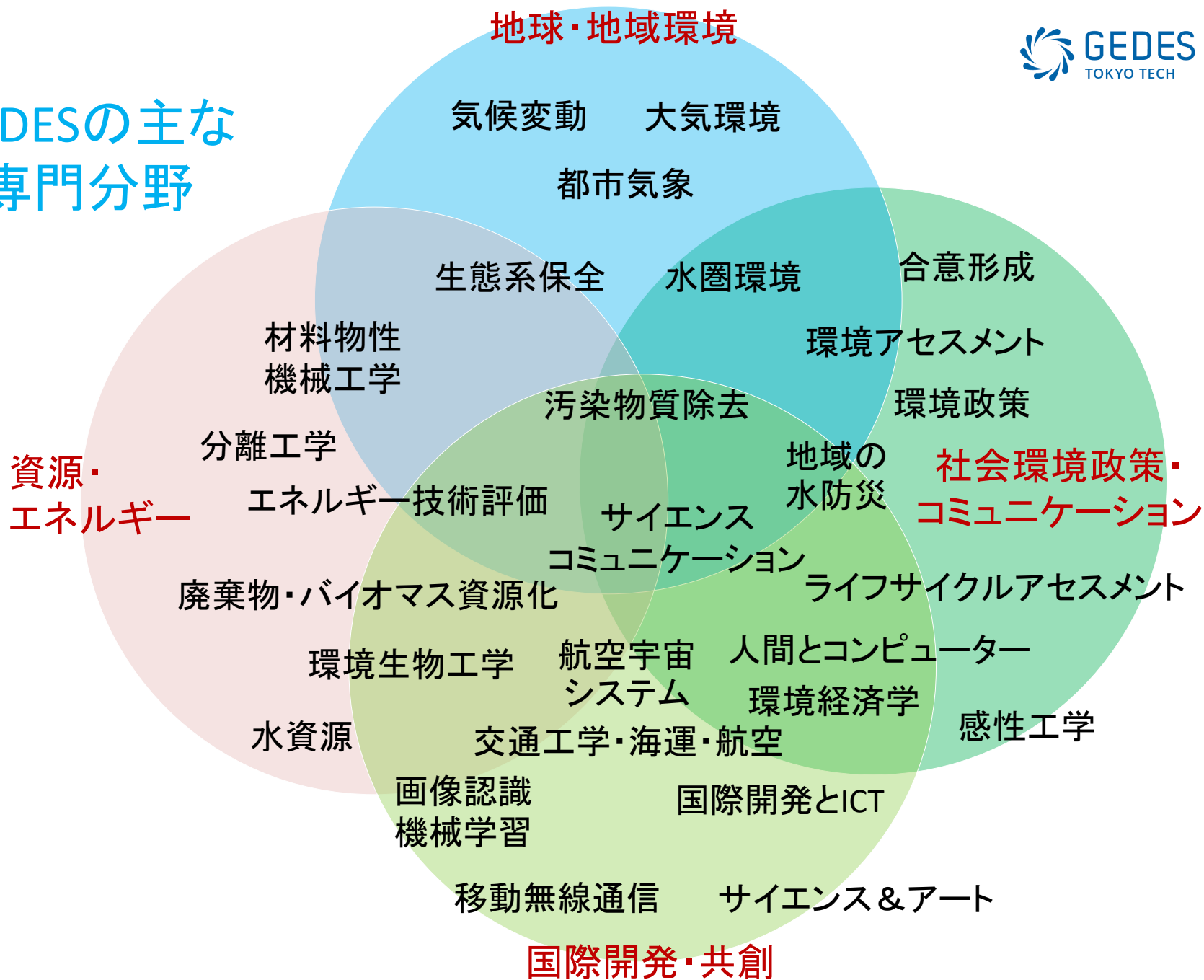
1. 新たな技術・価値・概念の創出

2. 地球規模の複合的課題の発見と解決、創造的思考と実行

3. 共創力

- 異分野・異文化チームで力を発揮できる**コミュニケーション力**と**俯瞰的視野**
- 複合的プロジェクトや組織を動かす**マネジメント能力**

GEDESの主な 専門分野



How to complete your course: Master's Curriculum

Completion Requirements (Master course)

1. Attain **30 credits** or more from the 400- and 500-level courses in the **Liberal arts and basic science courses** and the **Core courses**.
2. Fulfill the specific requirements: **Table M1 and M2**.
 - 24 credits from Core courses: 8 from Research Seminars, 16 from Major course
 - 5 from Liberal Arts and Basic Science Courses: 3 from Social Science courses and 2 from Career Dev. Courses
3. Give your **interim presentation**, submit your **master's thesis**, pass the **review procedure** and complete your **final oral defense**.

GEDES修士課程の修了要件

1. **30単位以上**を大学院授業科目から修得
2. 指定された授業科目で次の要件を満たすこと

Table M1・M2参照

- **専門科目群**から**24単位**以上修得
 - 講究科目(ゼミ)を**8単位**修得
 - 専門科目**16単位**以上(必修**4単位**含む)
- **教養科目群**から**5単位**以上修得
 - 文系教養科目**3単位**以上・キャリア科目**2単位**以上含む

3. **中間発表、修士論文審査及び最終試験**に合格すること

Course numbering Rule

- GEG.**T**413.**L** 1-0-0 (Lecture - Exercise - Experiment/Training)

R: Required , L: Elective

E (Environment),
S (Social environmental policy)
I (International development)
T (Technology),
F (Fieldwork, internship)
L (Lecture method)
P (Project)

Table M1.

Course category		Required courses and credit	Electives Minimum credits required	Minimum credits required
Liberal arts and basic science courses 教養科目群	Humanities and social science courses 文系教養科目		<ul style="list-style-type: none"> • 2 credits from 400-level • 1 credit from 500-level 	5 credits
	Career development courses キャリア科目		2 credits	
	Other courses			
Core courses	Research seminars 講究科目(ゼミ)	<ul style="list-style-type: none"> • Seminar for Global Engineering S1 • Seminar for Global Engineering F1 • Seminar for Global Engineering S2 • Seminar for Global Engineering F2 A total of 8 credits, 2 credits each from the above courses.		24 credits
	Research-related courses			
	Major courses 専門科目	Project Design & Management S Project Design & Management F A total of 4 credits, 2 credits each from the above courses.	12 credits	
	Major courses and Research-related courses outside the GEDES standard curriculum 他専門科目			

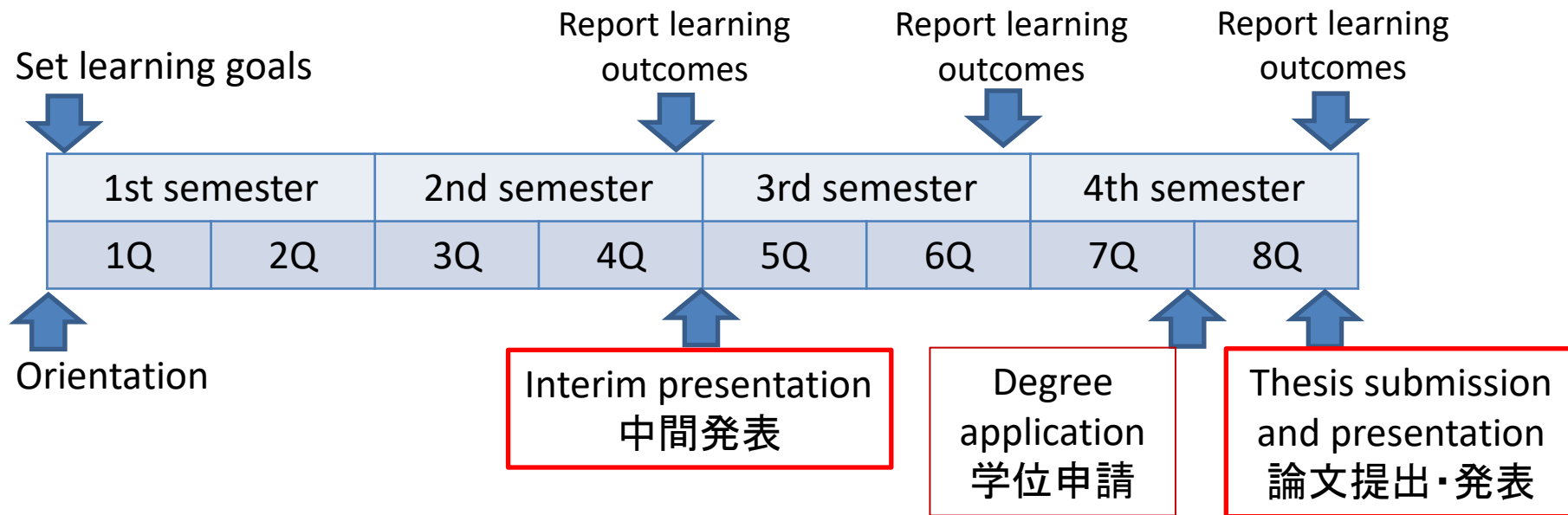
Table M2. Core Courses of GEDES 「ゼミ」

400 level	GEG.Z491.R	◎	Seminar for Global Engineering S1	0-2-0
	GEG.Z492.R	◎	Seminar for Global Engineering F1	0-2-0
500 level	GEG.Z591.R	◎	Seminar for Global Engineering S2	0-2-0
	GEG.Z592.R	◎	Seminar for Global Engineering F2	0-2-0

◎ : Required

Master's Course

Outline procedures for 2 years (standard)



- The interim presentation: early April 2023
- The final master's thesis presentation: February 2024
(You can graduate earlier if you satisfy the requirement)

How to complete your course: Doctoral Curriculum

Completion Requirements (PhD course)

1. Attain a total of **24 credits** or more from the 600 level courses in the “**Liberal arts and basic science courses**” and the “**Core courses**”.
2. Fulfill the specific requirements shown in **Table D1 and D2**.
3. Give your **interim presentation**, complete your **preliminary defense**, pass the **doctoral thesis review** and successfully accomplish your **final PhD defense**.
4. The major part of the thesis shall be **published**, or **prepared at a publishable level**, in qualified academic journals.

Table D1.

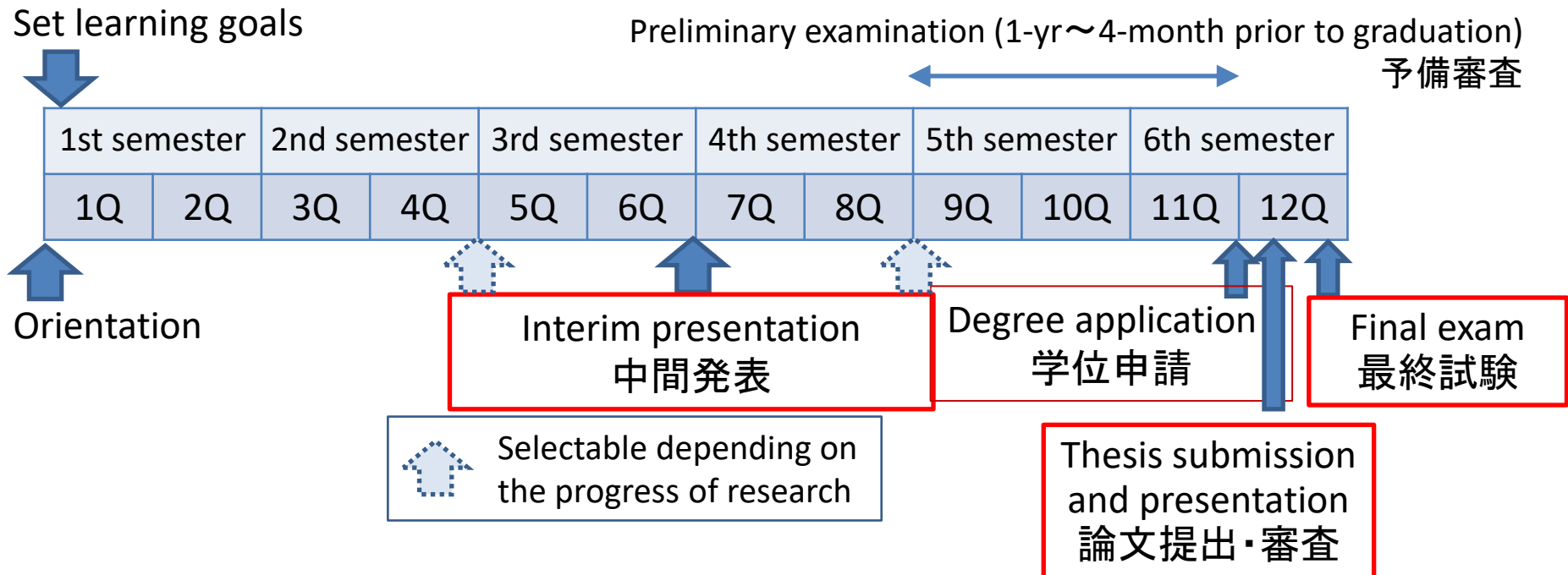
Liberal arts and basic science courses	Humanities and social science courses 文系教養科目		2 credits	6 credits
	Career development courses キャリア科目		4 credits	
	Other courses			
Core courses	Research seminars 講究科目(ゼミ)	<ul style="list-style-type: none"> •Seminar for Global Engineering S3 •Seminar for Global Engineering F3 •Seminar for Global Engineering S4 •Seminar for Global Engineering F4 •Seminar for Global Engineering S5 •Seminar for Global Engineering F5 A total of 12 credits , 2 credits each from the above courses.		18 credits
	Research-related courses 研究関連科目		6 credits	
	Major courses 専攻科目			

Table D1. (extract)

Research seminars	600 level	GEG.Z691.R	◎	Seminar for Global Engineering S3	0-2-0
		GEG.Z692.R	◎	Seminar for Global Engineering F3	0-2-0
		GEG.Z693.R	◎	Seminar for Global Engineering S4	0-2-0
		GEG.Z694.R	◎	Seminar for Global Engineering F4	0-2-0
		GEG.Z695.R	◎	Seminar for Global Engineering S5	0-2-0
		GEG.Z696.R	◎	Seminar for Global Engineering F5	0-2-0
Research-related courses	600 level	GEG.L631.L		Advanced Theory of Teaching Method 1A	0-1-1
		GEG.L632.L		Advanced Theory of Teaching Method 1B	0-1-1
		GEG.L633.L		Advanced Theory of Teaching Method 1C	0-1-1
		GEG.L634.L		Advanced Theory of Teaching Method 1D	0-1-1
		GEG.L635.L		Advanced Theory of Teaching Method 2A	0-1-1
		GEG.L636.L		Advanced Theory of Teaching Method 2B	0-1-1
		GEG.L637.L		Advanced Theory of Teaching Method 2C	0-1-1
		GEG.L638.L		Advanced Theory of Teaching Method 2D	0-1-1
		GEG.L639.L		Advanced Theory of Teaching Method 3A	0-1-1
		GEG.L640.L		Advanced Theory of Teaching Method 3B	0-1-1
		GEG.L641.L		Advanced Theory of Teaching Method 3C	0-1-1
		GEG.L642.L		Advanced Theory of Teaching Method 3D	0-1-1
		GEG.F651.L		Practice in Company 1A (Global Engineering)	0-1-1
		GEG.F652.L		Practice in Company 1B (Global Engineering)	0-1-1 21

Doctoral Course

Outline procedures for 3 years (standard)



- The interim presentation will be scheduled after 1.5 years from your enrollment
- The final presentation on January 2025.
- (You can graduate earlier if you fulfill further requirement.)

For both Master's and Doctoral students

Research-related courses for master

Subject to change: always check
Study Guide 2023 and syllabus!

and doctoral courses in GEDES

Credits for the following courses are given based on the presentation in the Student Activity Workshop held in August and February in each year.

	Courses	Description	Course-level permission
Master only	Global Engineering Fieldwork (0-0-1)	Activities for 2 weeks ~ 1 month	
	Global Engineering Internship (0-0-2)	Activities for 1 month or longer	Required
M & D	Global Engineering International Workshop (0-0-1)	Presentation at international conferences*	
Doctor only	Advanced Theory of Teaching Method (0-1-1)	Support academic courses as a non-paid teaching assistant (TA)	
	Advanced Theory of Co-creation (0-1-1)	Student-led voluntary activities of co-creative plan outside the campus	
	Practice in Company (0-1-1)	Activities in company, institute, etc. for 1 month or longer	Required
	Global Engineering Off-Campus Project (0-0-1)	Activities for 2 weeks ~ 1 month	
	Sustainable Engineering Program Off-Campus Project (0-0-4) (for IGP(A))	3 months or longer; applicable for students in IGP(A) (ISSEP)	Required

* Int'l conferences held in Japan included. Presentations in online conferences are (tentatively) allowed.

以下の活動は、各科目を履修登録したうえで毎年2月と8月に行われる学生生活動報告会で発表しレポートを提出することにより、単位取得が可能。

	科目名	概要	コースの 事前承認
修士	地球環境共創フィールドワーク (0-0-1)	2週間以上1か月未満の学外実習	
	地球環境共創インターンシップ (0-0-2)	1か月以上の学外実習	必要
修士 博士	地球環境共創国際発表 (0-0-1)	国際会議・国際ワークショップでの発表*	
博士	教授法実践特論 (0-1-1)	TAの機会を通じて、教育に従事する上で必要な技能を習得	
	共創実践特論 (0-1-1)	大学外の社会の関係者・組織と共創活動を実践する機会	
	企業特別実習 (0-1-1)	企業や研究所・大学における1か月以上の活動	必要
	博士派遣プロジェクト (0-0-1)	2週間以上1ヶ月未満の学外実習	
	持続性工学派遣プロジェクト (0-0-4) (for IGP(A))	IGP(A) (ISSEP)向けの3か月以上の学外実習科目	必要

* 国内開催の国際会議も可

Research-related courses for master and doctoral courses in GEDES

Rules for workshop registration

- Your presentation should be made at the earliest workshop after the research-related activity.
- You cannot do the presentation after one year.
- Register for the courses in 1Q or 2Q if you plan to present at the workshop in August. Similarly, register for the courses in 3Q or 4Q if you plan to present at the workshop in February.
- For “Advanced Theory of Teaching Method”, students paid as a teaching assistant (TA) are not eligible for this credit course.

Requirement for presentation and report

Number of Credit	Requirements		
	Presentation	Q and A	Report
1 credit	2 minutes	4 minutes	2 pages
2 credits	3 minutes		4 pages
3 credits	4 minutes		6 pages
4 credits	5 minutes		8 pages

Note: this table also applies for the accreditation of “Recurrent Program Advanced Practice” (doctoral program).

学生活動報告会の登録

- 活動後、直近(2月か8月)の学生活動報告会での発表が望ましい
- 活動後、1年以内であれば登録可能。
- 8月の報告会で発表:1Q/2Qの当該科目を履修。
- 2月の報告会で発表:3Q/4Qの当該科目を履修。
- 「教授法実践特論」で単位を取得したい場合、ティーチング・アシスタント(TA)として給与を受けてはならない。

学生活動報告会における発表およびレポートの要件

単位数	要件		
	発表時間	質疑応答時間	レポート頁数
1	2分	4分	2頁
2	3分		4頁
3	4分		6頁
4	5分		8頁

注: 上記の表は「博士リカレント教育発展研修」で3単位を取得する際の要件を含む。

Career Development Course

キャリア科目

- Both Master's and doctoral students need to acquire the necessary credits from the career development courses
 - satisfying **ALL the Graduate Attributes (GA)**.
 - by the end of your degree program.

For the latest info: **Study Guide 学修案内 2022**
and the Website of **Innovator and Inventor Development Platform (IIDP)** <https://www.titech.ac.jp/student-support/students/life/career-education>

References:

- Always go back to **Study Guide 学修案内 2023**
but not from a different year!!

- Syllabus of each class

- GEDES Bulletin Board

<https://www.tse.ens.titech.ac.jp/gedes/>

- GEDES WEBSITE for general info

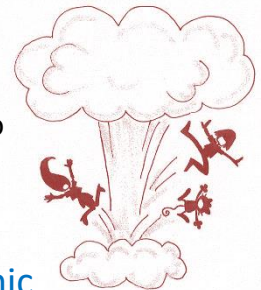
<https://www.gedes-tokyo-tech.jp/index.html>

More Info

Security Export Control

- What is Security Export Control ?

Security Export Control is a framework, based on the Foreign Exchange and Foreign Trade Act (FEFTA)¹, to maintain international peace and security by preventing weapons² and goods and technologies that could potentially be used for military applications from falling into the hands of terrorists or states that may be a security risk.



¹ Penalties under FEFTA: **【Criminal Penalty】** *Imprisonment*: No more than 10 years; *Fines*: Individual No more than JPY 30 million, Company No more than JPY 1 billion **【Administrative Penalty】** Prohibition of exports for no more than 3 years

² “Weapons” means both conventional weapons and weapons of mass destruction (WMD), including nuclear weapons, chemical weapons, biological weapons, and missiles which carry WMD

- If you are thinking about doing any of the following activities, first consult with your academic supervisor. You may be required to follow Security Export Control procedures before proceeding.

1) Going overseas³

- Providing undisclosed technical information overseas
- Taking items (samples, equipment, USB memory) out of Japan
- * Check with your supervisor before sending items abroad. The value of the item is not relevant.

2) Communicating with those overseas³

- Transferring undisclosed technical information from your laboratory
- * Providing information via SNS is also subject to Security Export Control procedures.
- * Most laboratories prohibit the provision of technical information from the lab to non-lab members.

3) Leaving Tokyo Tech³

- Taking undisclosed technical information (data for a thesis/paper, etc.) out of Japan after graduation
- Taking samples of research material out of Japan after graduation

³ In the case of international students, this includes returning to or communicating with those in their countries

Academic supervisors: When your students are to conduct any of the activities above, you are required to verify whether or not the activity in question is subject to Security Export Control. If internal examination is required, please fill out and submit the Consultation Form (available from the [Security Export Control website](https://www.titech.ac.jp/english/staff/world/export_control/) for faculty members) to the section in charge of Export Control.
https://www.titech.ac.jp/english/staff/world/export_control/



If you have any questions, consult the section in charge of Security Export Control.
 Email: stc.soudan@jim.titech.ac.jp

卓越教育院 Takuetsu Academies

See separate pdf files provided for the info

Financial support for doctoral students (JASSO, JSP)

Subject to change: always check the latest info on the website etc.!

1. 奨学金 Scholarships

(1) 日本学生支援機構 (JASSO) による奨学金

種類		貸与月額
第一種奨学金 (無利子)	修士	5万円、8.8万円から選択
	博士	8万円、12.2万円から選択
第二種奨学金 (有利子)		5万円、8万円、10万円、13万円、15万円から選択

(2) 民間財団等による奨学金 (日本人学生向け)

- ・大学推薦なしで直接申請できる奨学金と、大学推薦必要な奨学金あり。
- ・地方公共団体の貸与奨学金 (返還必要・無利子) と、民間の給与奨学金 (返還不要)、貸与奨学金 (返還必要・多くが無利子) がある。

(3) 民間財団等による奨学金 (私費外国人留学生向け)

- ・「大学推薦」は、春と秋に学生支援課で登録申請必要。推薦学生を選出。
- ・「直接応募」は、学内の掲示板や大学ウェブサイトに掲載。各自で応募。

2. 日本学術振興会による制度・プログラム JSPS Programs

(1) 「特別研究員(DC)」制度

- ・研究奨励金20万円/月と特別研究員奨励費 (研究費) 約100万円/年。アルバイトや奨学金併給不可。

(2) 若手研究者海外挑戦プログラム

- ・博士後期課程在籍中に研究留学経費の支援 (渡航費・滞在費・研究費)

Internal support for doctoral students

Subject to change: always check
the latest info on the website etc.!

名称	財源	一人当たりの年間支援額	備考
つばめ博士学生奨学金	東京工業大学 (大学経費)	480,000円 (一般奨学金) 635,400円 (特別奨学金)	フェローシップ &越境型の採択者 以外は申請可
高度人材育成博士フェロー シップ (高度CPS2人材育成フェ ローシップ)	文部科学省 (科学技術イノベーション 創出に向けた大学フェロー シップ創設事業)	・ 180万円/年 + 研究費最大 30万円/年 ・ 授業料全額免除	2021年度から 7年間限りの時 限措置
殻を破るぞ!越境型理工系博 士人材育成	文部科学省 (JST次世代研究者挑戦的 研究プログラム)	・ 180万円/年 + 研究費最大 180万円/年	2021年度から 5年間限りの時 限措置
リサーチフェロー制度 (科学 技術創成研究院, 生命理工学 院)	東京工業大学 (大学経費)	84万円/年	RA相当
東工大基金奨学金	東京工業大学 (大学経費)	『青木朗記念奨学金』(M)5万円/月 『草間秀俊記念奨学金』(D)6万円/ 月	所得制限有

この他, TA/RAがあります。 <http://www.jinjika.jim.titech.ac.jp/syoku/index.html>
変更もあるので, 詳細は各ホームページ等を確認してください。

More info for doctoral students

博士後期課程を目指す方へ

<https://www.titech.ac.jp/public-relations/prospective-students/doctoral-program>

『博士』のすゝめ

<https://www.titech.ac.jp/enrolled/news/2021/049699>

Dr's K-meet（博士後期課程学生のための蔵前就職情報交換の集い）

蔵前工業会（同窓会）と学生支援センターが共催する、博士後期課程学生向けの就職情報交換会。企業からも多数参加。（下記のイベントでは104社が参加）

https://www.kuramae.ne.jp/k_meet_st/（開催例）

ジョブ型研究インターンシップ

給料をもらいながらインターンシップでの単位修得が同時に可能。自身の専門性を生かすことができるかをジョブディスクリプションで確認します。

<https://www.titech.ac.jp/student/students/life/job-i>

Well done, you are ready to start!

Have a wonderful time at Tokyo Tech

