

Course Number	06069
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2006 「The International Priority Graduate Programs (PGP)」

~Advanced Graduate Courses for International Students~

【1. Profile of the University】

①University Department	Graduate School of Engineering, Osaka University		
②President	MIYAHARA, Hideo		
③Address (Headquarters)	1-1 Yamadaoka, Suita, Osaka 565-0871, Japan		
④Contact	Division	Graduate School of Engineering, Professor	
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⑤Web-Address	http://www.dyn.ap.eng.osaka-u.ac.jp/QEDC/		
⑥Enrollment (only Graduate School)	689 (including MEXT's Scholarship Students:238)		

【2. Outline of the Course】

①Course	International Priority Graduate Program of "Quantum Engineering Design Course"
②Degree	Master and Doctor degrees (5 years)
③Graduate Course, Department	Division of Precision Science & Technology and Applied Physics, Graduate School of Engineering Osaka University
	(Address)2-1 Yamadaoka Suita, Osaka 565-0871 JAPAN
④Collaboration (Universities, Graduate courses, Departments)	<ul style="list-style-type: none"> •Osaka University, Graduate School of Engineering, Division of Precision Science & Technology and Applied Physics •Osaka University, Graduate School of Engineering, Division of Mechanical Engineering •Osaka University, Graduate School of Engineering, Division of Electrical, Electronic and Information Engineering • Osaka University, Graduate School of Engineering, Division of Materials and Manufacturing Science • Osaka University, Graduate School of Engineering, Department of Management of Industry and Technology •Osaka University, Graduate School of Science, Department of Physics •Osaka University, Graduate School of Science, Department of Chemistry •Osaka University, Graduate School of Engineering Science, Department of Materials Engineering Science
⑤Quota	5 (including MEXT's Scholarship Students:4)
⑥Faculties	15 (Full-time(only for this course):4; Full-time(at the department offering this course):11; Part-time:0)
⑦Representative of the Course	Job Title: Dean of Graduate School of Engineering, Professor
	Name: TOYODA, Masao

【3. Contents of the Course】

1. Outline of the Program

The International Priority Graduate Program of “Quantum Engineering Design Course” will be established on the first of October. Most lectures and seminars of this course will be provided in English. The program consists of Osaka University "QUANTUM ENGINEERING DESIGN RESEARCH INITIATIVE (QEDRI)" (see Figure 1), which main theme is quantum engineering design. This program is managed by a special program governing board whose chairperson is the Dean of Graduate School of Engineering. QEDRI has close links with other domestic and international universities, research institutes, and industries.

This research organization consists of 5 academic divisions and 8 departments, and has three core divisions:

First core division : Creation of the mathematical methods' frontier

Second core division : Elucidation of material function formation mechanisms

Third core division : Realization of new generation functional materials

Each student will be assigned to one of the core divisions above according to his/her research theme. Taking advantage of the network of this organization, the students can carry out investigations and will be able to develop human network by collaborating with students from various countries and academic fields. Students are expected to obtain both a master's and doctoral degree from this program.

2. Features

2.1. The students will receive world-class instructions regarding the method in developing nano-materials design, the method only Osaka University has. Making an extensive use of the QEDRI network, there will be several research opportunities which respond to the fast-growing demands for high-performance, low-cost, environment-friendly and energy-conserving materials and devices.

2.2. The students of this program will attend the COMPUTATIONAL MATERIALS DESIGN (CMD[®]) workshops. The target participants of this workshops are researchers in the academe, industries, government agencies, and graduate students. It offers lectures as well as hands-on sessions. It also includes various items from the basic theory to the cutting-edge case studies provided by the working researcher. It helps the participants to enhance practical quantum engineering research capacities.

The purpose of these series of workshops is to provide the participants with a first-hand experience of how COMPUTATIONAL MATERIALS DESIGN (CMD[®]) is carried out. It provides them with the basic knowledge and techniques to better prepare them for the new paradigm in materials science research.

This program will also give sufficient consideration to arrange special curriculum and credit earning for the foreign students. The requisite subjects are provided in English. Meanwhile, some optional subjects are provided in Japanese for the purpose of deepening the relationship between the foreign students and Japanese students.

The student can acquire credits by attending the specified international conferences and seminars. For example, the students can get credits by attending lectures of the “Osaka University Advanced Nanoscience-/Nanotechnology- Related Inter-/Trans-/Multi-Disciplinary Graduate-Level Education, Research, and Training Program”, which is a significant nanoscience and nanotechnology program in Japan.

2.3. There are several opportunities to publish in the prestigious academic journals and participate in international conferences.

3. Support System

3.1. Each international student will be working under a professor who will stand as an adviser of the student.

During the first year of this course, a peer tutor is assigned to each international student in order to provide one-to-one assistance and guidance in terms of the study and research, as well as instructions in the Japanese language and advice on daily life.

The administration office and the department office will provide academic advice and support, including career counseling.

3.2. In order to help the students at the Graduate School of Engineering to improve their Japanese ability specified to their academic field, the Advisory Division for International Students offers Japanese classes

including Presentation Class. In addition to these, Osaka University provides Japanese Language Programs such as the Japanese Training Course and the Japanese Supplementary Course for international students.

3.3. There are some instructors who completed the COMPUTATIONAL MATERIALS DESIGN (CMD®) workshops and achieved brilliant results. Inviting excellent former students of the workshops as instructors is also under consideration.

In addition, former students employed in Osaka University may also give advice to the foreign students both in research and daily life in Japan.

4. Selection

The application is open for students from countries outside Japan.

The interested students can get the information of the programs and the application forms from the homepage, <http://www.dyn.ap.eng.osaka-u.ac.jp/QEDC/>. The applicants will be screened and selected from the submitted applications and recommendations. There are also possibilities that the candidates will be interviewed in their own countries.

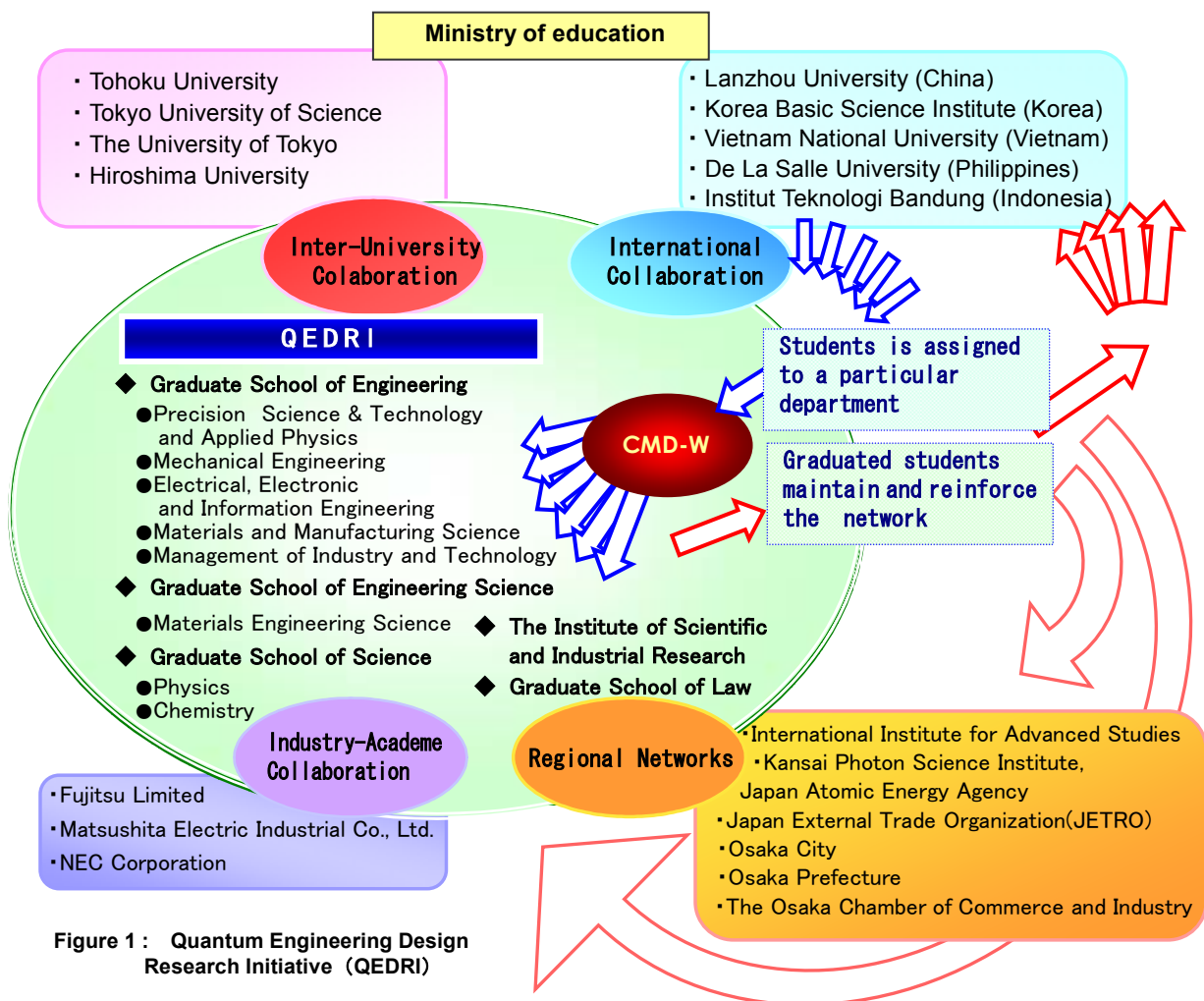


Figure 1 : Quantum Engineering Design Research Initiative (QEDRI)