EVST13015 *Mining, Urban & Industrial Lands Rehabilitation*

Term 2 - 2024

Profile information current as at 12/07/2025 05:16 pm

All details in this unit profile for EVST13015 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student).The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

General Information

Overview

This unit will cover essential knowledge of natural and impacted (mining, urban and industrial) landscape features and their management. You will gain a theoretical and practical understanding of landforms, biogeography, and the effects of natural and man-made impacts on the sustainability of local ecosystems. You will also learn how erosion control, vegetation surveys, modern techniques of rehabilitation, productive use of degraded land and rehabilitation success criteria are used to return disturbed landscapes into sustainable or productive ecosystems. You will gain practical experience through field trips to disturbed and rehabilitated sites. The emphasis will be on Central Queensland sites with links to broader Australian landscapes.

Details

Career Level: *Undergraduate*
Unit Level: *Level 3*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites

Students must have completed 72 units of credit.
Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the [Assessment Policy and Procedure (Higher Education Coursework)](#).

Offerings For Term 2 - 2024

- Mixed Mode

Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website

[This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.](#)

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

Regional Campuses

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

Metropolitan Campuses

Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Practical and Written Assessment**
Weighting: 30%
2. **Written Assessment**
Weighting: 20%
3. **Online Test**
Weighting: 50%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the University's Grades and Results Policy for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the CQUniversity Policy site.

You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the CQUniversity Policy site.

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from SUTE responses, in-person feedback, student emails

Feedback

During the residential school, students preferred field and laboratory-based practical skill development activities over site tours.

Recommendation

Future offerings should allow additional time for residential school fieldwork, demonstrations, and processing of samples in the laboratory.

Feedback from Student emails, Moodle posts

Feedback

Some students needed further clarification on assessment requirements.

Recommendation

Lecturers should consider offering tutorials, Q&A sessions, and exemplars to assist students with assessment preparation.

Unit Learning Outcomes

On successful completion of this unit, you will be able to:

1. Describe key features of the biogeographic landscape
2. Discuss the impacts of mining, urbanisation, industrial development and tree clearing activities on the sustainability of Australian landscapes
3. Conduct land and vegetation surveys, simulate erosion events and describe disturbed land rehabilitation techniques
4. Analyse the techniques used in the rehabilitation of degraded Australian landscapes
5. Design a protocol for rehabilitation and/or sustainable management of a disturbed landscape
6. Assess the criteria used to determine cost effectiveness and success of rehabilitation processes.

Alignment of Learning Outcomes, Assessment and Graduate Attributes

— N/A Level	∘ Introductory Level	∘ Intermediate Level	● Graduate Level	∘ Professional Level	∘ Advanced Level

Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes					
	1	2	3	4	5	6
1 - Written Assessment - 20%	●				●	
2 - Practical and Written Assessment - 30%	●	●	●	●	●	●
3 - Online Test - 50%	●	●	●	●	●	●

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
1 - Communication	•	•				
2 - Problem Solving			•		•	•
3 - Critical Thinking	•	•	•	•	•	•
4 - Information Literacy	•			•		
5 - Team Work			•			
6 - Information Technology Competence			•	•		
7 - Cross Cultural Competence		•			•	•
8 - Ethical practice		•		•		
9 - Social Innovation						
10 - Aboriginal and Torres Strait Islander Cultures						

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - Written Assessment - 20%	•	•					•			
2 - Practical and Written Assessment - 30%		•			•	•	•	•		
3 - Online Test - 50%	•	•	•	•						

Textbooks and Resources

Textbooks
EVST13015

Prescribed

Restoring Disturbed Landscapes Putting Principles into Practice
(2011)
Authors: Tongway, D & Ludwig, J
Island Press
Washington DC , Washington , USA
ISBN: 9781597265812
Binding: Paperback

View textbooks at the CQUniversity Bookshop

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Microsft Office (Word, Excel, PowerPoint) or similar software such as Open Office

Referencing Style

All submissions for this unit must use the referencing style: Harvard (author-date)
For further information, see the Assessment Tasks.

Teaching Contacts

Catherine Jones Unit Coordinator
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Schedule

Week 1 - 08 Jul 2024

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to the unit Landscape ecology - overview Adaptive landscape restoration Landscape Function Analysis	Online readings/ eReading List Tongway & Ludwig, Chapters 13 and 16 (informed by Chapters 1-3)	

Week 2 - 15 Jul 2024

Module/Topic	Chapter	Events and Submissions/Topic
Geology and soils Soil disturbance Landscape Function Analysis - continued	Online readings/ eReading List Tongway & Ludwig, Chapter 14	

Week 3 - 22 Jul 2024

Module/Topic	Chapter	Events and Submissions/Topic
Soil erosion Predicting erosion by water Management controls	Online readings/ eReading List Tongway & Ludwig, Chapter 15	**Assessment Task 1 - Activity 1 - Research Report outline & field work procedure** Due: Week 3 Friday (6 July 2024) 9:00 am AEST

Week 4 - 29 Jul 2024

Module/Topic	Chapter	Events and Submissions/Topic
Restoring Landscapes - open-cut coal mining	Online readings/ eReading List Tongway & Ludwig, Chapters 4 and 8	**Compulsory Residential School** - See Moodle tile for more information **Assessment Task 1 - Activity 2 - Landscape Function Analysis data collection** (for Research Report) Due: Week 4, during Residential School field trip

Week 5 - 05 Aug 2024

Module/Topic	Chapter	Events and Submissions/Topic
Restoring Landscapes - waste-rock dumps and tailings storage areas	Online readings/ eReading List Tongway & Ludwig, Chapters 6 and 7	

Vacation Week - 12 Aug 2024

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 19 Aug 2024

Module/Topic	Chapter	Events and Submissions/Topic
Restoring Landscapes - Rangelands	Tongway & Ludwig, Chapters 5 and 9	

Week 7 - 26 Aug 2024

Module/Topic	Chapter	Events and Submissions/Topic
Restoring Landscapes - Farmlands, former farmlands, and forests	Tongway & Ludwig, Chapters 10 and 11	**Assessment Task 1 - Activity 3 - Final Research Report** Due: Week 7 Friday (30 Aug 2024) 11:55 pm AEST

Week 8 - 02 Sep 2024

Module/Topic	Chapter	Events and Submissions/Topic
Restoration of road verges after road construction Restoration of managed native vegetation transition zones	Tongway & Ludwig, Chapter 12 Online readings/ eReading List	

Week 9 - 09 Sep 2024

Module/Topic	Chapter	Events and Submissions/Topic
Restoration of waste management facilities, refuse dumps, and other sites requiring capping, burial or removal	Online readings/ eReading List	

Week 10 - 16 Sep 2024

Module/Topic	Chapter	Events and Submissions/Topic
Cost of restoration - cost effectiveness and measures of success	Online readings/ eReading List	

Week 11 - 23 Sep 2024

Module/Topic	Chapter	Events and Submissions/Topic
GIS and mapping in integrated landscape assessment and planning Statistical analysis of plant and landscape parameters	Online readings/ eReading List	**Assessment Task 2 - Landscape Impact Assessment - Discussion Paper** Due: Week 11 Monday (23 Sept 2024) 11:55 pm AEST

Week 12 - 30 Sep 2024

Module/Topic	Chapter	Events and Submissions/Topic

		Assessment Task 3 - Open Book, Timed Online Written Test Opens: Week 12 Thursday (3 Oct 2024) 2:00 pm AEST
Revision	All resources	
		Assessment Task 3 - Open Book, Timed Online Written Test Closes: Week 12 Thursday (3 Oct 2024) 5:00 pm AEST

| **Review/Exam Week - 07 Oct 2024** | | |
| **Module/Topic** | **Chapter** | **Events and Submissions/Topic** |

| **Exam Week - 14 Oct 2024** | | |
| **Module/Topic** | **Chapter** | **Events and Submissions/Topic** |

Assessment Tasks

1 Assessment Task 1 - Landscape Function Analysis - Field Work & Research Report

Assessment Type
Practical and Written Assessment

Task Description
Assessment Task 1 is comprised of three activities that build on each other and directly relate to the practical component of the compulsory Residential School.

In Assessment Task 1, you will produce a research report that is informed by a review of recent literature and contains the methods, results, discussion, and conclusions of a Landscape Function Analysis that you will conduct using data that you will collect from the field.

The Residential School will include a field trip and site visits to various landscapes. Summaries of the three activities that make up Assessment 1, are given below. Full detail is given in the Assessment tile and task sheets within the EVST13015 Moodle site.

Activity 1 – Research Report outline & field work procedure:

- Collect information (from scientific literature, the prescribed textbook, and other unit learning resources) about various approaches used in restoring disturbed sites, particularly in evaluating the success of such restoration efforts. Emphasis should be on Landscape Function Analysis (LFA) and case studies where LFA has been applied to assess the success of rehabilitation.
- Review the collected literature, read about principles and procedures of LFA, and locate suitable templates for LFA data collection.
- Prepare a field protocol (methods and materials) that can be used during the Residential School for collecting field data for LFA.
- Write-up your literature review and planning to-date as a draft report (Research Report outline).
- When preparing your Draft Report (approx. 1500 words) consider the expected layout of the Final Report (Activity 3). The draft report should include introduction, materials and methods (the protocol), and your review of literature. It should list any templates you will use in data collection.
- The draft report (especially the draft field protocol) must be submitted prior to the residential school. i.e., by Friday Week 3 (26 July 2024) 9:00 am AEST.
- Lecturer(s) will review your planned field methods and return any comments on Day 1 of the Residential School.
- The reviewed field protocols and/or supplied methodology will be used when executing Activity 2.

Activity 2 – Landscape Function Analysis data collection:

- On Day 1 of the Residential School, note any feedback about your planned field work methods.
- Discuss the LFA protocol with group members and get ready to collect the data during the site visit(s).
- Visit restored/rehabilitated and/or disturbed field site(s) during the residential school.
- Collect LFA data using the protocols and templates identified during Activity 1 and/or as supplied by staff.
- Collect the data from the field site as a group activity.
- Record all data carefully and accurately.
- Inspect and begin to analyse the collected LFA data with guidance from teaching staff and the provided unit learning resources.

Activity 3 - Results interpretation and preparation of Final Research Report:

- After the residential school, carry out further review of literature including via database searches.
- Further analyse and interpret the LFA data. Write-up all results (independently), in the form of a Final Report.
- When writing the final report consider the assessment criteria and the targeted discussion points provided on the Assessment Task 1 task sheets in Moodle.
- The format of the Final Report should include title, author details, affiliation, abstract, key words, contents page, materials and methods, results, discussion, conclusions, acknowledgments, references, and appendices (approx. 3000 words excluding tables, photos, and figures).
- Submit the Final Report by Week 7 Friday (30 August 2024) 11:55 pm AEST.

For the full details on Assessment Task 1 see the Assessment tile and task sheets within the EVST13015 Moodle site.

Assessment Due Date

Assessment Task 1 is comprised of three activities. Activity 1 is due Week 3 Friday (26 July 2024) 9 am AEST; Activity 2 is conducted in Week 4, during the residential school; Activity 3 is due Week 7 Friday (30 August 2024) 11:55 pm AEST.

Return Date to Students
Week 9 Friday (13 Sept 2024)

Marks and feedback will be provided via the unit Moodle site.

Weighting
30%

Minimum mark or grade
50%

Assessment Criteria

1. Planning of restoration evaluation task - including level of effort and standard of completion of Activity 1 by the Activity 1 due date (20%).
2. Information literacy skills – including evidence of appropriate database searches, accurate review of literature from a broad range of credible sources, and correct referencing style, including in-text citations (20%).
3. Data analysis and presentation – including how well the data were collected, processed, and presented (in tables and graphs), using appropriate software packages (20%).
4. Communication skills – including use of an appropriate academic writing style, presenting the work as per the specified report layout, and providing an accurate and succinct interpretation of results (20%).
5. Critical thinking skills – including evaluation of findings, critique of the restoration work and responses to the targeted discussion questions (20%).

Referencing Style

- [Harvard (author-date)](#)

Submission
Online

Submission Instructions
Please upload your assessment submission as a Word document via the unit Moodle site.

Learning Outcomes Assessed

- Describe key features of the biogeographic landscape
- Discuss the impacts of mining, urbanisation, industrial development and tree clearing activities on the sustainability of Australian landscapes
- Conduct land and vegetation surveys, simulate erosion events and describe disturbed land rehabilitation techniques
- Analyse the techniques used in the rehabilitation of degraded Australian landscapes
- Design a protocol for rehabilitation and/or sustainable management of a disturbed landscape
- Assess the criteria used to determine cost effectiveness and success of rehabilitation processes.

Graduate Attributes

- Problem Solving
- Team Work
- Information Technology Competence

- Cross Cultural Competence
- Ethical practice

2 Assessment Task 2 - Landscape Impact Assessment - Discussion Paper

Assessment Type
Written Assessment

Task Description
For Assessment Task 2 – You are required to prepare a discussion paper (approx. 2500 words) that identifies and assesses actual or potential impacts of commercial activities on landscapes in the city/shire/region where you normally live (within 100 km radius). Examples of commercial activities include forestry, quarrying, land filling, mining, smelting, dredging, grazing, power generation, aquaculture, tourism, intensive horticulture, development of new housing estates and construction of transportation infrastructure. Choose any FOUR activities occurring in your local area, to research for this Landscape Impact Assessment Task.

The goal of this written assessment is for you to demonstrate your understanding of the observed or potential environmental impacts of the selected activities and the possible solutions to those impacts.

You may use Google Earth/Queensland Globe maps, on-line information, news articles, company reports, or (if possible) first-hand visits and photos, to describe the impacts of your selected commercial activities on local landscapes. You will then explain the way those impacts/disturbances are being managed at present, with some indication of their effectiveness.

Finally, you will research suitable rehabilitation/remediation plans (historic, current, and best practice) to suggest possible improvements to minimise or avoid the identified impacts and/or to find solutions for rehabilitating the impacted sites.

Journal articles, technical scientific reports, environmental consultancy reports, and other credible sources of information should be used to support your descriptions and explanations. Natural Resource Management groups, as well as local and state government environment departments are appropriate contact points to become familiar with land management and rehabilitation practices, policies, and procedures.

For the full details on Assessment Task 2, see the Assessment tile and task sheets within the EVST13015 Moodle site.

Assessment Due Date
Week 11 Monday (23 Sept 2024) 11:55 pm AEST

Return Date to Students
Review/Exam Week Monday (7 Oct 2024)

Marks and feedback will be provided via the unit Moodle site.

Weighting
20%

Minimum mark or grade
50%

Assessment Criteria

1. Description of your studied area, identification of appropriate sources of impacts, provision of photos/ map images and description of the impacts (50%).
2. Information literacy skills - correct and appropriate referencing, and evidence that you have referred to a minimum of FIVE credible sources of information, such as journal articles (10%).
3. Communication skills - clear and succinct style, within the word count, use of appropriate formatting skills (20%).
4. Critical thinking skills - consideration of several possible scenarios that might mitigate the impacts, and discussion of positive and negative aspects of each scenario (20%).

Referencing Style

- [Harvard (author-date)](#)

Submission
Online

Submission Instructions
Please upload your assessment submission as a Word document via the unit Moodle site.

Learning Outcomes Assessed

- Describe key features of the biogeographic landscape
- Design a protocol for rehabilitation and/or sustainable management of a disturbed landscape

Graduate Attributes

- Communication
- Problem Solving
- Cross Cultural Competence

3 Assessment Task 3 - Open Book, Timed Online Written Test

Assessment Type
Online Test

Task Description
Assessment Task 3 is an Open Book, Timed Online Written Test.
The test has been designed to assess your understanding of concepts covered throughout the term.
The test will open at 2:00 pm (AEST) Thursday 3 Oct 2024. The test will close at 5:00 pm (AEST) Thursday 3 Oct 2024.
The test is timed. **The maximum time to complete the test is 3 hours (180 minutes).**
Online typed written answers to short answer and long answer questions will be required.
The Online Written Test must be completed individually, and answers must be of your own work.
Further detail on Assessment Task 3 will be provided in the Assessment tile within the EVST13015 Moodle Site.

Assessment Due Date

The test will open at 2:00 pm (AEST) Thursday 3 Oct 2024. The test will close at 5:00 pm (AEST) Thursday 3 Oct 2024.

Return Date to Students
Exam Week Thursday (17 Oct 2024)

Marks will be provided via the unit Moodle site.

Weighting
50%

Minimum mark or grade
50%

Assessment Criteria
Assessment Task 3 - Open Book, Timed Online Written Test will be marked out of 180 marks.
The maximum marks available for each question will be clearly indicated in the online test.
The number of marks allocated for a question will give an indication of the time (number of minutes) to spend on that question.
Marks will be awarded in accordance with the level of understanding demonstrated, the level of detail provided, and the appropriateness of the answer to the question.

Referencing Style

- [Harvard (author-date)](#)

Submission
Online

Submission Instructions
Complete Assessment Task 3 - Open Book, Timed Online Written Test by following the link on the EVST13015 Moodle site.

Learning Outcomes Assessed

- Describe key features of the biogeographic landscape
- Discuss the impacts of mining, urbanisation, industrial development and tree clearing activities on the sustainability of Australian landscapes
- Conduct land and vegetation surveys, simulate erosion events and describe disturbed land rehabilitation techniques
- Analyse the techniques used in the rehabilitation of degraded Australian landscapes
- Design a protocol for rehabilitation and/or sustainable management of a disturbed landscape
- Assess the criteria used to determine cost effectiveness and success of rehabilitation processes.

Graduate Attributes

- Communication

- Problem Solving
- Critical Thinking
- Information Literacy

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the **Student Academic Integrity Policy and Procedure**. This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?
A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?
A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?
For academic advice and guidance, the Academic Learning Centre (ALC) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?

Be Honest

If your assessment task is done by someone else, it would be dishonest of you to claim it as your own

Seek Help

If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)

Produce Original Work

Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem