

## Research

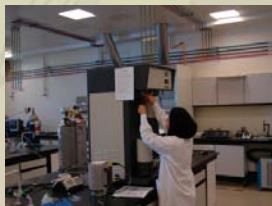
Researches in our department are progressing dynamically in diverse fields. Three research centers are established and operating actively in the following fields:

### Center for Catalysis, Reaction Engineering, and Process Intensification:

The activity of the Center is aiming to develop:

- ✓ New catalysts for Petroleum Refining as well as for Petrochemical Processes
- ✓ New catalytic reactors and reaction media enabling the enhancement of both mass and heat transfer
- ✓ Methods for regeneration of deactivated catalysts from various processes.

The center is equipped with most of the specific equipments required for advanced research in the Catalysis field and has a very strong team of professional researchers.



### Center for Applied and Environmental Chemistry (CAEC)

The CAEC is focused on organometallic chemical synthesis, construction materials testing as well as environmental aspects related to applications in these fields. The center has all equipment required to conduct high level research and is seen as an opportunity to seek external industrial funding. Dr. Ghada Bassioni, Assistant Professor in the Chemical Engineering Department, is leading the Center

### Polymer Laboratories

New polymer laboratories are established for polymer chemistry, polymer characterization and testing and polymer processing. These labs operate as both research and teaching laboratories and contain state of the art equipments making them one of the best equipped academic polymer laboratories in the Arabian Gulf. The processing facilities include polymer extrusion and injection molding machines.

Testing facilities include rheological testing, mechanical testing, and thermal testing.

Interested students are encouraged to contact faculty members to be part of the research group. Please visit our website to explore more research topics available.



## AICHE

The American Institute of chemical engineers (AIChE) is a professional association of more than 40,000 chemical engineers in 93 countries. The AIChE student chapter was launched in spring 2009 under the supervision of Dr. Ahmed Al Shoaibi. The aim of this student chapter at the PI is to involve our students with other chemical engineering students from various institutions in the world through conferences, forums, and social events.



## For additional information :

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Or check our website:  
[http://www.pi.ac.ae/PI\\_ACA/ce/index.php](http://www.pi.ac.ae/PI_ACA/ce/index.php)

## The Petroleum Institute

Abu Dhabi, United Arab Emirates



## Chemical Engineering Brochure 2011



## Program Vision

The vision of our chemical engineering program is:

*To produce graduates capable of achieving the needs and expectations of ADNOC and other allied sponsors by providing a world-class education in chemical engineering science and practice.*

## What is Chemical Engineering?

Chemical Engineering is a broad discipline dealing with processes (industrial and natural) involving the transformation (chemical, biological, or physical) of matter or energy into forms useful for mankind, economically and without compromising environment, safety, or finite resources.



At our program, special emphasis is given to oil and gas and petrochemical industries, specifically, in research. International and local researches of different topics in these industries are open to both graduate and undergraduate students.

## Careers in Chemical Engineering

Because of the diverse nature of the field, chemical engineers can be employed in many different industrial sectors including :

- ✓ Processing of oil and gas into finished products,
- ✓ Finding solutions to air and water pollution problems,
- ✓ Reducing corrosion in chemical plants,
- ✓ Producing plastics and other polymer products,
- ✓ Manufacturing pharmaceutical and specialty chemicals and food products, and
- ✓ Manufacture of microelectronic devices.

## Program Objectives

The program's objectives are focused in providing and developing in our students the skills to:

- ✓ Design new processes or optimization of existing processes.
- ✓ Provide optimal solutions to plant operating problems.
- ✓ Provide optimal solutions to product improvement or new product development problems.
- ✓ Progress in the ADNOC career development scheme.



## ChE graduate career scheme

**ChE graduate → Developpee → Process Engineer → Senior Process Engineer**

## Program Outcome

The program's outcomes are defined as:

- ✓ Apply knowledge of the basic sciences and chemical engineering science fundamentals
- ✓ Use computational tools necessary for chemical engineering practice
- ✓ Design and conduct experiments,
- ✓ Solve open-ended problems,
- ✓ Function effectively in inter- and intra- disciplinary teams
- ✓ Demonstrate an awareness of professional and ethical responsibilities,
- ✓ Communicate effectively in English in both oral and written formats, and
- ✓ Engage in life-long learning and self-education



## Undergraduate Curriculum

The Chemical Engineering Program requires 136 credits for graduation distributed as follows:

### 25 credits in General Education requirement

- ✓ Includes communication, humanity and social sciences courses

### 42 credits of Math and Basic Sciences

- ✓ Includes chemistry, math, and physics.

### 69 credits in Engineering Topics

- ✓ Includes chemical engineering required courses/labs, technical electives, and engineering design experience.

## Summer Internship Program

All chemical engineering students are required to complete the Summer Internship Program as a requirement for graduation for a typical duration of 8 weeks. A student who has completed junior year courses has a CGPA 2.0 or higher and is enrolled in senior courses is eligible to register for the program.

This program is designed to provide the students with the flavor of real world engineering experience related to the focal areas of chemical engineering at the operating companies (OPCOs) of ADNOC. In the past, chemical engineering students have undertaken internship projects at ADCO, ADMA-OPCO, and GASCO to name a few. Besides, selected outstanding students may have the opportunity to conduct research internship at one of the partner universities in the US as an alternative. These opportunities are open to both of our male and female students.

At the end of program, students are required to submit a final internship report on the individual engineering project and to give oral presentations at the OPCOs and in the chemical engineering department.

