

Course Number	07008
---------------	-------

2007 「The International Priority Graduate Programs (PGP)」

~Advanced Graduate Courses for International Students~

【1. Profile of the University】

① University Department	Kyoto University Graduate School of Engineering			
② President	OIKE Kazuo			
③ Address (Headquarters)	Yoshida-Honmachi, Sakyo-ku, Kyoto 606-8501, Japan			
④ Contact	Division	Foreign Student Division, Education supporting group		
	Contactperson's Name	NAKAMURA Yoshiyuki	e-mail	y-nakamu@mail.adm.kyoto-u.ac.jp
	TEL/FAX Number	(TEL)+81-75-753-2489, (FAX)+81-75-753-2562		
⑤ Web-Address	<a href="http://www.kyoto-u.ac.jp">http://www.kyoto-u.ac.jp</a>			
⑥ Enrollment (only GraduateSchool)	1,069 (include MEXT's Scholarship Students: 479 )			

【2. Outline of the Course】

① Course	International Doctoral Program in Engineering for Sustainability
② Degree	Doctoral course, or second half of doctoral course (3 years)
③ Form	Course is offered by a single university.
④ Graduate Course, Department	Department of Urban Management, Graduate School of Engineering
	(Address) Katsura, Kyoto University, Nishikyo-ku, Kyoto 615-8530, Japan
⑤ Collaboration (Universities, Graduate Courses, Departments)	Kyoto University Graduate School of Engineering Departments of Civil and Earth Resources Engineering, Urban and Environmental Engineering, Architecture and Architectural Engineering, Electrical Engineering, and Electronic Science and Engineering
⑥ Quota	8 (include MEXT's Scholarship Students: 5) (include Japanese : 0)
⑦ Faculties	172 (Fulltime:122; Fulltime(other department):47; parttime: 3)
⑧ Representative of the Course	Job Title: Dean of the Graduate School of Engineering
	Name: NISHIMOTO Seiichi

### 【3. Contents of the Course】

#### 1. Aims

This course aims to strategically nurture highly qualified human resources, especially those who will play leading roles in science and technology policymaking, by educating talented and enthusiastic young people in the Asia/Pacific Rim region in fundamental areas of sustainability engineering (disaster prevention, environment, resources/energy, etc.) in an excellent education and research environment in Japan. This course also aims to develop a “global human resources-based network for science and technology development”—an international network of leaders in the fields of disaster prevention, environment and resources/energy, mainly in the Asia/Pacific Rim region.

#### 2. Contents and Features

In addition to conducting doctoral dissertation research in their major field of study under individual guidance of a supervisor, students will receive systematic education in a wide range of fields by faculty members across various disciplines. From 2008, the new Integrated Masters-Doctoral Program, which combines a masters program (first half of the doctoral program) and doctoral program (second half of the doctoral program), will be introduced. In this Program, two courses will be established: an “Advanced Engineering Course,” which provides advanced education and research opportunities in each specialized field, and an “Interdisciplinary Engineering Course,” which pursues interdisciplinary education in new fields of engineering by consolidating existing academic disciplines in a cross-sectoral manner. The Interdisciplinary Engineering Course is offered by the Advanced Engineering Education Center, which is to be established within the Graduate School of Engineering, in cooperation with related departments. It is planned that an “International Doctoral Program in Engineering for sustainability” will also be offered within the framework of the 3-year Advanced Engineering Course in the Integrated Masters-Doctoral Program (see Fig. 1).

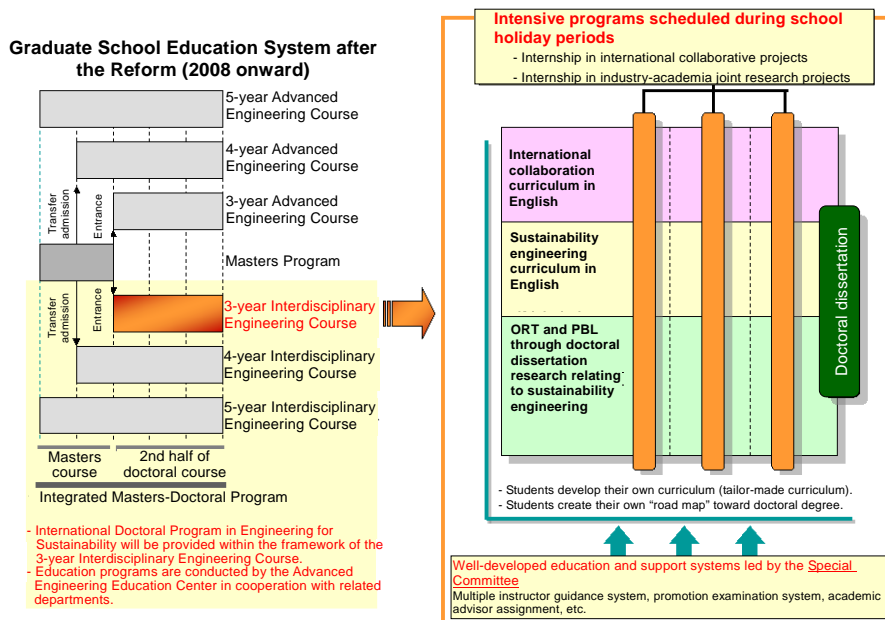


Fig. 1: Positioning and conceptual diagram of the International Doctoral Program in Engineering for Sustainability

The International Doctoral Program in Engineering for Sustainability provides various unique programs, including ORT (On the Research Training), which is designed to allow students to gain deep specialized knowledge in advanced science and technology fields through practical experience in laboratory and other research settings; PBL (Project-based Learning), which offers opportunities to develop knowledge and skills through participation in various types of projects; well-organized Sustainability Engineering Curriculum, conducted in English; International Collaboration Curriculum in English; and Intensive Programs.

#### 3. Teaching/Research Guidance System

##### 1) Guidance System

In addition to guidance for doctoral dissertation research, the International Doctoral Program in Engineering for Sustainability offers comprehensive guidance on sustainability engineering, including economic and policy aspects. International students admitted to the course will attend lectures and seminars on a variety of subjects according to the curriculum of the Interdisciplinary Engineering Course. After being admitted to the Special course, students will be immediately assigned to a laboratory according to their specialized field, where they will acquire basic knowledge and skills in specialized research methodology and pursue doctoral dissertation research under the meticulous guidance of the supervisor and other faculty members.

##### 2) Course Contents

This Course comprises: (1) research-based ORT and PBL programs; (2) Sustainability

Engineering Curriculum, conducted in English (Introduction to Advanced Materials Science, Computational Mechanics and Simulation, Advanced Mechanical Engineering, etc.); (3) International Collaboration Curriculum, conducted in English (“Science & Technology” International Leadership); and (4) Intensive Program (Business internship). All admitted international students will be given general orientation. Under the guidance of an advisor, students will develop their own personalized curriculum based on the characteristics of their specialized fields and their possible career paths (self-developed, tailor-made curriculum), as well as create a “road map” toward a doctoral degree.

The Intensive Program is designed to provide students with various types of internship opportunities during their long holidays, including internship in international organizations, internship in international collaborative projects, and internship in industry-academia research projects. Internship experience will provide students with practical training about the framework and background for discussion on science and technology taking place in the international community and industrial world, problem-solving approaches and decision-making structures. The International Doctoral Program in Engineering for Sustainability is designed to enable students to pursue in-depth research in their focused areas, while at the same time acquire extensive academic knowledge and practical skills (see Fig. 1).

3) Support System (doctoral dissertation guidance, etc.)

A systematic support system will be established to provide students with solid research and academic guidance as well as excellent support from faculty mentors to ensure successful completion of doctoral degree programs. A multiple instructor system and promotion examination system will be introduced to ensure that all students can obtain their doctoral degree within the standard doctoral course period. The Committee for the International Doctoral Program in Engineering for Sustainability will play a central role in providing extensive support to international students. Advisors will also be available to assist students.

4. Language

This course is conducted in English.

5. Application Invitation and Selection

1) Application Invitation

In the inaugural year, the application process will commence in September. Applications will be invited through wide publicity in both electronic and print media. In addition, to recruit promising human resources with great abilities and enthusiasm who wish to pursue their career as a researcher, educator or policymaker in the fields of science and technology, we will also use a network of Graduate School of Engineering’s academic exchange/research bases in the Asia-Pacific Rim region, a network of foreign alumni, and international research networks formed by individual faculty members of the Graduate School of Engineering. Prior interviews and other recruiting opportunities will be arranged in relevant countries to encourage applications to this special graduate course.

2) Internal Selection Procedure

Selection will be made by the Committee for the International Doctoral Program in Engineering for sustainability by examining the documents submitted by applicants, including official undergraduate/graduate academic records, master’s thesis and research plan. Individual applicants’ basic academic and language skills necessary for successful graduate coursework as well as their experiences and accomplishments in their respective specialized fields will be closely examined to determine eligibility for graduate school.

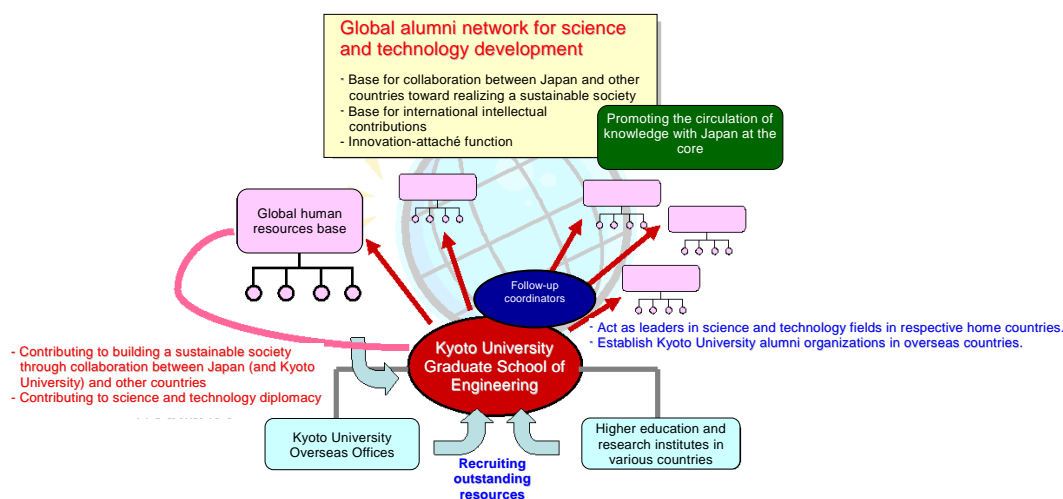


Fig. 2: Conceptual diagram of the Global Human Resources Base Network for Science and Technology Development