Curtin University of Technology
Faculty of Science and Engineering
Curtin Engineering

DEPARTMENT OF PETROLEUM ENGINEERING

Geology and Geophysics for Drilling Engineers 601
Study Period 3, 2008

UNIT OUTLINE

Unit Index: 308066
Credit Value: 25 credit points

Core Unit:
This is a core unit specific to Master of Petroleum Well Engineering.
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: None.
  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 3 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:
• Geological principles.
• Earth structure.
• Identification of common rocks and minerals.
• Geological time.
• Historical geology and stratigraphy.
• Sedimentary rocks.
• Depositional patterns.
• Reservoir rocks.
• Surface and subsurface mapping.
• Hydrocarbons.
• Petroleum traps.
• Diagenesis in sandstones.
• Seismic methods for lithology detection.
• High resolution 3D seismic.

Teaching and Learning Arrangements:
Lecture: 1 x 20 Hours (4 x Weekly)
Tutorial: 1 x 20 Hours (4 x Weekly)

<table>
<thead>
<tr>
<th>Teaching Week</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TUITION FREE WEEK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>TUITION FREE WEEK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STUDY WEEK</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EXAM WEEK 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EXAM WEEK 2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Texts and References:
**Essential:**
None.

**Recommended:**
None.
References/Learning Resources:
None.

Assessment Tasks:
Assignments and Examination

<table>
<thead>
<tr>
<th>No.</th>
<th>Assessment Activity</th>
<th>Percentage %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Assignments</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>Examination</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Awarding of Grades:
To pass this unit you must:
- Achieve an overall grade/mark greater than or equal to 5/50.
- Achieve an examination mark of at least 55%

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

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, 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 [http://library.curtin.edu.au/referencing/index.html](http://library.curtin.edu.au/referencing/index.html)

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.

**Unit Coordinator Details**
A/Professor Alan Tait  
A.Tait@exchange.curtin.edu.au  
9266 4983  
ARRC 613:6H08

**Unit Contact Details**

**Bentley**
A/Professor Alan Tait  
A.Tait@exchange.curtin.edu.au  
9266 4983  
ARRC 613:6H08

**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**