Unit Outline
302652 Seismic Acquisition for Exploration 315
Semester 2, 2014

Unit study package number: 302652
Mode of study: Internal
Tuition pattern summary: Lecture: 1 x 2 Hours
This unit does not have a fieldwork component.
Credit Value: 12.5
Pre-requisite units: 12455 (v.0) Introduction to Seismic Exploration 303 or any previous version
Co-requisite units: Nil
Anti-requisite units: Nil
Result type: Grade/Mark
Approved incidental fees: Information about approved incidental fees can be obtained from our website. Visit fees.curtin.edu.au/incidental_fees.cfm for details.

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Room: 4H02
Acknowledgement of Country
We respectfully acknowledge the Indigenous Elders, custodians, their descendants and kin of this land past and present.

Syllabus
Introduction to seismic methods, history, economics, seismic reflection, stacking, survey parameters, source/receiver arrays, land versus marine, 2D versus 3D versus 4D.

Introduction
Introduction to seismic methods; history, economics, seismic reflection, stacking, survey parameters, source/receiver arrays, land versus marine, 2D versus 3D versus 4D.

Unit Learning Outcomes
All graduates of Curtin University achieve a set of nine graduate attributes during their course of study. These tell an employer that, through your studies, you have acquired discipline knowledge and a range of other skills and attributes which employers say would be useful in a professional setting. Each unit in your course addresses the graduate attributes through a clearly identified set of learning outcomes. They form a vital part in the process referred to as assurance of learning. The learning outcomes tell you what you are expected to know, understand or be able to do in order to be successful in this unit. Each assessment for this unit is carefully designed to test your achievement of one or more of the unit learning outcomes. On successfully completing all of the assessments you will have achieved all of these learning outcomes.

Your course has been designed so that on graduating we can say you will have achieved all of Curtin’s Graduate Attributes through the assurance of learning process in each unit.

<table>
<thead>
<tr>
<th>On successful completion of this unit students can:</th>
<th>Graduate Attributes addressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Design 2-D and 3-D marine and land seismic surveys for a range of targets</td>
<td>📝💡</td>
</tr>
<tr>
<td>2 Describe modern techniques in designing seismic source and receiver arrays</td>
<td>📝💡</td>
</tr>
<tr>
<td>3 Evaluate results of field recording and optimise parameters</td>
<td>📝💡</td>
</tr>
<tr>
<td>4 Perform an economic analysis of 2D versus 3D</td>
<td>📝💡</td>
</tr>
</tbody>
</table>

Curtin’s Graduate Attributes

- Apply discipline knowledge
- Communication skills
- International perspective
- Thinking skills (use analytical skills to solve problems)
- Technology skills
- Cultural understanding (value the perspectives of others)
- Information skills (confidence to investigate new ideas)
- Learning how to learn (apply principles learnt to new situations)
- Professional Skills (work independently and as a team)
- Cultural understanding (value the perspectives of others)
- Plan own work

Find out more about Curtin’s Graduate attributes at the Office of Teaching & Learning website: ctl.curtin.edu.au

Learning Activities
Attendance at lectures is fundamental. Lectures and exercises under expert supervision will be the main activity to familiarize the students with seismic equipment and field techniques. The lecture schedule is provided at the end of this unit outline.
Learning Resources

Other resources

Lecture notes are almost always simply an outline of available material. There is a list of recommended books in the next section. Some other material for deepening the knowledge of the subjects and further reading and research will be made available during the lectures and labs or on blackboard.

Assessment

Assessment schedule

<table>
<thead>
<tr>
<th>Task</th>
<th>Value %</th>
<th>Date Due</th>
<th>Unit Learning Outcome(s) Assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz (10 questions)</td>
<td>10 percent</td>
<td>Week: TBA</td>
<td>1,2,3,4</td>
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<tr>
<td></td>
<td></td>
<td>Day: Tuesday</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Time: 12pm</td>
<td></td>
</tr>
<tr>
<td>Weekly Assignments</td>
<td>40 percent</td>
<td>Week: 4 and 8</td>
<td>1,3,4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Day: Tuesday</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Time: 2pm</td>
<td></td>
</tr>
<tr>
<td>Examination</td>
<td>50 percent</td>
<td>TBA</td>
<td>1,2,4</td>
</tr>
</tbody>
</table>

Detailed information on assessment tasks

1. Random Quizes
2. Two assignments, one for land and the other for marine seismic data acquisition will be given to students to complete.
3. Final exam will consist of 6 questions covering the lecture material.

Fair assessment through moderation

Moderation describes a quality assurance process to ensure that assessments are appropriate to the learning outcomes, and that student work is evaluated consistently by assessors. Minimum standards for the moderation of assessment are described in the Assessment Manual, available from policies.curtin.edu.au/policies/teachingandlearning.cfm

Late assessment policy

This ensures that the requirements for submission of assignments and other work to be assessed are fair, transparent, equitable, and that penalties are consistently applied.

1. All assessments which students are required to submit will have a due date and time specified on the Unit Outline.
2. Accepting late submission of assignments or other work will be determined by the unit coordinator or Head of School and will be specified on the Unit Outline.
3. If late submission of assignments or other work is not accepted, students will receive a penalty of 100% after the due date and time i.e. a zero mark for the late assessment.
4. If late submission of assignments or other work is accepted, students will be penalised by ten percent per calendar day for a late assessment submission (e.g. a mark equivalent to 10% of the total allocated for the assessment will be deducted from the marked value for every day that the assessment is late). This means that an assessment worth 20 will have two marks deducted per calendar day late. Hence if it was handed in three calendar days late and marked as 12/20, the student would receive 6/20. An assessment more than seven calendar days overdue will not be marked. Work submitted after this time (due date plus seven days) may result in a Fail - Incomplete (F-IN) grade being awarded for the unit.

Assessment extension

A student wishing to delay the completion or submission of an assessment task after the original published date/time (e.g. examinations, tests) or due date/time (e.g. assignments) must apply for an assessment extension using the Assessment Extension form (available from the Forms page at http://students.curtin.edu.au/administration/) as prescribed by the Academic Registrar. It is the responsibility of the student to demonstrate and provide evidence for exceptional circumstances beyond the student's control that prevented them from completing/submitting the assessment task.

The student will be expected to lodge the form and supporting documentation with the unit coordinator before the assessment
date/time or due date/time. An application may be accepted up to five working days after the date or due date of the assessment task where the student is able to provide an acceptable explanation as to why he or she was not able to submit the application prior to the assessment date. An application for an assessment extension will not be accepted after the date of the Board of Examiners' meeting.

Additional assessment information

Pass requirements

Student has to score 50% or above in total

Referencing style

The referencing style for this unit is Chicago.

Plagiarism

Plagiarism occurs when work or property of another person is presented as one's own, without appropriate acknowledgement or referencing. Plagiarism is a serious offence. Student guidelines for avoiding plagiarism can be found at: http://academicintegrity.curtin.edu.au/local/docs/StudentPlagiarismGuide.pdf. For more information refer to academicintegrity.curtin.edu.au.

Plagiarism monitoring

Work submitted may be subjected to a plagiarism detection process, which may include the use of systems such as 'Turnitin'. For further information, see academicintegrity.curtin.edu.au/students/turnitin.cfm.

Additional information

Supplementary/Deferred examinations will be held, if necessary, only on Thursday 18th and Friday 19th December 2014. Following the Board of Examiner's Meeting, held on Thursday 9th December 2014, students who have been awarded a Supplementary Examination will be advised accordingly. Students can contact the Department on 9266-3565 for confirmation and further information about the arrangements.

Enrolment

It is your responsibility to ensure that your enrolment is correct - you can check your enrolment through the eStudent option on OASIS, where you can also print an Enrolment Advice.

Supplementary and Deferred Exams

Deferred examinations will be held at a date to be advised (see next section). Supplementary examinations, where applicable and when granted by the Board of Examiners, will be held at a date to be advised (see next section). Notification to students will be made after the Board of Examiners meeting via the Official Communications Channel (OCC) in OASIS.

It is the responsibility of students to be available to attend a supplementary or deferred examination on the date advised and to check their OASIS account on a weekly basis for official Curtin correspondence. If your results show that you have been granted a supplementary or deferred examination you should immediately check your OASIS email for details.

18th and 19th of December 2014

Student Rights and Responsibilities

It is the responsibility of every student to be aware of all relevant legislation, 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 all these things is available through the University's "Student Rights and Responsibilities website at: students.curtin.edu.au/rights."
Student Equity

There are a number of factors that might disadvantage some students from participating in their studies or assessments to the best of their ability, under standard conditions. These factors may include a disability or medical condition (e.g. mental illness, chronic illness, physical or sensory disability, learning disability), significant family responsibilities, pregnancy, religious practices, living in a remote location or another reason. If you believe you may be unfairly disadvantaged on these or other grounds please contact Student Equity at eesj@curtin.edu.au or go to http://eesj.curtin.edu.au/student_equity/index.cfm for more information.

You can also contact Counselling and Disability services: http://www.disability.curtin.edu.au or the Multi-faith services: http://unilife.curtin.edu.au/diversity_and_faith/faith_services.htm for further information.

It is important to note that the staff of the university may not be able to meet your needs if they are not informed of your individual circumstances so please get in touch with the appropriate service if you require assistance. For general wellbeing concerns or advice please contact Curtin’s Student Wellbeing Advisory Service at: http://life.curtin.edu.au/health-and-wellbeing/student_wellbeing_service.htm

Recent unit changes

We welcome feedback as one way to keep improving this unit. Students are encouraged to provide unit feedback through eVALUate, Curtin’s online student feedback system (see evaluate.curtin.edu.au/info/). Recent changes to this unit include:

N/A

See evaluate.curtin.edu.au to find out when you can eVALUate this unit.
<table>
<thead>
<tr>
<th>Week</th>
<th>Begin Date</th>
<th>Lecture/Seminar</th>
<th>Assignment</th>
<th>Assessment Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation</td>
<td>29 July</td>
<td></td>
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</tr>
<tr>
<td>1.</td>
<td>5 August</td>
<td>Fundamentals of seismic data acquisition</td>
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<tr>
<td>2.</td>
<td>12 August</td>
<td>CMP method and survey design</td>
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<td>3.</td>
<td>19 August</td>
<td>Energy sources, Reflection seismic basics</td>
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<td>4.</td>
<td>26 August</td>
<td>Sampling, resolution, repeatability</td>
<td>Assignment 1</td>
<td></td>
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<td>5.</td>
<td>2 September</td>
<td>Tuition Free Week</td>
<td></td>
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<tr>
<td>6.</td>
<td>9 September</td>
<td>Marine acquisition geometries (3D), acquisition efficiency</td>
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<tr>
<td>7.</td>
<td>16 September</td>
<td>Marine acquisition geometries (3D), acquisition efficiency</td>
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<td>8.</td>
<td>23 September</td>
<td>Managing acquisition artefacts, surveys for hi-end processing objectives (marine)</td>
<td>Assignment 2</td>
<td>Assignment 1</td>
</tr>
<tr>
<td>9.</td>
<td>30 September</td>
<td>Tuition Free Week</td>
<td></td>
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<tr>
<td>10.</td>
<td>7 October</td>
<td>Seismic instrumentation</td>
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<tr>
<td>11.</td>
<td>14 October</td>
<td>Land surveys: survey positioning, establishing field parameters, 2-D versus 3-D</td>
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<tr>
<td>12.</td>
<td>21 October</td>
<td>3D land survey design</td>
<td>Assignment 2</td>
<td></td>
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<tr>
<td>13.</td>
<td>28 October</td>
<td>3D land survey in different environments</td>
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<td>14.</td>
<td>4 November</td>
<td>Course review, preparation for the exam</td>
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<tr>
<td>15.</td>
<td>11 November</td>
<td>Study Week</td>
<td></td>
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<tr>
<td>16.</td>
<td>18 November</td>
<td>Examinations</td>
<td></td>
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<tr>
<td>17.</td>
<td>25 November</td>
<td>Examinations</td>
<td></td>
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