Project for the Promotion of Global Human Resource Development

Type B

Tokyo Institute of Technology

Number of Undergraduate Students: 1,068

[Target Schools: School of Engineering* (733), School of Science (185), School of Bioscience and Biotechnology (150)]

1. Objectives of the Global Human Resource Development Project

In response to the expanding need for highly qualified human resources in various science and technology fields around the world, Tokyo Institute of Technology (Tokyo Tech) will intensify its efforts to develop 'knowledgeable, skilled, ambitious, peace-minded and harmony-seeking' scientists and engineers who will play internationally active roles.

2. Summary of the Plan

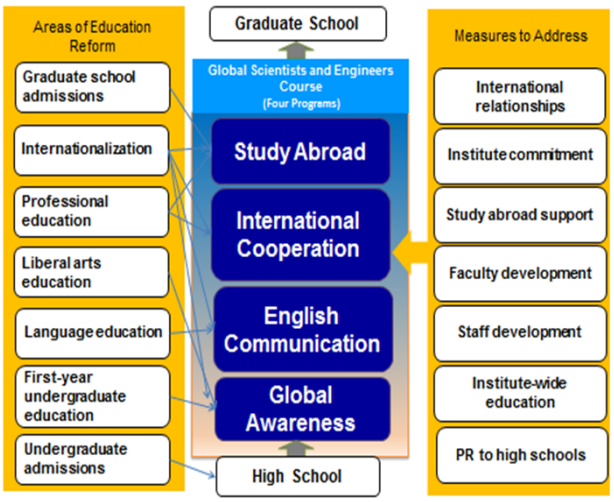
The Global Scientists and Engineers Course, a new bachelor's degree educational platform offered by Tokyo Tech running parallel to its regular bachelor's programs, will offer approximately 10% of the undergraduate student body (120 undergraduate students in each academic year of the institute) the education and skills necessary to make globally-oriented contributions to the world, especially in emerging and developing countries, based on their acquired expertise in science, technology and engineering.

1. Global Scientists and Engineers Course

In the name of target schools, marked *shows representing school.

Undergraduate students who participate in this parallel course will acquire the following skills, abilities and qualities:

1. **Global awareness**
   Global perspectives on issues and the ambition to act globally
2. **English proficiency and excellent communication skills**
   English communication skills necessary to study and work abroad
3. **Cross-cultural understanding and ability to work in teams**
   Ability to work together with people from various nations and cultures
4. **Recognition and resolution of challenges**
   Ability to recognize constraints, understand the nature of global issues and propose creative and innovative solutions to complex problems
5. **Power of execution**
   Ability to take the initiative based on acquired expertise and risk management skills
   Ability to understand the importance of acting ethically as scientists and engineers



2. Education: Four Programs

Students enrolled in this course will take classes in the following four programs in addition to their regular bachelor's degree classes.

1. **Global Awareness**
   This program is designed to expose first-year students to a wider range of global issues and opportunities.
2. **English and Communication**
   This program provides more opportunities for students to improve their communication skills by increasing the number of intensive English classes and the number of classes on academic presentation giving to prepare them for study abroad. The program also creates self-study opportunities for English-language communication through e-learning platforms.
3. **International Cooperation Practice Grounded in Science and Technology**
   In order for students to acquire the ability to apply their knowledge and skills to actual problems, this program offers a problem-based learning (PBL) curriculum led by international academic faculty members, PBL opportunities to work together with international students from various cultural backgrounds, and overseas fieldwork experiences.
4. **Study Abroad or International Internship**
   This program provides both a short-term and long-term opportunity to study or intern abroad at partner universities or in international organizations. Short-term study/internship is for less than three months and long-term is from three to twelve months.

3. Areas of Change

Tokyo Tech will focus on the following efforts in the next five-year period while establishing the framework for the project:

1. **Introduction of International Education Structures/Standards**
   The following components of international education will be introduced at Tokyo Tech:
   -GPA (grade point average)
   -Portfolios (especially portfolios of students' work and creations)
   -Numbering of Courses (for easier transfer of credits)
   -Student-centered Learning (knowledge acquisition through active student engagement and participation, in contrast to one-way lectures)
2. **Internationalization of Academic Faculty**
   Tokyo Tech will strengthen its measures to attract excellent international instructors as well as send Tokyo Tech's faculty members to overseas to develop their teaching methods.
3. **Administrative Staff Development**
   Tokyo Tech will provide increased opportunities for the professional development of its administrative staff, including foreign language and higher education leadership training, as well as more institute-related documentation in English.
4. **Support System for Students Studying Abroad**
   Tokyo Tech will make more efforts to support students of Tokyo Tech in handling the various challenges before, during and after their study abroad.

Specific Competencies for Graduates

In addition to solid expertise, upon completion of the Global Scientists and Engineers Course students will be equipped with the following skills, abilities and qualities:

1. Global perspectives on issues and the ambition to act globally
2. English and communication skills necessary to study and work abroad
3. Ability to work together with people from various nations and cultures
4. Ability to recognize constraints, understand the nature of global issues and propose creative and innovative solutions to complex problems
5. Ability to act on one's own initiative based on expertise as well as practice overseas risk management
   Ability to understand the importance of acting ethically as scientists and engineers

Students who have completed the four programs and go on to the graduate programs are expected to further enhance these advanced skills and gain the knowledge necessary to become scientists and engineers prepared to play significant roles on the global stage.

Indicative Outputs of the Project

		Total	2011	2012	2013	2014	2015	2016
Number of students who meet requirements for foreign language proficiency					140	170	200	280
Of the above, number of students who will not study abroad (A)					90	90	100	130
Number of students studying or will study abroad (B)			65	64	90	110	130	180
Number of graduates (C)			1164	1200	1200	1200	1200	1200
Ratio ((A+B)/C))					15.0%	16.7%	19.2%	25.8%
School of Engineering	Requirement for Foreign Language Proficiency		TOEIC750 / TOEFLiBT80		100(62)	120(60)	137(68)	191(89)
	Number of Students Studying Abroad		26	14	40	60	80	120
		Less than 3 months	25	14	38	58	77	114
		3 months to 1 year	1	0	2	2	3	6
		More than 1 year	0	0	0	0	0	0
	Number of graduates		814	840	840	840	840	840
School of Science	Requirement for Foreign Language Proficiency		TOEIC750 / TOEFLiBT80		20(14)	25(15)	33(17)	47(22)
	Number of Students Studying Abroad		29	30	30	30	30	35
		Less than 3 months	29	30	30	30	30	35
		3 months to 1 year	0	0	0	0	0	0
		More than 1 year	0	0	0	0	0	0
	Number of graduates		184	190	190	190	190	190
School of Bioscience and Biotechnology	Requirement for Foreign Language Proficiency		TOEIC750 / TOEFLiBT80		20(14)	25(15)	30(15)	42(19)
	Number of Students Studying Abroad		10	20	20	20	20	25
		Less than 3 months	10	19	20	20	20	25
		3 months to 1 year	0	1	0	0	0	0
		More than 1 year	0	0	0	0	0	0
	Number of graduates		166	170	170	170	170	170

Note:
*1 The number in "( )" indicates the "Number of students who will not study abroad with credit recognition or credit transfer" out of "Number of students who meet requirements for foreign language proficiency".
*2 "Number of students studying abroad" excludes the number of students studying abroad without credit recognition or credit transfer.