

Course Number	06049
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2006 「The International Priority Graduate Programs (PGP)」

～Advanced Graduate Courses for International Students～

【1. Profile of the University】

①University Department	Kyushu University Interdisciplinary Graduate School of Engineering Sciences		
②President	KAJIYAMA Tisato		
③Address (Headquarters)	6-10-1 Hakozaki, Higashi-ku, Fukuoka 812-8581, JAPAN		
④Contact	Division	Student Affairs Department, Interdisciplinary Graduate School of Engineering Sciences	
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⑤Web-Address	http://www.tj.kyushu-u.ac.jp/		
⑥Enrollment (only Graduate School)	987 (include MEXT's Scholarship Students: 282)		

【2. Outline of the Course】

①Course	Educational Program for International Research Students aimed to develop Environmentally Balanced Approaches to Applied of Science and Technology
②Degree	Doctor (3 years)
③Graduate Course, Department	Interdisciplinary Graduate School of Engineering Sciences Molecular and Material Sciences
	(Address)6-1 Kasuga koen, Kasuga-shi, Fukuoka 816-8580, Japan
④Collaboration (Universities, Graduate courses, Departments)	Interdisciplinary Graduate School of Engineering Sciences Applied Science for Electronics and Materials Advanced Energy Engineering Science Energy and Environmental Engineering Earth System Science and Technology
⑤Quota	13 (include MEXT's Scholarship Students: 8) (include Japanese : 0)
⑥Faculties	116 (Full-time(only for this course):90 Full-time(at the department offering this course): 5 Parttime: 21)
⑦Representative of the Course	Job Title Dean, Interdisciplinary Graduate School of Engineering Sciences
	Name TERAOKA Yasutake

【3. Contents of the Course】

【Concept of Program】

In recent years, various serious environmental problems have emerged. Many of these problems are man-made and have a global impact, decreasing the quality of life. To attain a sustainable society, it is necessary to further environmentally conscientious technology.

Within this context, the Interdisciplinary Graduate School of Engineering Sciences aims to contribute to solving these problems by developing innovative approaches in science and technology. The Graduate School is an academic organization, bare of undergraduate courses, which is comprised of five departments, namely, the Department of Applied Science for Electronics and Materials, the Department of Molecular and Material Sciences, the Department of Advanced Engineering Science, the Department of Energy and Environmental Engineering, and the Department of Earth System Science and Technology. The figure below shows the relationship among the five departments and the educational principles of the Interdisciplinary Graduate School of Engineering Sciences. The Graduate School is directed towards students who, as scientists and engineers, would like to play an active role in developing a sustainable society and who are interested to acquire a profound knowledge of symbiotic technology and an ability to explore and resolve issues in the fields of materials, energy, environment and related areas. The graduate school is offering a special program for international graduate students named 'Educational Program for International Research Students aimed to develop Environmentally Balanced Approaches to Applied Science and Technology' and continues to recruit excellent students from all over the world.



【Goal of this program】

1. Within the program, it is the aim of the Graduate School to provide students with an active, internationally oriented environment for education and research. Through a strong cooperative relationship among the five departments of the graduate school, the program helps interested students to acquire in-depth knowledge in symbiotic technology and provides them with know-how to further their ability to explore and resolve issues.
2. To enhance the educational capabilities of the Graduate School, a guidance system has been introduced, in which, apart from the main supervisor, every student is allocated one other guidance professor (co-supervisor). While students take courses within their own department, they are also asked to attend courses given by other departments, thus giving them the possibility to broaden their knowledge in environmentally sustainable science and technology.
3. With the introduction of this program, the graduate school puts special emphasis on the following points: the possibility of an intellectual contribution to the international society, the internationalization of the university, and the strengthening of global competitiveness of our students. The results both in education and research obtained by the Graduate School to-date are viable corner-stones to attain these goals.
4. Specifically, the Graduate School strives to improve the communicative interaction and research collaborations with overseas groups, where in recent years a larger number of university cooperations have been added.

An added aim of the Graduate School is to form and strengthen existing human networks among researchers, students, former students and professors from Japan and abroad, improving the mutual understanding among countries.

【Description of Education, Research and Guidance】

[Education & Research]

The five departments are organized in a strong cooperative system with a mutual goal of providing an excellence in teaching and research for interested and motivated engineers and scientists in the fields of materials, energy, the environment and related areas. As the Graduate School is situated on a campus that does not have any undergraduate programs it has all the advantages of a location singularly focused on graduate education and research. The graduate school provides a wide range of lectures in Japanese and in English. To a large extent the students can tailor their class schedule according to their needs. Interdepartmental lectures are given as well as more specialized lectures in different research areas within the department. Especially the interdepartmental lectures reflect the educational policy of the Graduate School, where it is believed that these contribute greatly to a holistic understanding of issues concerning the interaction of society and its science and technology with the environment.

At the present, the number of full-time teachers, eligible to contribute to the doctor course is 95 (65 full professors, 30 associate professors), making for an exceptionally good professor – student ratio of close to 1 professor for every 6 students.

The graduate school aims at maintaining a fine balance between research and education. Research laboratories are centered around the individual professors. All of them have good research facilities. Many of the groups engage in cutting-edge science and technology. The average size of a research group is 15–20 persons. These often include permanent members who can provide initial assistance and guidance in the research laboratories. The graduate school can financially support international students who want to attend international conferences. The Cross Straits Symposium is an annual conference among the Pusan National University (PNU), the Pohang University of Science and Technology (POSTECH) and our Graduate School at Kyushu University with the aim of showing and discussing the newest research results within the schools. Here, international students are encouraged to participate as also in the regular seminars on industry – academia collaboration and in research internships.

[Guidance]

Students in the program are given at least two supervisors, the main supervisor being the thesis advisor. Additionally, the Graduate School provides a counselor for international students who is accessible to help with questions and problems. A student tutor helps international students with potential problems occurring in daily situations. Foreign teachers are also at hand.

【Curriculum】

The participant of the program will carry out original research work leading to a doctorate degree under supervision of a full professor or associate professor of Kyushu University. Finally, the research results have to be written up in form of a doctoral thesis, which will be viewed by at least 3 referees, including the supervisor. The thesis must also be defended orally in attendance of professors and students of the department.

Additionally, in order to fulfill the requirements for a doctoral degree, the candidate must successfully attend 3 inter-departmental courses (for 6 credits). A further 2 credits are given by the candidate's supervisor for participation in group seminars and tutorials.

Required units for completion

- The required subjects of inter-departmental
 - Advanced lecture on interdisciplinary engineering sciences (Material) (2 Units)
 - Advanced lecture on interdisciplinary engineering sciences (Energy) (2 Units)
 - Advanced lecture on interdisciplinary engineering sciences (Environment) (2 Units)
- Subjects of each department
 - Tutorials opened by own supervisor (4 units)
 - Doctor thesis writing exercise conducted by own supervisor (2 units)
- Doctor Thesis

【Procedure of Recruitment and Screening】

Those wishing to apply for this program should first contact the professor within the Graduate School with whom they would want to study. A list of professors with their respective research areas is provided on the web:

http://www.tj.kyushu-u.ac.jp/en/graduate_school/facultylistE.html

Thereafter, the candidates must submit to the intended (main) supervisor their academic records as issued by their former university or other institution of higher education as well as a letter of recommendation from a supervising professor of the former institution. The intended main supervisor and, if applicable, the co-supervisor evaluate the submitted documents. If the applicant passes the requirements for admission, the documents are handed with a recommendation by the potential supervisor(s) to the department and then further to the Graduate School, where, as a last step, a selection committee will decide whether to recommend the applicant to the Ministry of Education, Culture, Sports, Science and Technology. For detailed information on the requirements for application, please see:

<http://www.tj.kyushu-u.ac.jp/en/index.html>