

Course Number	06006
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2006 「The International Priority Graduate Programs (PGP)」

~Advanced Graduate Courses for International Students~

【1. Profile of the University】

①University Department	Saitama University, Graduate School of Science and Engineering		
②President	Mitsuo TASUMI		
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⑤Web-Address	<a href="http://www.civil.saitama-u.ac.jp/fso">http://www.civil.saitama-u.ac.jp/fso</a>		
⑥Enrollment (only Graduate School)	234	(include MEXT's Scholarship Students: 80 )	

【2. Outline of the Course】

①Course	International Graduate Program on Environmental Science and Infrastructure Engineering
②Degree	Doctor (or PhD) (3 years)
③Graduate Course, Department	Programs in Science and Engineering
	(Address)255 Shimo-Okubo Sakura-ku Saitama, Japan
④Collaboration (Universities, Graduate courses, Departments)	
⑤Quota	36 (include MEXT's Scholarship Students: 15 ) (include Japanese : 8 )
⑥Faculties	52(Full-time(only for this course):42 Full-time(at the department offering this course):6 Part-time:4 )
⑦Representative of the Course	Job Title : Dean of Graduate School of Science and Engineering
	Name : Yuzuru HUSIMI

**【3. Content of the Course】**

1) Program Objectives

Infrastructure development in developing countries has often caused serious destruction of natural environment and contributed to the worsening of global environmental issues. Until now, the focus of education and research in these countries has been on infrastructure development, where emphasis has been on the technological aspects that are useful for the efficient economic growth of the country. However, it is widely acknowledged that from now on it is essential to incorporate environmental considerations such as environmental preservation and reduction of environmental loads into the curriculum. This international graduate program therefore has a very strong emphasis on environmental considerations in infrastructure development and provides an opportunity for international students to learn and conduct research in environmental science together with infrastructure engineering through a three-year doctoral program offered in English. It is particularly suitable for outstanding students from developing countries with a master’s degree or equivalent. This program is supported through prestigious scholarships of Japanese Government while it also admits self-supporting students.

2) Program Structure

The Graduate School of Science and Engineering of Saitama University was re-organized in 2006 to enhance the environment fostering synergies among different disciplines of science and engineering. The newly created **International Graduate Program on Environmental Science and Infrastructure Engineering** is established as the core program supported by other related programs. This program accepts international students including the students with the Japanese Government scholarship and provides them with an opportunity to study and research not only in environmental science and infrastructure engineering but in wider related fields.

3) Content

This international graduate program targets international students mainly from Asian developing countries. This program aims at education and research on the technology which balances infrastructure development with environment preservation. The program has two courses, namely, the course in infrastructure innovation and the course in environmental science.

Table 1 The courses in the International Graduate Program on Environmental Science and Infrastructure Engineering

Course	Field
Infrastructure Innovation	Material and structural systems, Earthquake engineering, Geotechnical engineering, Urban and regional planning, River and coastal engineering, Circulation systems
Environmental Science	Ecology and environment, Environment sensing, Informatics, Energy and environment, Production and environment, Plant ecology

Contributing fields to the two courses are infrastructure engineering, disaster prevention engineering, environmental engineering in the hydrosphere and lithosphere, ecology and environmental engineering, and environment sensing. In addition, other related fields such as life science, environmental informatics, production and environment are also included in this program.

This program is provided by a team of highly qualified and experienced

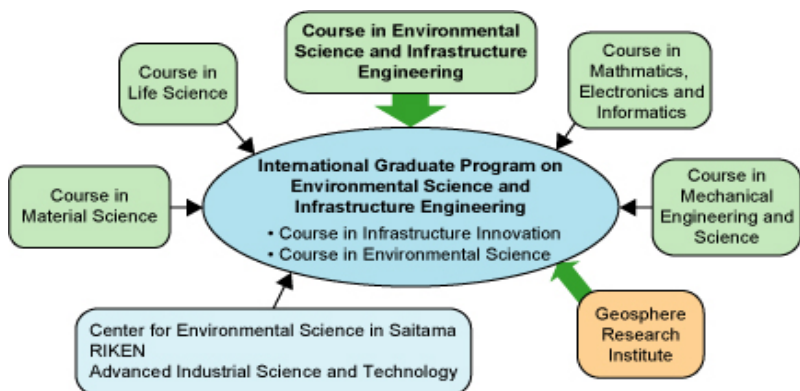


Fig.1 Education system in the program

faculty members of the Graduate School of Science and Engineering and the Geosphere Research Institute of Saitama University, and complemented by visiting professors from the Center for Environmental Science in Saitama, and Advanced Industrial Science and Technology (AIST). Through their expertise, they contribute to the highly advanced and practical training of this program. The education system in the program is shown in Fig. 1.

#### 4) Education and research system

##### ① Education system

The Doctoral Program of the Graduate School of Science and Engineering at Saitama University sets the following educational goals.

- a) To conduct research of the state of the art in various fields of science and engineering and disseminate the outcomes internationally.
- b) To develop fundamental or interdisciplinary research proposals and to play a leading role in the promotion of the research.
- c) To provide the ability for creativity and innovation in a research topic according to requirements and needs from international industrial society and human welfare.
- d) To provide insight that enables to identify new knowledge and technical problems from the global and historical perspective.

In order to achieve the educational goals above, the Department of Science and Engineering is organized by five courses (i.e., Life Science, Material Science, Mathematics, Electronics and Informatics, Mechanical Engineering and Science, Environmental Science and Infrastructure Engineering) as shown in Figure 1. The international program consisting of two courses offering lectures in English on environmental science, infrastructure engineering and related fundamental fields. The requirement for the completion of the program is to earn more than 12 credits including more than 4 credits in compulsory units, submission of a dissertation and pass the final examination and the defense of the dissertation.

##### ② Research support system

One principal supervisor and at least two associate supervisors will be assigned to guide a student in conducting research. The students are required to submit a research plan every year in consultation with their principal supervisor, in order to successfully complete the research and awarded the degree within three years. After one and half years from the enrollment, the students are required to take an open mid-term examination organized by their supervisors at which the progress and future plan of the research will be rigorously examined. Moreover, the students can submit their dissertation for the final examination and defense only if they pass an open preliminary examination held after two and half years from their enrollment at which the content and achievement (including publications), will be rigorously examined.

#### 5) Official language

English is the official language of this course. Sufficient English proficiency is required (e.g., more than 550 points of TOEFL or a certification by which the proficiency that is equivalent to the above can be confirmed).

#### 6) Application, countries targeted and admission

##### ① Application

Application for this course is open to all. Posters, application forms, brochures, and newsletters are distributed to more than 200 universities all over the world, including about 50 leading universities in Asia, Middle East, Africa, and South America. In addition, application forms can also be downloaded from the website of this international program. Moreover, outstanding students are being sought to this program via the alumni network of this special course and with the universities that have the international exchange agreement with Saitama University.

##### ② Countries Targeted

Students are targeted from mainly Asia, as well as Eastern Europe, and developing countries such as Middle East, Africa, and South America. Self-supporting international students staying in Japan are also recruited.

##### ③ Admission and Selection

The applicants are short listed by a committee (consisting of seven faculty members) of this course initially by documentary screening, including application form, academic transcript, letters of recommendation, certificate of health, research proposal, English proficiency, master's thesis (or research reports) etc. The applicants short listed in the first stage are interviewed by the selection committee through internet as the second stage for the final selection.