

# Master of Science (Offshore Technology)

**MSc Programme Fee, AY2018/2019:**  
SGD 18,400 per semester

**Candidature Period:**  
1 year full-time or 2 years part-time

Comprehensive coverage of topics in Offshore Engineering, Subsea Engineering and Petroleum Engineering that are of great relevance to the offshore oil and gas industry which span the design of facilities in shallow waters to challenges that are faced by engineers in developments in deep waters and in arctic conditions, and technologies related to drilling, downhole measurements and characterization in the exploration and production of petroleum reservoirs.



**General Entry Requirement:**

Bachelor's Degree in Civil Engineering or Mechanical Engineering with 2nd Class Honours, or equivalent. Candidates with relevant working experience will be considered favourably.

**Award of Degree**

Successfully complete at least 40 Modular Credits (MCs) & meet grade requirements.

**Option to specialise in:**

## Subsea Engineering Petroleum Engineering

**Exchange Programme with**

- ❖ Delft University of Technology
- ❖ Norwegian University of Science & Technology

**Modules**

- ❖ Exploration and Production of Petroleum
- ❖ Marine Statics & Dynamics
- ❖ Analysis & Design of Offshore Structure
- ❖ Design of Floating Structures
- ❖ Moorings & Risers
- ❖ Offshore Pipelines
- ❖ Offshore Foundations
- ❖ Arctic Engineering
- ❖ Wave Hydrodynamics
- ❖ Flow Systems Analysis
- ❖ Corrosion of Materials
- ❖ Fracture and Fatigue of Materials

**Modules for Specialisation  
In Subsea Engineering**

- ❖ Oil & Gas Technology
- ❖ Subsea Systems Engineering
- ❖ Offshore Pipelines
- ❖ Flow Assurance
- ❖ Subsea Control
- ❖ Subsea Construction & Operations Support
- ❖ Pressure Surges in Oil & Gas Flow Systems
- ❖ Project Module (8 MCs)

**Modules for Specialisation  
In Petroleum Engineering**

- ❖ Geoscience for Petroleum Exploration
- ❖ Seismic Acquisition & Processing
- ❖ Petrophysics and Downhole Measurements
- ❖ Reservoir Characterization and Rock Physics
- ❖ Enhanced Oil Recovery
- ❖ Petroleum Production Engineering
- ❖ Petroleum Geomechanics
- ❖ Project Module (8 MCs)

Students can also select from the modules for specialization in Subsea Engineering and/or Petroleum Engineering

*All modules are 4 MCs each, unless otherwise indicated.*

## Graduate Certificate Programme *in* ***Petroleum Engineering & Geosciences***

To serve the petroleum-rich countries and upstream exploration and production oil and gas companies in the region. Work in major international oil and gas companies requires deep knowledge of the advancement of geophysical investigation technologies, rock physics and petroleum engineering.



A maximum of 20 modular credits (MCs) may be transferred to the relevant M.Sc. Programme, in particular to the M.Sc. (Offshore Technology) with specialisation in Petroleum Engineering to satisfy distinct module requirements, *subject to approval by host Department. Validity period of the transfer is not more than 5 years from the award of the Graduate Certificate.*

**Programme Fee per Module: SGD 1,605**  
(July 2018 intake)

**Candidature Period:**  
Up to 2 years part-time

**General Entry Requirement:**  
Bachelor's degree in Civil Engineering, relevant degree in engineering or science discipline

### Modules

- ❖ Engineering Fundamentals for Petroleum Engineering (*non-credit bearing*)
- ❖ General and Sedimentary Geology
- ❖ Petroleum Geology
- ❖ Seismic Acquisition
- ❖ Seismic Processing and Imaging
- ❖ Petrophysics for Petroleum Engineering
- ❖ Downhole Measurements for Petroleum Engineering
- ❖ Fundamentals of Enhanced Oil Recovery
- ❖ Enhanced Oil Recovery Methods and Application
- ❖ Petroleum Production Engineering
- ❖ Petroleum Production Engineering - Wellbore

*All modules are 2 MCs each, unless otherwise indicated.*