

## “International Educational Program for the Head Engineer over the Fronts of Gigantic Systems”

In the rapidly changing environment in engineering research and education, it is already apparent that multidisciplinary thinking is urgently needed to muster human resources to respond to the needs of the globalized world. Further, the nature of engineering research and education has changed substantially in recent years due to these cross-disciplinary trends. Thus, it is now crucial that traditional engineering education be augmented with multidisciplinary studies without compromising depth.

To this end, the Graduate School of Engineering at The University of Tokyo aims to promote the formation of a multidisciplinary research and educational environment by establishing joint educational programs through collaboration with leading partner universities in the U.S. and Europe, within the “Deans’ Forum”.

■ The following are the six pillars of our program through which the quality of academic exchanges with our partner universities is assured.

1. Promotion of student exchange based on transferrable credit system.
2. Increase mobility of students based on joint degree supervisions.
3. Exchange of faculty members for multidisciplinary academic guidance.
4. Cooperation in compilation of engineering text books.
5. Periodical Deans’ Forum meetings.
6. Organization of student symposiums and workshops.

### ■ Programs in 2014

**1. UT-MIT International Lectures:** As part of this joint lecture with MIT, 22 MIT students visited UTokyo and 16 UTokyo students visited MIT. Students experienced lectures and lab visits and held an international symposium. Presentations were given in groups and active discussions were held.

**2. Workshop for Interdisciplinary Global Engineers:** 16 Master’s students were selected to take part in this workshop at KTH and ETH. Students experienced academic exchanges with students and researchers on multidisciplinary topics.

**3. Student Exchange Programs:** Students were exchanged with Deans’ Forum partner universities including ETH, KTH, Imperial College London and the French Grandes Ecoles.

**4. Exchange Program for Global Mechanical Engineers:** The joint project between UTokyo and KTH to develop and build a solar boat enabled students from both universities to collaborate, share ideas, and work together in an international environment, combining knowledge from many different fields.

**5. Intensive Lecture Course on Micro-Nano Fluidics and Bio-Medical Applications:** The intensive summer lecture course held at UTokyo was taught by invited lecturers from Deans’ Forum member universities.

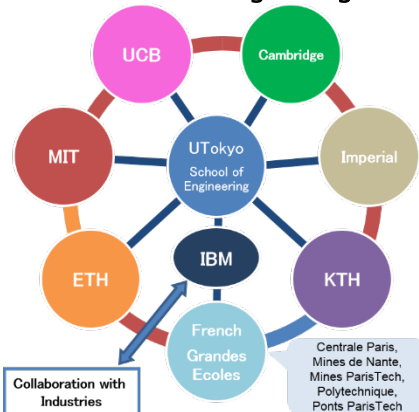
**6. Deans’ Forum Workshops and Meetings:** The third workshop on Resilience Engineering was held at UCB on March 23-24. 5 graduate students from UTokyo participated in the event.

**7. Faculty Development Workshop:** Lecturers from KTH were invited to UTokyo to deliver FD training focusing on how to make engineering education more interactive and learner-centered.



<Workshop for Interdisciplinary Global Engineers>

### <Deans’ Forum on Engineering>



### ■ Student-Mobility

Through this project, we aim to increase the number of outbound and inbound students by promoting student exchange based on a transferrable credit system, joint degree supervisions, and short-term student exchanges related to multidisciplinary project-based programs.

|          | 2011 | 2012 | 2013 | 2014 | 2015 |
|----------|------|------|------|------|------|
| Outbound | 70   | 59   | 68   | 66   | 80   |
| Inbound  | 14   | 25   | 49   | 55   | 58   |

Note : FY2011-2014 results, FY2015 planned

### ■ Promotion of Student-Mobility Environment

In 2011, the Institute for Innovation in International Engineering Education (IIIEE) was established in the Graduate School of Engineering to reinforce a global system of education and research. 4 centers (the Global Centre for Innovation in Engineering Education, the Center for Engineering Fundamentals, the Center for International Affairs, and the Center for Interdisciplinary Research and Education Collaboration) each play an important role in the promotion of this project.

### ■ Internationalization of the university, Information disclosure and Publication of outcome

The contents of education and research at the School of Engineering and reports of the various programs conducted under this project can be found on our “Global Initiative” website. On this website, there is also a syllabus search system where the relationships between course syllabus structures can be searched for and viewed. <http://global.t.u-tokyo.ac.jp/>