

Course Number	06027
---------------	-------

2006 「The International Priority Graduate Programs (PGP)」
 ~Advanced Graduate Courses for International Students~

【1. Profile of the University】

①University Department	Nagaoka University of Technology		
②President	KOJIMA Yo		
③Address (Headquarters)	〒940-2188 1603-1 Kamitomioka, Nagaoka, Niigata, Japan		
④Contact	Division	Manager, International Affairs	
	Contact Person's Name	IINO Akimasa	e-mail aiino@jcom.nagaokaut.ac.jp
	TEL/FAX Number	TEL +81-258-47-9238 FAX +81-258-47-9050	
⑤Web Address	http://www.nagaokaut.ac.jp/		
⑥Enrollment (only GraduateSchool)	121 (including MEXT's Scholarship Students: 55)		

【2. Outline of the Course】

①Course	International Graduate Course for Continuing Professional Development																
②Degree	Master's Program+Doctoral Program (2+3 years)																
③Graduate Course, Department	Graduate School of Engineering																
	(Address)1603-1 Kamitomioka, Nagaoka, Niigata, Japan																
④Collaboration (Universities, Graduate courses, Departments)	<table border="0"> <tr> <td>Graduate School of Engineering (Master's Program)</td> <td>(Doctoral Program)</td> </tr> <tr> <td>--Mechanical Engineering</td> <td>--Information Science and Control Engineering</td> </tr> <tr> <td>--Electrical, Electronics and Information Engineering</td> <td>--Materials Science</td> </tr> <tr> <td>--Materials Science and Technology</td> <td>--Energy and Environment Science</td> </tr> <tr> <td>--Civil Engineering</td> <td>--Integrated Bioscience and Technology</td> </tr> <tr> <td>--Environmental Systems Engineering</td> <td></td> </tr> <tr> <td>--Bioengineering</td> <td></td> </tr> <tr> <td>--Management and Information Systems Engineering</td> <td></td> </tr> </table>	Graduate School of Engineering (Master's Program)	(Doctoral Program)	--Mechanical Engineering	--Information Science and Control Engineering	--Electrical, Electronics and Information Engineering	--Materials Science	--Materials Science and Technology	--Energy and Environment Science	--Civil Engineering	--Integrated Bioscience and Technology	--Environmental Systems Engineering		--Bioengineering		--Management and Information Systems Engineering	
Graduate School of Engineering (Master's Program)	(Doctoral Program)																
--Mechanical Engineering	--Information Science and Control Engineering																
--Electrical, Electronics and Information Engineering	--Materials Science																
--Materials Science and Technology	--Energy and Environment Science																
--Civil Engineering	--Integrated Bioscience and Technology																
--Environmental Systems Engineering																	
--Bioengineering																	
--Management and Information Systems Engineering																	
⑤Quota	Master's Program: 17, Doctoral Program: 17 (including MEXT's Scholarship Students: Master's Program: 8, Doctoral Program: 9) (Japanese: 0)																
⑥Faculties	148 (Full-time(only for this course): 148 Full-time(at the department offering this course):0 Part-time: 0)																
⑦Representative of the Course	Dean, Graduate School of Engineering																
	Prof. INOUE Yasunobu																

[3. Contents of the Course]

■ **Background of the Program**

The International Priority Graduate Program at Nagaoka University of Technology targets professional engineers and researchers in developing nations along the Pacific Rim, an area with close connections to Japanese industrial activities and one that hosts many Japanese firms. The program offers further professional development opportunity in engineering fields to support these professionals in dealing with rapidly changing advances in technology and in taking on leadership positions in industry and higher education.

Modern developments in manufacturing practices and processes have led to an increased demand for the further education of professionals who already have some level of practical technical skills and the potential to assume leadership positions in manufacturing, engineering and research. We offer the opportunity to undergo more advanced academic study and earn a higher degree in a Japanese university that specializes in technology. This program has been designed specifically to meet the needs of practical engineers. In addition, it provides a valuable opportunity for young researchers employed in partner universities to gain high-level research skills and to earn a doctorate.

Through this program, we hope to support the industrialization of developing nations, fulfill the international obligations of the Japanese nation, and contribute to the activities of Japanese industrial firms a

■ **NUT, a Center of Excellence in Engineering Education and Research**

Nagaoka University of Technology (NUT), since its establishment, has been a center of excellence in engineering education and research, and has aimed to live by the motto VOS: V for Vitality, O for Originality, and S for Service. NUT realizes its vision not only at home but also in an international arena. To this end, we seek students who can take on a role as creative leaders in engineering. NUT has a history of actively seeking to enroll international students, and currently over 200 international students from more than 20 countries are studying on campus (8.3% of its student body, almost twice as high as the national average). We have a vision to raise the number of international students to 10% of the entire student body.



As a center of excellence in engineering education and research, NUT's well-established curriculum and its suitability to the goals of international students are the major reasons behind it being able to attract a well-above-average number of international students. Other reasons include graduates' satisfaction with faculty members' efforts on their behalf, which leads them to recommend NUT to other students; the peaceful surroundings of the countryside, unlike the distracting clamor of the cities; and the hospitality of the friendly people of Nagaoka, who offer assistance for students in dealing with life in a foreign country.

NUT has a great deal of experience with innovative international student programs. In 1994, NUT created the International Graduate Course for Continuing Professional Development (the precursor to the current program) with the support of the Association for Overseas Technical Scholarship (AOTS) and began enrolling working professionals from ASEAN countries, where Japanese industry was establishing itself as a major presence. The Continuing Professional Development course is the only course of its type in Japan aimed at providing further learning opportunities for students from developing nations who are already working in engineering fields. As of March 2006, 100 participants had earned degrees from NUT through the course. Graduates are employed as engineers in core positions in Japanese firms abroad, governmental organizations, government-supported enterprises, and local firms, and also in universities as up-and-coming faculty members.

In addition, as of June 2006, NUT has partnership agreements with 55 institutions in 21 countries, mostly in the Pacific Rim region, and is actively involved in international exchange. This includes the exchange of faculty members and students, conducting joint research, holding joint symposiums, and giving lectures and seminars at each other's institutions.

■ **Special Features of NUT's International Priority Graduate Program**

(1) The program is intended specifically for engineering students from Asia and Latin America who have some professional workplace experience;

(2) the curriculum focuses upon developing research skills in those who may take leadership positions in their company or university; and

(3) teaching and research supervision are conducted in English.

These features are extensions of those of the previous program, building onto its firm foundation. According to a survey of graduates of the program, a large majority express satisfaction with the technical knowledge and understanding of the background to Japanese technology that they have gained. They have also developed a stronger interest in working for a Japanese industrial firm. As for university personnel, we hope to help supply the next generation of leaders in education and research in order to alleviate the current shortage of faculty members in Pacific Rim nations with the ability to meet the needs of industry.

Educating competent, creative, and practical engineers and researchers has always been a goal of our university, and we are pleased to be able to offer such an education to engineers and researchers from developing nations through this program.

■ ***Components of the Graduate Courses (Master's and Doctoral)***

Both courses are made up of the following components, each designed to meet the objectives of the program.

(1) General subjects are offered in English to deepen students' understanding of the system and management of Japanese firms and of Japanese industry in general. These subjects focus on Japan's industrial development experience, its industrial organizations, its labor market, and other subjects of particular interest to future leaders in engineering. From 2007, these offerings will be supplemented by classes in the "Theory and Practice of Total Quality Management (TQM)" and the "Management of Technology (MOT)". (optional in the doctoral course)

(2) Specialized engineering subjects, also taught in English, have a special focus on those technical areas that have given Japan a leading world role in technology. All fields of study offer a variety of subjects in English, some of which are open to all students, and some intended only for students of this course.

(3) Research supervision by experienced professors on state-of-the-art engineering topics. International students join Japanese students in carrying out experimental work and participating in seminars, which gives them an opportunity to experience for themselves the Japanese approach. In surveys, graduates often comment on this: "I learned how to approach research and group work", "I learned from the Japanese attitude toward work and research." Research supervision involves not only supervisors but also fellow students in the laboratories. Each international student is assigned a Japanese tutor from the same research group.

For doctoral students, an NUT education also offers the opportunity to learn more about industrial practices through additional supervision by researchers from industry and through off-campus research internships focused on problem-solving or fundamental research projects proposed by the student.

■ ***Recruitment and the Selection Procedure***

This program is intended for either people employed as technical staff in a company at the time of application, or applicants employed as researchers in industry or in academia. In order to inform prospective applicants of the program, information is disseminated through organizations that have contact with working people, such as local chambers of commerce of which Japanese firms are members, the Association for Overseas Technical Scholarship alumni societies, and NUT student reunions held overseas.

Applicants are judged on written application materials and on an interview (possibly by video conferencing or other means). The documents taken into consideration are the materials submitted upon application: a research plan, transcripts from previously attended institutions, a brief summary of previous theses, a report on research achievement, and documents certifying English language ability.