Petroleum and Petrochemical Engineering
Coordinators

**Petroleum Engineering**
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- Dr. Abdul Aziz

**Chemical Engineering**
- Prof. Dr. Hanan El Sersy
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The oil and gas industry has been flourishing in the Middle East in the last decade.

Faculty of Eng. Cairo University has contributed in the supply of the manpower requirements on the local, Arab region, and worldwide levels.
The oil and gas sector is divided into two main components:

**Upstream Sector**
Includes the **searching** for potential underground or underwater oil and gas fields, **drilling** of exploratory wells, and subsequently **operating** the wells that recover and bring the crude oil and/or raw natural gas to the surface.

**Downstream Sector**
Includes **refining** of petroleum crude oil, **processing** of natural gas and the **use** of petroleum and its derivatives as raw materials to produce useful chemicals.
Petroleum Related Operations

Upstream:
- Exploration
- Drilling
- Production
- Logging
- Field operations

Downstream:
- Refining & processing
- Transportation
- Petrochemicals
- Distribution
- Marketing

Exploration
Develop
Produce
Refine
Retail
Companies Related to Upstream

- Exploration and Production (E&P) Joint venture (eg. Khalda, Gupco, Petrobel, ……)
- Drilling Contractor (EDC, ECDC, Senotharwa, Weatherforad, ……)
- Service Companies (Schlumberger, Baker, ……)

![Images of workers and equipment related to drilling and exploration.]
Companies Related to Downstream

- Refineries: eg. Cairo Mostorod Refinery, Alexandria Ameriya Refinery, Alexandria Midor Refinery, .......
- Natural Gas Processing: e.g. RASGAS, GASCO, SEGAS, ....
- Petrochemicals: Styrenics, Methanex, ....
- Distributors: EgyptGas, ....
- Design: ENPPI, ....
Usually Chemical Engineering graduates work in the downstream sector while Petroleum Engineering graduates work in the upstream sector.

In many cases, graduates from the petroleum engineering department had to assume responsibilities in refining and petrochemical plants while many chemical engineers have been assigned jobs in the prospecting and oil field operations.
This situation called for the formation of a hybrid engineer combining the qualifications of both disciplines.
The Petroleum and Petrochemical Program is a credit hour system under the umbrella of both Petroleum & Chemical Engineering Departments.
Petroleum and Petrochemical Engineering

The Petroleum and Petrochemical Engineering is a discipline that integrates knowledge and skills required for both upstream and downstream industries of oil and gas. Graduates will major in either of the following:

• Petroleum Engineering (PPC-P), **Upstream**.
• Petrochemical Engineering (PPC-C), **Downstream**.
When do students choose their major?

- Students majoring in either upstream or downstream study the same courses during the Sophomore and Junior levels.
- Elective courses are available for Senior 1 students.
- Graduating Senior students will have to give the final decision; either Petroleum or Petrochemicals.
Thus graduates majoring in either upstream or downstream industries of oil and gas will in the same time acquire the background of the other and thus improving fieldwork flexibilities in career development.
Curriculum

- Humanities & Social Sciences
- Basic Sciences
- Applied Eng. Sciences for each Major
- Applied Eng. Sciences for both Majors
- Basic Eng. Sciences
SENIOR 2 PPC-P

Oil Well Drilling 3
Petr. Prod. Eng. 2
Natural Gas Eng. 2
Petr. Legisl. & Econom.
Well Logging
Graduation Project 1
ELECT.
Graduation Project 2
ELECTIVE
ELECTIVE

Water Flooding
Well Completion & Work over
Enhanced Oil Recovery
Graduation Project 2
ELECTIVE
ELECTIVE

ELECTIVES

Advanced Topics in Petroleum Engineering
Deep Water Technology
Natural Gas Liquefac. and GTL
Gas Pipeline & Domestic Networks
Simulation & Modeling for Pet. Engineers
Formation Evaluation & Reservoir Charact.
Seismic Stratigraphy
Data Mining
Subsurface Mapping
Well Simulation
Directional Horizontal & Multilat. Drilling
Horizontal Well Technology
GENN Courses

- Technical Writing
- Communication & Presentation Skills
- Fundamentals of Management
- Risk Management & Environment
- Economics
- Accounting
- Advanced Risk Management
- Business Communication
- Selection of Life-long Skills
- Technical Writing in Arabic
- Foreign Language
- Ethics & Legislation
- Service Management
- Marketing

Seminar Courses

- Seminar 1
- Seminar 2
Speakers are invited from industrial establishments relevant to the program. The guest speaker should discuss the organization, management, and recent technologies implemented in his/her industrial establishment.
Seminar Courses

- Seminar-2

- All students will be required to present seminars in a subject assigned to (or chosen by) them on latest technology relevant to the program.
Field Trips

Midor, Alexandria

Oyoun Moussa
Workshops

Michelangelo Workshop - Rome - 2015
Student Activities
Student Activities

SPE - Poland - 2015
Graduate Classes

2014

Yosra Osama
(PPC-C)
Our PPC Graduates

Amira Nassar, 2013
Procter & Gamble

Amir Mitry, 2011
Technip

Menna Shafei, 2012
Procter & Gamble

M Nabil Bayad, 2011

Marwan Hany’, 2012

Ahmed Ali, 2013

Omar Ali, 2013

M ElGarhi, 2014
thank you