



Curtin University

Master of Subsea Engineering - a pathway to an offshore career

Dr David Parks Department of Petroleum Engineering

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Where does Subsea Engineering fit within the Oil and Gas Industry?

Chemical Eng.



**SUBSEA
ENGINEERING**

Pipeline



Injector

Producer

Reservoir

Petroleum Eng.

Responsible for:

- ~~Wellhead design~~ **Subsea design**
- ~~Reservoir engineering~~ **Reservoir processing** plant
- Long life reliable ops.

The Problem:

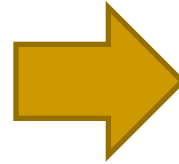
How to develop existing and future fields

MAJOR ISSUE 1

QUALIFIED STAFF

“132,000 needed by 2016”

David Leslie GM GE Aus.



Curtin University
introduces new program:

MAJOR ISSUE 2

REGISTRATION

EA expected to require
certification of engineers
in 3-5 years



**Master of Subsea
Engineering
2014**

How the course was developed

- Extensive consultation, workshops and reviews with industry over last 15 months to develop a comprehensive course to meet **INDUSTRY** needs

DNV·GL



FMC Technologies

INTECSEA
WorleyParsons Group



---- and many others



Masters in Petroleum Engineering

■ Program

- 2 years fulltime to Masters Degree, 1 year exit award of Graduate Diploma
- Semester based
 - 4 units per semester → 15 units and industry project
- Cross disciplinary teaching across Science & Engineering Faculty
 - Petroleum, Civil, Corrosion, Electrical, Mechanical Engineering
 - Geophysics, Marine Science
- Extensive Industry support – Lecturing, Tutorials and Projects

■ Entry Requirements

- Masters program – EA accredited Bachelor degree in Engineering, (1 or 2a)
- Graduate Diploma - Relevant degree or significant workforce experience
- Domestic students only in 2014,
- Available to International students next year



Masters in Petroleum Engineering

■ Syllabus

- Developed in close cooperation with Industry and Associations
- SUT, EA, Woodside, GE Oil&Gas, DNV, IntecSea, etc.

■ Leading to Graduate Diploma - **Introductory Subjects**

- YEAR 1 - SEMESTER 1
 - Introduction to Offshore Petroleum Engineering 511
 - Introduction to Subsea Infrastructure Engineering 514
 - Corrosion Chemistry 500
 - Phase Behaviour and Flow assurance 606
- YEAR 1 -SEMESTER 2
 - Subsea Field Equipment 524
 - Subsea Surveying and Installation 515
 - Subsea Control and Communication Systems 516
 - Safety, Reliability and Integrity management 517



Masters in Petroleum Engineering

- Leading to Masters Degree - **Advanced Subjects**
 - YEAR 2 - SEMESTER 1
 - Offshore Geomechanics and Hydrodynamics 613
 - Offshore Structures 612
 - Offshore processing and system operations 611
 - Petroleum Economics and Project Management 602
 - YEAR 2 - SEMESTER 2
 - Umbilicals and Risers 625
 - Flowlines and Pipelines 624
 - Subsea structures and system engineering 622
 - Subsea Engineering Project 650



Curtin's Petroleum Engineering department

■ **Current Teaching**

- Bachelor degree in Petroleum Engineering (first graduates 2012)
- Masters courses in Petroleum Engineering (since 1999)
- PhD students (over 30 students and growing)
- Largest Petroleum Engineering School in Australia

■ **Happening in 2014** – Masters/Grad Dip in Subsea Engineering

- Started Semester 1 – now in week 4
- Fulltime (4 units) of Part time (2 units)
- No mid-year intake planned
- Evening classes (from 5pm to 8pm)
- At Bentley and City locations



QUESTIONS???

