



EVST13015 *Landscape Ecology & Management*

Term 2 - 2020

Profile information current as at 26/04/2024 04:21 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 landscape features and their management. Students will obtain theoretical and practical understanding of landforms, biogeography, effects of natural and man-made impacts (eg mining) on the sustainability of local ecosystems, erosion control, vegetation surveys, modern techniques of remediation, productive use of degraded land and rehabilitation success criteria. They will gain practical experience through field visits during residential school. Emphasis will be placed on Central Queensland landscapes with a broader understanding of Australian landscapes. All students are required to attend a Residential School.

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 - 2020

- 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).

Residential Schools

This unit has a Compulsory Residential School for distance mode students and the details are:

Click here to see your [Residential School Timetable](#).

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. **Written Assessment**

Weighting: 20%

2. **Practical and Written Assessment**

Weighting: 30%

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 Have your say

Feedback

The residential school was very beneficial

Recommendation

This unit will continue to have the residential school to allow the students to practice what they learn in theory.

Feedback from Have your say

Feedback

Field trips were useful to learn Landscape Function Analysis (LFA)

Recommendation

LFA is a new technique to assess how a restored ecosystem is recovering. Field demonstration is essential and this will be continued.

Feedback from Have your say

Feedback

Ashwa's knowledge in local ecosystems, and his enthusiasm to pass on this to students was appreciated. His comments on the field trip were excellent.

Recommendation

Thank you. I have been working in this field for more than 30 years, and I would love to explain the part I know to the students

Feedback from Have your say

Feedback

The second assignment needs further explanation

Recommendation

The second assignment instructions will be re-written to highlight the protocols to be used and the involvement of team work.

Feedback from Have your say

Feedback

It is good to know in advance what all the measurements will be taken during residential school

Recommendation

Thank you for this suggestion. These details will be added to second assignment description, On day one of res school, I will briefly explain about the tests to be conducted in the field.

Unit Learning Outcomes

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

1. Describe the key features of the biogeographic landscape
2. Discuss the impacts of various activities such as tree clearing and mining on the sustainability of local ecosystems
3. Conduct land and vegetation surveys, simulate erosion events and describe land remediation techniques
4. Analyse techniques used in the remediation of degraded landscapes and discuss those relevant to Australian ecosystems
5. Design a protocol for remediation and/or sustainable management of a disturbed landscape
6. Assess the criteria used to determine cost effectiveness and success of remediation process.

Assessment Tasks

Graduate Attributes

1 2 3 4 5 6 7 8 9 10

3 - Online Test - 50%



Textbooks and Resources

Textbooks

EVST13015

Prescribed

Restoring disturbed landscapes: Putting principles into practice

Edition: 2011 (2011)

Authors: Tongway, D & Ludwig, J

Island Press

Washington, DC, USA

ISBN: 9781597265812

Binding: eBook

Additional Textbook Information

This textbook is available to students in electronic format through the CQUniversity library. If you would like to order a print copy, please contact the university bookshop directly and ask them to order it in.

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- GIS - download free software
- Microsoft Excel or similar
- RUSLE (Universal Soil Loss Equation) software to be downloaded onto Uni computers.

Referencing Style

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

Teaching Contacts

Nanjappa Ashwath Unit Coordinator

n.ashwath@cqu.edu.au

Schedule

Week 1 - 13 Jul 2020

Module/Topic	Chapter	Events and Submissions/Topic
Landscape ecology, biogeography and restoration approaches. Tools to assess vegetation and ecosystem condition. Indicators of ecosystem functions.	Tongway & Ludwig, Chapters 13 and 16 Online Readings.	

Week 2 - 20 Jul 2020

Module/Topic	Chapter	Events and Submissions/Topic
Geology, soils and impacts of disturbance on soil systems. Tools to assess vegetation and ecosystem condition. Indicators of ecosystem functions (except erosion).	Tongway & Ludwig, Chapter 14 Readings online.	

Week 3 - 27 Jul 2020

Module/Topic	Chapter	Events and Submissions/Topic
The soil-water interface: soil loss and planning to reduce erosion. Landform design and erosion control, and tools to assess erosion.	Tongway & Ludwig, Chapter 15 Online readings	

Week 4 - 03 Aug 2020

Module/Topic	Chapter	Events and Submissions/Topic
Restoration of mine sites - with a particular focus on open-cut mining.	Tongway & Ludwig, Chapters 4 and 8.	

Week 5 - 10 Aug 2020

Module/Topic	Chapter	Events and Submissions/Topic
Restoration of mine sites - waste-rock dumps and tailings management.	Tongway & Ludwig, Chapters 6 and 7.	Landscape Impact Assessment Due: Week 5 Friday (14 Aug 2020) 11:45 pm AEST

Vacation Week - 17 Aug 2020

Module/Topic	Chapter	Events and Submissions/Topic
Please work on your draft report which outlines how you will endeavor to evaluate the success of a rehabilitated landscape, in accordance with the guidance provided in your text book and the Moodle resources. Submit this report on time so the lecturer can correct and hand it back to you on day 1 of the residential school.		

Week 6 - 24 Aug 2020

Module/Topic	Chapter	Events and Submissions/Topic
Restoring damaged range lands, with a particular focus on range lands that are encroached by an overabundance of woody shrubs and trees.	Tongway & Ludwig, Chapters 5 and 9.	

Week 7 - 31 Aug 2020

Module/Topic	Chapter	Events and Submissions/Topic
Restoration of farmland to enhance biodiversity and productivity. Restoration of former farmlands and forests in the peri-urban development zone.	Tongway & Ludwig, Chapters 10 and 11	Submit DRAFT Report of your second assignment Due Date: 4th September 2020, 11.45 pm, AEST

Week 8 - 07 Sep 2020

Module/Topic	Chapter	Events and Submissions/Topic
Restoration of roadside verges after road construction. Restoration of managed native vegetation transition zones.	Tongway & Ludwig, Chapter 12 Readings online (Spooner and Lunt).	

Week 9 - 14 Sep 2020		
Module/Topic	Chapter	Events and Submissions/Topic
Restoration of waste management facilities, dumps and other zones requiring capping, burial or removal.	Online readings	Compulsory Residential School at Rockhampton. 15th September to 17th September 2020 (Bldg 8 Room LG 07; Time 8 am to 6 pm; except during field trips)
Week 10 - 21 Sep 2020		
Module/Topic	Chapter	Events and Submissions/Topic
Criteria used in determining cost effectiveness and success of rehabilitation - budgets, scoping, planning, monitoring and evaluation when working on a restoration project.	Online readings	
Week 11 - 28 Sep 2020		
Module/Topic	Chapter	Events and Submissions/Topic
GIS and mapping in integrated landscape assessment and planning.	Online readings	
Week 12 - 05 Oct 2020		
Module/Topic	Chapter	Events and Submissions/Topic
Statistical analysis of plant and landscape parameters Summary and conclusions.	Online readings	Submit FINAL Report of your second assignment Due: 12th October 2020; 10 am AEST
Review/Exam Week - 12 Oct 2020		
Module/Topic	Chapter	Events and Submissions/Topic
		Evaluation of a Restored Landscape Due: Review/Exam Week Monday (12 Oct 2020) 10:00 am AEST
Exam Week - 19 Oct 2020		
Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

The residential school involves field visits and whole day mine site visits. Please come prepared to take part in these trips by wearing appropriate cloths and PPE, including steel cap boots.

Assessment Tasks

1 Landscape Impact Assessment

Assessment Type

Written Assessment

Task Description

Landscape Impact Assessment (20% of unit marks).

You are required to identify actual or potential impacts of commercial activities, such as mining, smelting, industrial development, agriculture, aquaculture and tourism on landscapes of the place where you currently live (within a radius of 100 km). You will then choose any FOUR of these impacts for this assignment by giving preference to those impacts that will be studied in the residential school.

You may use Google Earth/Queensland Globe maps, on-line information, news articles, company reports of your choice to describe the impacts of such 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 remediation plans (historic and ideal), and suggest possible improvements to minimise or avoid those impacts (report size: 2500 words).
Journal articles and other credible sources of information would be helpful in finding solutions to remediating impacted sites (see the Moodle site for details).

Assessment Due Date

Week 5 Friday (14 Aug 2020) 11:45 pm AEST

Return Date to Students

5th September 2020

Weighting

20%

Minimum mark or grade

45% of the marks allocated for this assignment

Assessment Criteria

The marker will assess the following skills and attributes of your work:

1. Identification of appropriate sources of impacts, provision of **photos** and explanation of the impacts (50%).
2. Information literacy skills - correct and appropriate referencing, and the evidence that you have referred to a minimum of **FIVE** credible sources of information, such as journal articles (10%).
3. Communication skills - write clearly and succinctly within the word count, and use appropriate formatting skills (20%).
4. Critical thinking skills - consider several possible scenarios that might mitigate the impacts, and discuss positive and negative aspects of each scenario (20%).

Referencing Style

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

Submission

Online

Submission Instructions

Upload a word document via the Moodle site

Learning Outcomes Assessed

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

Graduate Attributes

- Communication

2 Evaluation of a Restored Landscape

Assessment Type

Practical and Written Assessment

Task Description

Evaluation of a Restored Landscape (30% of the unit marks).

This assignment requires the students to prepare a DRAFT report before the commencement of residential school, and they are required to convert the same report into FINAL report after adding the results of the work carried out during residential school. Please see the schedule for due dates to submit the DRAFT report.

Background:

Landscape restoration can occur in three stages, viz., **planning, execution** (on-site restoration) and **evaluation** of restoration success. In this assignment, you will gain experience in evaluating the success of a restored landscape. First, you will collect recent literature on the topic and prepare a protocol (procedure) for collecting the data. This will be written up and submitted as a **Draft Report**. You will then visit the field site to collect data during residential school. These data must be analysed and interpreted and added to your draft report along with the updated literature survey. The draft report will then become the **Final** report.

Phase 1 activity

Phase 1 is a planning exercise wherein you will collect information on restoration practices via SCOPUS literature search and through reading your text book to highlight various approaches used in restoring disturbed sites, particularly in evaluating the success of restoration work carried out in various situations (Please note: details of the site you will visit during residential school will be listed on the Moodle site within two weeks of the commencement of the Term).

You will then develop a protocol to collect relevant data from a restored field site according to Landscape Function Analysis (LFA). This includes compilation of relevant data collection forms which come as part of the LFA. This draft report (approx 1500 words) must be submitted on-line by the 4th of September 2020 by 11.45 pm. Please note: you will not be reminded of this due date as it is only an interim report!. You will only be reminded for the final report.

The lecturer will review the report and return the hard copy of the report to students, along with his comments, on day 1 of the residential school. Protocols contained in this report, including those added by the lecturer (considering site conditions) are to be used in carrying out Phase 2 activities.

Phase 2 activity:

You will carry out the **Landscape Function Analysis** task on a restored site during residential school, based on the protocols you would have developed in Phase 1 (please use the lecturer-amended draft Report). You will collect the data from the field site, as a GROUP activity, but will analyse the data, and write up results, discussion and conclusions INDIVIDUALLY. You will all this information to the draft report and update literature search. The updated draft report will now become the **Final** report, and it should include title, author details, affiliation, abstract, key words, contents page, materials and methods, results, discussion, conclusions, acknowledgments, references and appendices (3000 words excluding tables, photos and figures).

Assessment Due Date

Review/Exam Week Monday (12 Oct 2020) 10:00 am AEST

The Final Report must be submitted on the 12th of October at 10 am AEST.

Return Date to Students

The corrected DRAFT report will be handed back to the students on day 1 of the residential school. The Final report will be returned to the students on the 25th of October 2020.

Weighting

30%

Minimum mark or grade

45% of allocated marks

Assessment Criteria

The marker will assess the following skills and attributes of your work when reading your submission:

1. Planning of restoration evaluation tasks - how well the plan has been prepared taking into consideration the requirements of the project and the availability of resources.
2. Information literacy skills - correct and appropriate SCOPUS referencing, and the evidence that you have referred to a broad range of credible sources (eg journal articles) of information, and represented these sources accurately
3. Communication skills - did you write clearly, succinctly, within the word count and formatting skills? Did you present and communicate data as recommended in the unit lectures and tutorials?
4. Information technology competence - did you use computer packages and tools appropriately to produce quality graphs, images, tables and statistical results?
5. Critical thinking skills - have you considered the current trends in restoration of disturbed habitats within your initial project plan?
6. Have you critiqued the management/restoration options appropriately, including positive and negative aspects of the work undertaken by the site owner?

Referencing Style

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

Submission

Online

Submission Instructions

Students should upload a doc, docx or rft file via the Moodle site.

Learning Outcomes Assessed

- Describe the key features of the biogeographic landscape
- Discuss the impacts of various activities such as tree clearing and mining on the sustainability of local ecosystems
- Conduct land and vegetation surveys, simulate erosion events and describe land remediation techniques
- Analyse techniques used in the remediation of degraded landscapes and discuss those relevant to Australian ecosystems
- Design a protocol for remediation and/or sustainable management of a disturbed landscape

- Assess the criteria used to determine cost effectiveness and success of remediation process.

Graduate Attributes

- Problem Solving

3 Open book online test

Assessment Type

Online Test

Task Description

An open book online written test will be conducted during examination week.

Duration of the test will be 3 hours. Please see the Moodle site for further details.

Assessment Due Date

The test will be conducted during review/exam week. Please check the examination division's announcement for the time table.

Return Date to Students**Weighting**

50%

Assessment Criteria

Marks will be allocated in accordance with the length and appropriateness of answers.

Referencing Style

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

Submission

No submission method provided.

Learning Outcomes Assessed

- Describe the key features of the biogeographic landscape
- Discuss the impacts of various activities such as tree clearing and mining on the sustainability of local ecosystems
- Analyse techniques used in the remediation of degraded landscapes and discuss those relevant to Australian ecosystems
- Assess the criteria used to determine cost effectiveness and success of remediation process.

Graduate Attributes

- 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