

# MSc Programs in Engineering and Technology of Oil and Gas- 2018

July 08, 2018 [Announcements](#), [For Students](#)



**Center of Studies in Oil and Gas Engineering and Technology (CS-OGET)**

**Universidade Eduardo Mondlane, Maputo-Mozambique**

**MSc Programs in Oil and Gas 2018**

**Announcement, 2018**

## ***ABOUT THE CS-OGET***

The Rovume Basin, shared by Mozambique and Tanzania, holds one of the largest reserves of natural gas in the world, still unexploited. In order to improve the exploitation capability of such resources, the Government of Mozambique, oil companies and other stakeholders have invested on training programs in O&G. The Universidade Eduardo Mondlane (UEM) has led the process of creating and implementing postgraduate training programs covering the upstream and downstream perspective of the O&G engineering business. Oil and Gas Economics and Management is also a new training programme to start in 2018. Safety and environmental engineering, and Petroleum Geology are two other training programmes to start soon, potentially in 2019. As a way to reinforce the research and education capabilities, and with the financial support of the World Bank, UEM has created a Center of Excellence with a regional scope for give opportunity to young talented national and regional africans to be trained at postgraduate level as technicians and researchers, aiming to increment the local content in the South-Eastern region regarding the field of O&G.

## ***CURRENT POSTGRADUATE PROGRAMS OFFERED IN 2018 BY THE CENTER IN COLLABORATION WITH THE FACULTY OF ENGINEERING AND THE FACULTY OF ECONOMICS OF UEM***

The Center is collaborating with the Faculty of Engineering and the Faculty of Economics of UEM for the implementation of the following postgraduate programs:

### **1) MSC IN PETROLEUM ENGINEERING (MEP)**

The objectives of this 2 yrs. programme are to provide the graduates with the knowledge, skills, and behaviours necessary to perform competitively as a Petroleum Engineer working for a multi-national company. The Petroleum Engineering program will provide students with the education necessary to solve modern engineering challenges faced in the field. The goal of the UEM Master's Program is to produce work ready, employable graduates in petroleum engineering. The graduates of this program will have:

- A fundamental and applied understanding of the petroleum engineering sub-disciplines: drilling, production and reservoir engineering;
- Well-developed analytical and numerical skills to solve practical engineering problems in the petroleum industry; and
- The ability to integrate knowledge from various disciplines applicable to the petroleum industry.

The courses will consist of advanced knowledge and skills from the following disciplines: Applied mathematics of fluid flow in porous media; Advanced production engineering including multiphase-flow and artificial lift; Hydrocarbon phase behaviour; Formulation and solution of advanced reservoir engineering problems; Calculation and design of well drilling and completions for field operations; Formation evaluation and the fundamentals of well logging; Integrated reservoir management tasks using reservoir modelling; Dissertation.

Students not having a previous background in the Petroleum Engineering field, are recommended, prior to the starting of the MSc program, to enrol in a bridge program (6 months) in which are 4 key undergraduate courses: Geoscience, Drilling and Completion Systems, Reservoir Engineering and Petro physics, and Production Operations and Facilities Engineering.

### **2) MSC IN HYDROCARBON PROCESSING ENGINEERING (MHPE)**

The general objective of the Master Course in Hydrocarbon Processing Engineering is the training of highly educated technicians and researchers capable of taking a leading role in the design of processes and products, and the operation of hydrocarbon processing plants in Mozambique and the region, through their transformation into diverse products for national, regional and international consumption.

Local processing of energy mineral resources will increase its value many times, will allow new forms of usage, and produce dozens or even hundreds of new consumer products. This wide range of applications include:

- Production of Liquefied Natural Gas (LNG) to be used as fuel for automobiles;
- The use of natural gas as domestic and industrial fuel, through its transport by pipeline to and through the belt of the population centers and construction of an adequate network and distribution;
- The use of natural gas as an alternative in the operation of small utility machines in rural areas (water pumps, mills, irrigation systems, etc.);
- The processing of natural gas (or other source of hydrocarbons), through the Fischer-Tropsch synthesis and other similar processes, for the production of different liquid fuels (gas oil, gasoline, etc.) and many other chemicals, which can feed other Industries such as: pharmaceuticals, cosmetics, toiletries and cleaning, fertilizers, pesticides, polymers and plastics, etc.

The 2 yrs. (for academic degree) or 1,5 yrs (for professional degree) program comprises the following subjects: Global Energy Industry; Fundamentals of Chemical Engineering and Thermodynamics; Introduction to Project Management; Hydrocarbon Processing Technologies I and II; Technical and Analytical Solutions; Engineering Designing Tools; Process and Instrumentation for Petrochemical Processes; Economy, Legislation, Environment, and Society; Dissertation (for academic degree) or Internship (for professional degree).

### **3) MASTER IN OIL AND GAS ECONOMICS AND MANAGEMENT (MOGEM)**

The Master's Degree in Oil and Gas Economics and Management aims to train qualified economics and management personnel applied to the value chain activities of the oil and gas industry to work in the public and private sector.

The curriculum comprises four semesters (2 yrs.). The first two semesters are for course work and the last two for research. The programme is structured around the three streams of the value chain: (i) exploration and production; (ii) transportation and marketing; and (iii) refining and marketing so that it provides specialized training required by the sector to solve economic problems and manage complexities of oil and gas activities and processes.

Courses (nuclear and optional) offered in this program include: Regulation and Contracts for Oil and Gas; Fundamentals of Oil and Gas; Oil and Gas Markets and Merchandise Trade; Research Project; Oil and Gas Markets and Merchandise Trade; Health, Safety and Environment in the Oil & Gas sector; Entrepreneurship and Refining and Petrochemicals Business; Development of Oil and Gas Projects; Project risk assessment and risk management; Macroeconomic Models of Oil and Gas; Supply Chain Management for Oil and Gas; Human Resources Management and Strategic Operations Management; Accounting and Taxation of Oil and Gas.

## ***PROGRAMMES COMMENCEMENT AND LOCATION***

<b>Programme (MSc)</b>	<b>Commencement</b>	<b>Location</b>	<b>Classes</b>
Petroleum Engineering (MPE)	August 13, 2018	Faculty of Engineering Campus facilities, located at Avenida de Moçambique, km 1.5, in the City of Maputo- Mozambique.	Daylight
Hydrocarbon Processing Engineering (MHPE)	August 13, 2018	Faculty of Engineering Campus facilities, located at Avenida de Moçambique, km 1.5, in the City of Maputo- Mozambique.	Daylight
Oil and Gas Economics and Management (MOGEM)	September 3, 2018	Faculty of Economics, Main Campus facilities, City of Maputo- Mozambique.	Evening

## ***ELIGIBILITY***

### **1. General Requirements**

Minimum average grade in the Licenciatura of 14 marks equivalent to 70% (in the scale of 20 in use in the UEM), or, is required to all the candidates.

Exceptionally candidates with an average of no less than 12 marks (60%) can be admitted, provided that they have at least 3 years of professional experience in an area considered relevant to the intended course, in accordance with the Regulation of Graduate Courses in use at UEM.

### **2. Specific Requirements**

- **For the MEP:** Graduates holding a Bachelor's degree or equivalent in an Engineering area (preferably Chemical Engineering or Mechanical Engineering) or Sciences (preferably Geology) may apply for the Master's Degree in Petroleum Engineering.
- **For the MHPE:** Graduates holding a Bachelor's degree or equivalent in an Engineering area (preferably Chemical Engineering or Environmental Engineering) or Sciences (preferably Chemical Sciences) may apply for the Master's Degree in Hydrocarbon Processing Engineering.
- **For MOGEM:** Graduates holding a Bachelor's degree or equivalent in Economics, Management or related areas may apply to the Master's Degree in Oil and Gas Economics and Management. Candidates from other areas such as Science and Engineering may also apply subject to a criterious scrutiny of relation and relevance.

**Female candidates and candidates from less privileged regions or groups as well as candidates with disabilities are especially encouraged to apply.**

## ***PROCEDURES FOR APPLICATION***

- Letter of motivation, addressed to the Dean of the Faculty (Engineering or Economics);
- Curriculum Vitae (CV);

- Diploma of completion of the Bachelor's degree or equivalent;
- Certificate of the disciplines completed at the Bachelor's degree;
- Two letters of recommendations of advisors/supervisors from previous educational institutions.
- Completed application/registration form (FEUEM-PG-1 model can be sent, please contact CS-OGET Director, see address below). Please indicate the need or not of a scholarship. Additional information will be required in the case of a scholarship request.

Submission of applications must be in an integrated PDF sent to the email provided below.

Vacancies are limited. Only pre-selected candidates will be contacted and invited to interview based on the evaluation of the above documents.

### ***REGISTRATION AND ENROLLMENT***

The enrollment and registration period will be announced on the date of publication of the lists of admitted candidates. Additional documentation will be requested for the formalization of these acts.

**Application Deadline: July 28, 2018**

### ***FARES AND TUITION FEES***

National applicants admitted to any of the MSc programs are subject to the following payments (payment in foreign currency is possible subject to the daily exchange rate (currently US\$ 1 is about 60 Mt):

- Annual registration fee in the amount of 7.000,00Mt (7.500,00 Mt for MOGEM);
- Monthly tuition fee of 12.000,00 Mt (10.000,00 Mt for MOGEM), payable for 10 months/year during the duration of the course (2 years for Academic Master).

Non-national applicants pay an additional 50% of the values above mentioned.

### ***SCHOLARSHIPS***

A very limited number of internal scholarships will be available. It will be allocated in a competitive basis and taking in consideration: academic record, financial situation, and gender. Applicants are encouraged to seek for other sources of financial support.

Scholarship will cover the cost of travel from and to the country of origin, payment of tuitions fees and stipends. Stipends cover accommodation, living costs, health care and local transportation (stipend will vary from US\$ 200 to 300 per month per student).

### ***ADDITIONAL INFORMATION AND CLARIFICATIONS***

For more information about the programs and the application process, please visit:

**Center of Excellence in Oil and Gas Engineering and Technology (CS-OGET)**

Universidade Eduardo Mondlane (UEM)

Faculty of Engineering, Av. Moçambique, Km 1.5

Maputo- Mozambique

Office hours: Monday to Friday

Website: [www.uem.mz](http://www.uem.mz) (and follow the links) or [www.csoget.mz](http://www.csoget.mz)

**For application send to:**

**Dr. Luis Lucas**

CS-OGET Director

Cell: +258 82 661 7602

e-Mail: [lhml2004@hotmail.com](mailto:lhml2004@hotmail.com)