Master of Subsea Engineering
- a pathway to an offshore career

Dr David Parks Department of Petroleum Engineering March 2014
Where does Subsea Engineering fit within the Oil and Gas Industry?

Subsea Engineering is responsible for:
- Well planning and drilling
- Reservoir management
- Subsea solution design
- Assuring flow from well to plant
- Long life reliable operations

Petroleum Engineering is responsible for:
- Subsea wellhead and tree design
- Reservoir flow assurance
- Long life reliable operations

Chemical Engineering is responsible for:
- Process design
- Hydrocarbon processing
The Problem:
How to develop existing and future fields

MAJOR ISSUE 1
QUALIFIED STAFF
“132,000 needed by 2016”
David Leslie GM GE Aus.

MAJOR ISSUE 2
REGISTRATION
EA expected to require certification of engineers in 3-5 years

Curtin University introduces new program:
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

--- 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???