UNIT OUTLINE

Unit Index: 301741

Credit Value: 25 credit points

Core Unit:
This is a core unit specific to Master of Petroleum Well.
A Core Unit is a compulsory unit. Failure twice may lead to the termination from that course.

Pre-, Co-, Anti-requisite/s:

Pre-requisite/s:
301729 (v.3) Applied Geology and Geophysics 602
301735 (v.3) Fundamentals of Reservoir Engineering 605
301736 (v.3) Hydrocarbon Phase Behaviour 606
301737 (v.3) Formation Evaluation 604
301738 (v.3) Advanced Reservoir Engineering 601
301739 (v.3) Production Technology 607

Co-requisite/s:
None.

Anti-requisite/s:
None.

Additional Requirement/s:
None.

Availability Details: In 2008, this unit will be offered internally in Study Period 10 through Curtin Engineering.

Online Teaching Unit Category: Informational.

Unit Learning Outcomes: On completion of this unit you should be able to demonstrate your achievement of the following learning outcomes:

1. Apply the knowledge gained in this discipline area to a range of relevant engineering issues.
2. Approach problems in a logical way and be able to formulate an optimum solution.
3. Decide what data / information is relevant from a range of sources, how these relate to each other and identify inconsistencies.
4. Work clearly and concisely, and be able to communicate your findings in a variety of ways (on paper, electronically).

5. Apply the knowledge gained in specific (ie a particular job situation) and general (ie overall problem solving capabilities) circumstances during your professional working life.

6. Appreciate the global applicability of skills developed whilst (most likely) studying with students from abroad.

7. Use the outcomes given above to assist in becoming fully professional engineers in the shortest possible time.

The Syllabus:
- Purpose of simulation.
- Types of simulators (black oil / compositional).
- Model types.
- Basic physics of oil recovery.
- Basic properties of petroleum fluids.
- Derivation of finite difference equations.
- Solution techniques.
- Well modelling.
- Aquifer modelling.
- Fault modelling.
- Local grid refinement.
- History matching.
- Hands-on tuition examining a range of effects (for example - grid block orientation.
- Numerical diffusion) and practical situations (for example - recovery factors for basic processes.
- Waterflood sweep efficiencies, field optimisations).
Teaching and Learning Arrangements:

Lecture: 1 x 20 Hours (4 x Weekly)

Tutorial: 1 x 20 Hours (4 x Weekly)

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**TUITION FREE WEEK**

**TUITION FREE WEEK**

**STUDY WEEK**

**EXAM WEEK 1**

**EXAM WEEK 2**

Texts and References:

**Essential:**
None.

**Recommended:**
None.

**References/Learning Resources:**
None.

Assessment Tasks:

Continuous assessment in the form of quizzes and informal presentations

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<th>Assessment Activity</th>
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<td>Continuous assessment in the form of quizzes and informal presentations</td>
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Total 100%
**Awarding of Grades:**

To pass this unit you must:

- Achieve an overall grade/mark greater than or equal to 5/50.
- Be able to clearly show competency in the usage of the commercial software utilised during this unit

**Late Submission:**

Penalties for late submission of assessed work may apply as follows:

- Refer to Guidelines.

**Grade Awarded:**

This is a grade/mark unit.

The final examination will be held during the formal examination period. It is the student's responsibility to check the date and time of the final examination.

Official release of results for this unit will be published on Oasis on the Curtin web site.

**GENERIC INFORMATION**

**Student Rights and Responsibilities**

It is the responsibility of every student to be aware of all relevant legislation and policies and procedures relating to their rights and responsibilities as a student. These include:

- the Student Charter
- the University's Guiding Ethical Principles
- the University’s policy and statements on plagiarism and academic integrity
- copyright principles and responsibilities
- the University’s policies on appropriate use of software and computer facilities

Information on the University’s “Student Rights and Responsibilities” is available at web page: [http://students.curtin.edu.au/administration/responsibilities.cfm](http://students.curtin.edu.au/administration/responsibilities.cfm)

**Enrolment and HECS:** it is your responsibility to ensure that your enrolment is correct - you can check your enrolment through the eStudent option on OASIS, [www.oasis.curtin.edu.au](http://www.oasis.curtin.edu.au), and you can also print off an Enrolment eAdvice.

**Semester 1:** you can make requests to have corrections made to your enrolment up to 31 March. The University will not change records after 31 March. HECS liabilities (where they apply) and your results depend on your 31 March enrolment. Withdrawals made after that date will not reduce your HECS liability.

**Semester 2:** you can make requests to have corrections made to your enrolment up to 31 August. The University will not change records after 31 August. HECS liabilities (where they apply) and your results depend on your 31 August enrolment. Withdrawals made after that date will not reduce your HECS liability.
ENGINEERING/UNIT SPECIFIC INFORMATION

Referencing style:
Curtin Engineering advises students that Curtin University supports the "Chicago Referencing Style" for written work and oral presentations. For a guide to this style please see


However, students are permitted to use other recognised styles that appear in the Engineering literature. Note also that individual lecturers can stipulate that a particular style is used when it best matches the type of work in the assessment of the particular unit.

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Consultation Times:
TBA

Ancillary Charges:
There are no ancillary charge(s) required to be paid by the student to undertake the unit (as published annually in the Curtin Courses Handbook).

CRICOS Provider Code 00301J

END OF UNIT OUTLINE