

MASTER OIL AND GAS : EXPLORATION, PRODUCTION AND MANAGEMENT

MASTER PÉTROLE ET GAZ : EXPLORATION, PRODUCTION ET MANAGEMENT

الماسٲر في استكشاف وانبٲاج وادارة البترول والغاز

Upstream and Downstream : Engineering and Management (MPOG)



With the participation
of « Institut Français
du Pétrole (IFP School) »



In partnership with



GENERAL INFORMATION

Based on the preliminary investigations on offshore oil and gas in Lebanon, as well as the expertise of international experts and exploratory mission reports,
Based on the Lebanese new law on oil and gas,
Based on the impact of this industry on the Lebanese economy,
Based on the absence of similar or equivalent program in Oil and Gas in Lebanon
Based on the consequences of such program on creating new jobs and boosting of several local productive sectors,
Based on the urgent need for engineers and specialists in Oil and Gas in Lebanon.

The « École supérieure d'ingénieurs de Beyrouth (ESIB) » took the initiative to contact their partners, in particular the « Institut Français du Pétrole (IFP School) » and TOTAL, as well as European and Arab institutions to implement a pioneering program in Lebanon on “Oil and Gas” in its two components: Technical and Economical, or Upstream and Downstream.

SCIENTIFIC AND EDUCATIONAL PURPOSE

The dual objective of this program is to train:

1 - Experts in Reservoir Engineering (Upstream):

This program trains professionals in petroleum engineering with a focus on reservoir engineering.

As reservoir engineers, they are able to describe the reservoir and to understand its behavior through data acquisition, interpretation and integration considering: rock characterization, fluids characterization and fluid flow in porous media.

Consequently, they contribute, in collaboration with geoscientists, to evaluate volumes of hydrocarbons in place and they state on the natural production mechanisms.

Starting from the understanding of the reservoir, they propose an economically optimized development strategy of hydrocarbon fields and they evaluate the associated reserves and production profile. To do so, they are able to use tools such as dynamic reservoir simulation.

They highlight uncertainties and their impacts on the evaluation of field performances.

They are able to describe drilling activities, well performances and surface facilities for processing and transportation of oil and gas.

Security and environmental issues are also of their concern. They identify the main risks associated to operations and the risk mitigation options.

2- Experts in Petroleum Economics and Management (Downstream):

This program trains also experts to study the market structure and price mechanism: Changes in market structure, strategy of exporting countries and its impact on prices, global demand and the rise of emerging countries (Brazil, Russia, China, India, etc..), speculation and its impact on the price of oil in short term, the outlook for the coming years, economic recovery and rising of oil prices, the risk, competitive environment and arrival of new entrants and new aggressive strategies, behaviors of petroleum countries, competitors and different business practices, security of supply, regional and international legal aspects, the economic growth, transportation costs, etc.

GENERAL ORGANIZATION OF THE MASTER

The “Master Oil and Gas” comprises 120 credits, spread over four semesters of 30 credits each.

This program includes:

- Theoretical and practical courses
- Projects and/or internships leading to the preparation of a training report.

Since the Master, is intended primarily for engineers (Bac +5), or 5th year students of engineering ESIB (Bac +4) or graduates of Master of science (Bac +5), candidates eligible to enroll, based on their academic record, could be exempted from a part of the courses.



ORGANIZATION OF PROJETS AND INTERNSHIPS

Projects and internships (training) and other applied work will be held either in Lebanon or abroad, in an oil company or an oil or gas fields. Their purpose is to apply knowledge and skills to study the implementation and feasibility of an oil or gas field (for the projects), and to apply knowledge and skills in the real onshore or offshore field or in a petroleum company (for training).

The scientific responsibility of projects and training is provided by the Master faculty (Teachers).

This work aims to help students to develop and improve the required skills:

- in the Technical field of Oil & Gas reservoirs (Upstream)
- in the Oil and Gas Economy and Markets (Downstream).

They are the subject of a written report and a public presentation. The rating reflects three elements:

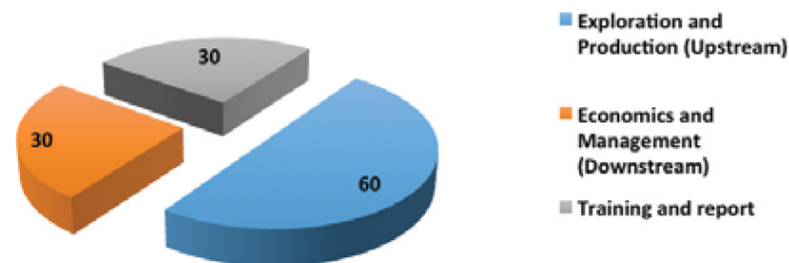
- student global behavior during the training,
- content and quality of written report
- oral presentation and defense.

DISTRIBUTION OF COURSES

As a guideline, the following distribution is proposed for the semesters MR2, MR3 and MR4. It should be noted that semester MR1 (4-5 months) represents technical or economical courses taken and validated previously:

Distribution of courses	Proposed period
6 months Exploration and Production (Upstream)	September to July (next year)
5 months Economics and Management (Downstream)	
5-6 months of project and/or training and report	August to January (next year)
Total	15-16 months

Distribution of the 120 ECTS



Contacts :

- Prof. Fadi GEARA, Doyen de l'ESIB – 01421312 - fadi.geara@usj.edu.lb
- Prof. Wassim RAPHAEL, Directeur du Département des études doctorales – 01421 354 - wassim.raaphael@usj.edu.lb
- Rana EL-KHOURY, Assistante – 01 421321 • rana.elkhoury@usj.edu.lb