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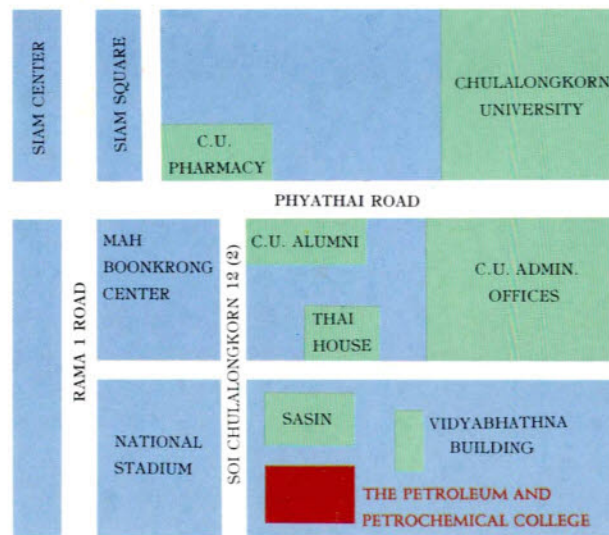
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For further information, please contact :

Dr. Nuanphun Chantarasiri  
 Admission Office  
 The Petroleum and Petrochemical College  
 Chulalongkorn University  
 2nd Floor, Vidyabhatna Building  
 Soi Chulalongkorn 12(2), Phya Thai Road  
 Bangkok, 10330 THAILAND  
 Tel: 218-3906, 218-3910-11, 215-2602  
 Fax: (662) 215-4459  
 Internet E-mail : kamchad @ chulkn.chula.ac.th

## Request Form for Additional Information and/or Application

I. Name.....

Address.....

Telephone.....

Fax.....

II. Undergraduate Institution.....

Major.....

Year of Graduation.....

III. Current Position/Job Title.....

Company Name.....

Length of Employment.....

Address.....

Telephone.....

Fax.....

Please indicate the type of request.

☐ Additional Information, especially on.....

☐ Application form (100 Baht or US\$ 4.00 must be enclosed with the request).





INTERNATIONAL MASTER  
DEGREE PROGRAMS  
  
in  
  
PETROCHEMICAL TECHNOLOGY  
and  
POLYMER SCIENCE  
  
at  
  
THE PETROLEUM AND  
PETROCHEMICAL COLLEGE  
CHULALONGKORN UNIVERSITY  
BANGKOK, THAILAND

An academic partnership with  
Three Top U.S. Engineering Colleges



To : Admission Office  
The Petroleum and Petrochemical College  
Chulalongkorn University  
2nd Floor, Vidyabhatana Building  
Soi Chulalongkorn 12 (2), Phya Thai Road  
Bangkok, 10330 THAILAND.

## STUDENT EXCHANGE PROGRAM

It is hoped that there will be six student exchange scholarships per year through the University Development Linkages Program. Second year students in the programs will be selected to undertake three months research in U.S. universities participating in the programs. A reciprocal number of students from the three U.S. universities will spend a short term at the Petroleum and Petrochemical College.



## 1993-1994 ACADEMIC CALENDAR

Application submission	December 1, 1992- January 31, 1993
Interview	February 1993
Notification of Admissions	March 1993
Intensive Course	April 20, 1993-May 15, 1993
First Semester	Late May, 1993- August 1993
Second Semester	Late September 1993- February 1994

## International Master Degree Programs in PETROCHEMICAL TECHNOLOGY and POLYMER SCIENCE

•An academic partnership between :



The Petroleum and Petrochemical College,  
Chulalongkorn University (Bangkok)

and



The Department of Chemical Engineering,  
University of Michigan (Ann Arbor),



The Department of Chemical Engineering  
and Material Science,  
University of Oklahoma (Norman),



The Department of Macromolecular Science,  
Case Western Reserve University (Cleveland).





**The historic hand shake.**

From left to right : J. Schwank (UM), H. Ishida (CWRU), R. Daniels (OU), Chulalongkorn President C. Suwanwela, P. Deinken (USIAD), J. Harwell (OU), K. Mongkolkul (CU).

## Overview of the Academic Partnership

Under the planned partnership agreement, the afore-mentioned three U.S. universities will provide instructional faculty for graduate programs in Petrochemical Technology and Polymer Science at the Petroleum and Petrochemical College, Chulalongkorn University. The first classes of the two-year Master's degree programs will be enrolled in the academic year beginning in May 1993. The goal of the new program is to produce 40 graduates (ten of whom may come from countries outside Thailand) per year to help meet the needs of Thailand and the region's fast growing industries. A principal objective of the partnership is to provide more engineers, fluent in English, with an open and participatory professional style characteristic of engineers educated in the United States.

## Recommendation

At least two recommendations are required. In general, recommendations from persons not related to the applicant, who are able to evaluate either academic or on-the-job performance, are most valuable to the Admissions Committee.

## Interview

Admission is granted upon a successful interview with a representative from the participating U.S. universities and with the Petroleum and Petrochemical College Admissions Committee.

## The Application Process

Application forms, together with a program Bulletin, may be obtained upon payment of 100 Baht (US\$ 4.00) from the Admissions Office, The Petroleum and Petrochemical College, Chulalongkorn University.

Each completed application must be accompanied by:

- (1) Official transcripts from all universities previously attended
- (2) Letters of recommendation
- (3) TOEFL result (if available)
- (4) A payment of 500 Baht (US\$ 20.00) application fee (the fee is not refundable).

The completed application should be mailed directly to the Admissions Office of The Petroleum and Petrochemical College, Chulalongkorn University.

## English Proficiency

An applicant is required to prove his/her English proficiency by providing a satisfactory score on the Test of English as a Foreign Language (TOEFL) or other equivalent test.

**Notes :** Information on the TOEFL test, including the Bulletin of information and registration forms for TOEFL can be obtained from the Institute of International Education (IIE) at the American University Alumni Language Center (AUA), 179, Rajdamri Road, Bangkok, 10500. If information and registration forms for the tests are not available locally, they may be obtained directly from ETS. Requests for information should be address to TOEFL Services, P.O. Box 6155, Princeton, NJ, 08541-6155, U.S.A.

January 9, 1993 is the last test schedule on which the applicant can take the TOEFL to be considered for admission to the 1993 Master of Science program of the Petroleum and Petrochemical College.

## Criteria for Selection

The admissions committee prefers to evaluate the combined effect of an applicant's prior academic achievements and his/her personal accomplishment. The selection for admission is based on careful evaluation of the applicant's academic record, English proficiency, letters of recommendation, work experience, analytical and problem solving skills, high moral quality, motivation, leadership and promise of professional success.

The United States Agency for International Development (USAID) mission in Thailand has expressed interest in supporting the start-up of this graduate program partnership, if sustainability can be demonstrated. USAID is interested in helping establish linkages between U.S. universities and institutions of learning in other countries as they seek to build their technological infrastructure and develop the human resources required to support an industrial economy.

The master's degree programs will consist of 36 semester credit hours, including 24 hours of course work and 12 hours of thesis research. It is planned to offer curriculum courses (typically 3 credit hours) in four week modules. Students will average four courses per year and will be encouraged to initiate thesis research early in the first year. While in Thailand each U.S. faculty member will work with Thai faculty and 3-5 students to initiate thesis research projects. To be successful, the research activities in Thailand must be closely integrated with research work at the participating U.S. universities. As part of the start-up of this program, selected Thai faculty will spend up to six months in research at the U.S. universities. Coupled with the academic program will be an active program of development to obtain industrial support for the graduate programs through scholarship and research grants.

After the program has been in operation for two years (1995), it is planned that up to fifty percent of the course work will be taught by Thai faculty. This could be considered as the steady-state operation.





## THE PETROLEUM AND PETROCHEMICAL COLLEGE

### Organization

The Petroleum and Petrochemical College was officially established in 1988. It has four academic departments (Petrochemistry, Polymer, Petroleum, and Technology Economics), one administrative office, and one academic support center. The governing board of the College, chaired by the President of Chulalongkorn University, is composed of not only university and government officials, but also representatives from the oil and petrochemical industries.

### Facilities

The College will occupy eight floors of a new 14 story building situated in the north corner of the university campus, which is conveniently located close to main business centers of Bangkok. The 7,000 square meter floor area is sufficient to house administrative



## ADMISSION

### Eligibility

For the *Petrochemical Technology program*, an applicant must have obtained a Bachelor's degree in Chemical Engineering or its equivalent with a cumulative grade point average of at least 2.7 or a grade point average of 3.0 in professional core course credits.

For the *Polymer Science program*, an applicant must have obtained a Bachelor's degree in Chemical Engineering, Material Science, Chemistry, or their equivalent with a cumulative grade point average of at least 2.7 or a grade point average of 3.0 in professional core course credits.

## **Petrochemical Technology Program**

**Core Courses:** Transport Phenomena  
Advanced Thermodynamics  
Advanced Chemical  
Engineering Calculations  
Chemical Reaction  
Engineering

**Electives:** Advanced Equilibrium Stage  
Operations  
Chemical Process Simulation  
and Design  
Catalytic Systems  
Engineering Management  
Natural Gas Processing  
Corrosion Engineering  
Environmental Control  
in Industry  
Other courses offered in the  
Polymer Science program.

## **Polymer Science Program**

**Core Courses:** Polymer Synthesis  
Physical Chemistry of  
Polymers  
Polymer Physics  
Polymer Processing

**Electives:** Polymer Characterization  
Rheological Properties of  
Polymers  
Composite Materials  
Biomaterials  
Applied Polymer Science and  
Engineering  
Other courses offered in the  
Petrochemical Technology program.

offices, classrooms, seminar and conference rooms of various sizes, six laboratories, two computer centers, a library, and an industrial service center. The laboratories will be very well equipped as a result of the generous support of the Royal Thai Government for new international graduate programs. A budget of 160 million baht (US\$ 6.2 million) for procurement of modern scientific equipment has been granted. At the start of the program in April 1993, most of the essential equipment for teaching and research will be available, including polymer processing equipment (single screw extruder, blow molding machine), chromatography (GPC, GC) and thermal analysis equipment (DSC, TGA), molecular spectroscopy equipment (UV-VIS, FTIR, GC/MS), and petrochemical processing and precision mechanical testing equipment (Instron Universal Testing Machine, hardness tester, melt flow indexer, capillary rheometer). Facilities for synthesis, separation, and purification of synthetic polymers are available for polymer research. A computer controlled distillation unit, complete with a set of chemical reactors, will also be available in the petrochemical laboratory.

Computers and library resources are very essential to high quality graduate programs in Engineering and Science. The College is making sure that sufficient facilities for these two areas will be available for student and faculty learning-teaching and research purposes. The university's newly installed network for Internet and an electronic mail system will add a useful information seeking capability among faculty and libraries of collaborating institutions worldwide.





## MASTER OF SCIENCE PROGRAMS

### Structure of the Programs

The Master of Science programs are offered in two areas: Petrochemical Technology\* and Polymer Science. The classes will be taught in English by qualified U.S. and Thai faculty. The two-year Master's program will be a full-time program divided into two academic terms. The first term of three months will run from mid-May to August, and the second term of five months will be held from September to January.

Before starting the program, students are required to take a one credit intensive course. This four-week course is designed to review the basic concepts of chemistry and chemical engineering, to give an overview of the petrochemical and polymer industries and to enhance solid competency in computers. The course will also develop skills in English and

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\* The Petrochemical Technology program is basically a Chemical Engineering program with special emphasis on appropriate choices of courses and research projects. It is common practice in U.S. universities to offer the M.S. degree even in Engineering colleges.



library information seeking capability in order to prepare students for study in the program.

By the end of the first term, students are expected to have developed their research projects. The research projects are assigned jointly by U.S. and Thai faculty. To qualify for graduation in the master's degree programs, a satisfactory research thesis is required.

### The Curriculum

The master's degree program requires at least 36 semester credit hours, including 24 hours of course work and 12 hours of thesis research.

The 24 graduate course credits consist of nine credits of core courses, 12 credits of electives, a two-credit seminar course, and a one-credit intensive course. As part of their electives, students are required to choose at least two subjects from the other major, i.e. students majoring in Petrochemical Technology have to take two elective courses from the Polymer Science curriculum and *vice versa*.