

# Tokyo Institute of Technology International Education Program for Research Advancement: Conceptual Overview

Project Name: (Type A-1)

TKT CAMPUS Asia Consortium

## Project Overview

The project provides a research-oriented education program conducted in cooperation with Tsinghua University and the Korean Advanced Institute of Science and Technology (KAIST). The project builds a framework for the recognition and evaluation of the quality of both coursework research through (1) programs including core curriculum courses and laboratory experiments, aimed at undergraduate and graduate students; and (2) a research-focused education program aimed at graduate students.

### ■ Program objectives and model for developing human resources

#### ○ Development of global human resources with in-depth knowledge in the fields of science and technology

The type of human resource to be developed under the project is a global leader who has grounding in-depth knowledge in the fields of science and technology and can be an active, international leader in university, corporate, government and other institutions and organizations. To achieve this objective, the project offers start-to-finish career guidance that begins by motivating the students.

### ■ Formation of a framework for inter-university exchange with quality assurance

#### ○ Approach to the assurance of quality

The project's basic approach is to construct a system that allows participating students to effectively learn through coursework, with partner universities verifying each other's quality assurance systems. Toward that end, the project has established a joint committee and is working toward the assurance of quality.

#### ○ Recognition of credits, management of grades, and student considerations

With regard to individual participants in the program, the project has constructed a system, in which (a) participating universities exchange *Study and Research Plans/Records*, and (b) students engage in coursework under the guidance of academic advisors before and during the exchange period as well as after return to their home countries. Moreover, the grade management takes place through the issuing of transcripts. For students from partner universities, Tokyo Institute of Technology provides English-language information such as the coursework guide, before their departure to Japan. Upon arrival, the Institute takes responsibility for their academics through steps such as the appointment of academic advisors and tutors.

#### ○ Development of a framework of higher-level exchange

While still in the development stages, in the near future the project is expected to include programs of a more advanced nature, such as dual degree programs. In addition, Tokyo Institute of Technology, Tsinghua University, and KAIST have been working with the Hong Kong University of Science and Technology and Nanyang Technological University to form a university consortium called the ASPIRE League. The exchanges accompanying the quality assurance incorporated into the project are reflected in the expansion of exchanges between technical universities in Asia that go beyond the TKT framework. At the same time, the project is also improving the quality of its exchanges with major US universities and with the universities in the IDEA League, a consortium of top European technical universities.



Summer program students in group discussion



### ■ Making educational content visible and communicating results

#### ○ Web-based provision of information and development of outstanding human resources

For the implementation of its programs, the project has established a unique website associated with the existing Tokyo Institute of Technology English website and those of its partner universities, providing information to a wide demographic extending beyond participating students. Moreover, the use of *Study and Research Plans/Records*, as well as grade management, are presented in a form that is easily accessible to other universities. Success of the program will be measured by the realization of global human resources with in-depth knowledge in the fields of science and technology who can take on global leadership roles. Future goals include the building a network of global human resources.

### ■ Preparations to support the exchange of outgoing Japanese and incoming international students

#### ○ Preparations to support outgoing Japanese students

The project has established an English preparatory course to boost the language skills of students wishing to study abroad. Academic and other advisors counsel students while they are studying abroad. The project also offers students academic and general consultation through means such as email while they are abroad, and supports them upon their return with advice on careers provided by career advisors.

#### ○ Support structure for incoming international students

In addition to posting program content on its website, the project is working toward the smooth acceptance of international students through close communication with partner universities. During students' studies in Japan, the project appoints Tokyo Institute of Technology students in related fields as tutors, and provides advice from career advisors.

### ■ Student mobility in exchange programs

#### ○ Outgoing Japanese students

In fiscal year 2012, the project sent 5 students to Tsinghua University and 7 students to KAIST (for a total of 12 students).

#### ○ Incoming international students

In fiscal year 2012, the project received 7 students from Tsinghua University and 8 students from KAIST (for a total of 15 students).

	2011	2012	2013	2014	2015
Accepted number in Japan	0	C7, K8	C5, K5	C5, K5	C5, K5
Accepted number in China	0	J4, K5	J5, K5	J5, K5	J5, K5
Accepted number in Korea	0	C5, J7	C5, J5	C5, J5	C5, J5

Note : FY2011-2012 results, FY2013 -2015 planned

Project Name: TKT CAMPUS Asia Consortium  
Year adopted: FY2011, Type A-1

**Summary:**  
This project provides a research-oriented education program conducted in cooperation with Tsinghua University and the Korean Advanced Institute of Science and Technology (KAIST). The project provides a framework for the recognition and evaluation of the quality of both coursework and research through (1) programs for undergraduate and graduate students built around core curriculum courses and laboratory experiments; and (2) a research-focused education program aimed at graduate students.

## ■ Project Aim and Global Human Resource Ideals

### ○ Development of global human resources with in-depth knowledge in the fields of science and technology

The project aims to develop human resources who will become global leaders. Such human resources will have in-depth knowledge in the fields of science and technology and will be active, international leaders in academia, industry, government and other organizations. To achieve this objective, the project offers start-to-finish career guidance that begins with motivating students.

## ■ Forming a University Network with Quality Assurance

### ○ Approach to the assurance of quality

The project's basic approach is to construct a system that allows participating students to effectively learn through coursework, with partner universities verifying each other's quality assurance systems. Toward that end, the project has established a joint committee and is working toward the assurance of quality.

### ○ Recognition of credits, management of grades, and student considerations

With regard to individual participants in the program, the project has constructed a system, in which (a) participating universities exchange Study and Research Plans/Records, and (b) students engage in coursework under the guidance of academic advisors before and during the exchange period as well as after returning to their home countries. Moreover, grade management takes place through the issuing of transcripts. For students from partner universities, Tokyo Institute of Technology provides English-language information, such as a coursework guide, before their arrival in Japan. Upon arrival, the Institute takes responsibility for their academics through steps such as the appointment of academic advisors and tutors.

### ○ Development of a framework for higher-level exchange

While still in the development stages, in the near future the project is expected to include programs of a more advanced nature, such as dual degree programs. In addition, Tokyo Institute of Technology, Tsinghua University, and KAIST have been working with the Hong Kong University of Science and Technology and Nanyang Technological University in a university consortium called the ASPIRE League. The project will go beyond its current exchanges and quality assurance and include exchanges between technical universities in Asia such as ASPIRE League member universities. At the same time, the project is also improving the quality of its exchanges with major US universities and with the universities in the IDEA League, a consortium of top European technical universities.



Summer Program students in group work

## ■ Making Educational Content Visible

### ○ Web-based provision of information and development of outstanding human resources

In implementing the program, the Institute has established a unique website associated with the existing Tokyo Institute of Technology English website and partner universities' websites, providing information to a wide demographic community extending beyond participating students. Moreover, to assist partner universities with the possibility of credit transfers, the Institute uses Study and Research Plans/Records as well as a grade management system showing strong commonalities between partner universities.

## ■ Promotion of a Student-Friendly Environment for International Exchange

### ○ Preparations to support outgoing Japanese students

The project has established an English intensive course to boost the language skills of students wishing to study abroad. It also academically advises students through the appointment of study abroad advisors at each partner university. While studying abroad, the project offers academic consultation and advice by email on everyday living, as well as advice by career advisors.

### ○ Support structure for incoming international students

In addition to posting program content on its website, the project is working toward the smooth acceptance of international students through close communication with partner universities. While in Japan, international students are provided with Tokyo Institute of Technology tutors (students in related fields), advice from career advisors, and 24-hour counseling.

## ■ Student Mobility

### ○ Outgoing Japanese students

In fiscal year 2013, the project sent 4 students to Tsinghua University and 5 students to KAIST (for a total of 9 students).

### ○ Incoming international students

In fiscal year 2013, the project received 8 students from Tsinghua University and 8 students from KAIST (for a total of 16 students).

	2011	2012	2013	2014	2015
Accepted number in Japan	0	C7, K8	C8, K8	C5, K5	C5, K5
Accepted number in China	0	J4, K5	J4, K6	J5, K5	J5, K5
Accepted number in Korea	0	C5, J7	C22, J6	C5, J5	C5, J5

Note: FY2011-2013 results; FY2014 -2015 forecast

【Name of project】(Adopted year: FY2011, Type A – I )TKT CAMPUS Asia Consortium

【Aim of project, Ideals of Global Human Resource on the project】

The project aims to develop human resources who will become global leaders. Such human resources will have in-depth knowledge in the fields of science and technology and will be active, international leaders in academia, industry, government, and other organizations.

【Summary of project】

This project provides a research-oriented education program conducted in cooperation with Tsinghua University and the Korean Advanced Institute of Science and Technology (KAIST). The project provides a framework for the recognition and evaluation of the quality of both coursework and research through (1) programs for undergraduate and graduate students built around core curriculum courses and laboratory experiments; and (2) a research-focused education program aimed at graduate students.

### ■ Contents of the Programs, Preparation for the Start of the Programs

Outbound students can either take courses in their fields of expertise while learning about the languages and cultures of China or Korea, or focus exclusively on research. Inbound students have three programs to choose from at Tokyo Tech; the Summer Program, the Joint Educational Program, or the Summer and Joint Educational Combined Program. Moreover, to assist partner universities with the possibility of credit transfers, the Institute uses Study and Research Plans/Records and a grade management system with commonalities to those of partner universities.

### ■ Forming the University Network with Quality Assurance

#### ○ Approach to the assurance of quality

The project's basic approach is to construct a system that allows participating students to effectively learn through coursework, with partner universities verifying each other's quality assurance systems. To that end, a joint committee working toward the assurance of quality has been established.

#### ○ Recognition of credits, management of grades, and student considerations

With regard to individual participants in the program, the project has constructed a system, in which (a) participating universities exchange Study and Research Plans/Records, and (b) students engage in coursework under the guidance of academic advisors before and during the exchange period as well as after returning to their home countries. Moreover, grade management takes place through the issuing of transcripts. For students from partner universities, Tokyo Institute of Technology provides English-language information, such as a coursework guide, before their arrival in Japan. Upon arrival, the Institute takes responsibility for their academics through steps such as the appointment of academic advisors and tutors.

#### ○ Development of a framework for higher-level exchange

While still in the development stage, in the near future the project is expected to include programs of a more advanced nature, such as double degree programs between Tokyo Tech and KAIST.



Summer Program students in lecture

### ■ Internationalization of the university

#### Information disclosure and publication of outcomes

#### ○ Internationalization of the university

Currently, 12% of the students are from overseas. Tokyo Tech has already initiated its administrative reforms through organizational changes, streamlining of its human resources, and innovation of its education and research systems.

#### ○ Web-based provision of information

In implementing the program, the Institute has established a unique website associated with the CAMPUS Asia Japan English website, providing information to a wide demographic community extending beyond participating students.

### ■ Promotion of Student Mobility Environment

#### ○ Preparations to support outgoing Japanese students

The project has established an English intensive course to boost the language skills of students wishing to study abroad. It also academically advises students through the appointment of study abroad advisors at each partner university. While studying abroad, the project offers academic consultation and advice by email on everyday living, as well as advice by career advisors.

#### ○ Support structure for incoming international students

In addition to posting program content on its website, the project is working toward the smooth acceptance of international students through close communication with partner universities. While in Japan, international students are provided with Tokyo Institute of Technology tutors (students in related fields), advice from career advisors, and 24-hour counseling.

### ■ Student Mobility

#### ○ Outbound

In fiscal year 2014, the project sent 3 students to Tsinghua University and 9 students to KAIST (for a total of 12 students).

#### ○ Inbound

In fiscal year 2014, the project received 9 students from Tsinghua University and 12 students from KAIST (for a total of 21 students).

	2011	2012	2013	2014	2015
Accepted number in Japan	0	C7, K8	C8, K8	C9, K12	C5, K5
Accepted number in China	0	J4, K5	J4, K6	J3, K3	J5, K5
Accepted number in Korea	0	C5, J7	C22, J6	C13, J9	C5, J5

Note: FY2011-2014 results, FY2015 forecast

【Name of project】(Adopted year: FY2011, Type A – I )  
TKT CAMPUS Asia Consortium

【Aim of project, Ideals of Global Human Resource on the project】

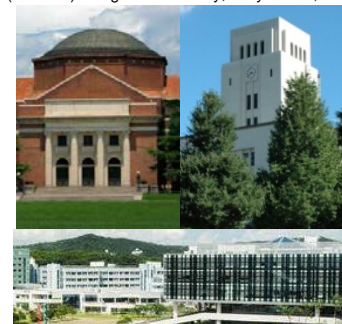
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### ■ Forming the University Network with Quality Assurance

(from left) Tsinghua University, Tokyo Tech, KAIST



#### ○ Approach to the assurance of quality

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#### ○ Recognition of credits, management of grades, and student considerations

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#### ○ Development of a framework for higher-level exchange

The program has established a double degree program between Tokyo Tech and KAIST in the field of Mechanical Engineering.

### ■ Contents of the Programs, Preparation for the Start of the Programs

Outbound students can either take courses in their fields of expertise while learning about the languages and cultures of China or Korea, or focus exclusively on research. Inbound students have three programs to choose from at Tokyo Tech; the Summer Program, the Joint Educational Program, or the Summer and Joint Educational Combined Program. Moreover, to assist partner universities with the possibility of credit transfers, the Institute uses Study and Research Plans/Records and a grade management system with commonalities to those of partner universities.



Students at a CAMPUS Asia lecture

### ■ Student Mobility

#### ○ Outbound

In fiscal year 2015, the project sent 1 student to Tsinghua University and 5 students to KAIST (for a total of 6 students).

#### ○ Inbound

In fiscal year 2015, the project received 6 students from Tsinghua University and 11 students from KAIST (for a total of 17 students).

	2011	2012	2013	2014	2015
Accepted number in Japan	0	C7, K8	C8, K8	C9, K12	C6, K11
Accepted number in China	0	J4, K5	J4, K6	J3, K3	J1, K7
Accepted number in Korea	0	C5, J7	C22, J6	C13, J9	C15, J5

### ■ Promotion of Student Mobility Environment

#### ○ Preparations to support outgoing Japanese students

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