



# EVST13015 *Landscape Ecology & Management*

## Term 2 - 2019

Profile information current as at 28/04/2024 12:11 am

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 - 2019

- 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. **Examination**

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 unit is highly interesting and helpful to workforce. It offers unique opportunity to see mine sites and test latest technologies.

**Recommendation**

Thank you. The highlighted features will be retained to make this a unique and useful unit.

#### Feedback from Have Your Say

**Feedback**

Enjoyed the field trips and hands on experience via residential schools.

**Recommendation**

We will endeavour to keep these trips, with further improvement in field activities.

#### Feedback from Have Your Say & Residential School

**Feedback**

The scheduling of field trips can be streamlined to ensure that the start and finishing times will be more or less similar to estimated timings.

**Recommendation**

Predetermined target sites will be chosen and visited at set times. However, additional observations such as soil erosion or weed infestation will occur during travel. Since these events are unpredictable, there could be some delay; nevertheless I will make every effort to return to the base by the scheduled time.

#### Feedback from Have Your Say

**Feedback**

Instructions for assignment submission to be made clearer.

**Recommendation**

I will re write the instructions to assignment submission.

#### Feedback from Residential school/ Have Your Say

**Feedback**

Reorganisation of residential school activities.

**Recommendation**

First day of residential school will focus on techniques and the remaining sessions will deal with observations and applications of the learnt techniques.

## 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 - Examination - 50%**

## Textbooks and Resources

### Textbooks

EVST13015

**Prescribed****Restoring disturbed landscapes: Putting principles into practice**

Edition: 2010 (2010)

Authors: David tongway and John Ludwig

USA

Binding: Paperback

**Additional Textbook Information**

Students may also order an electronic version

[View textbooks at the CQUniversity Bookshop](#)

### 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](mailto:n.ashwath@cqu.edu.au)

## Schedule

**Week 1 - 15 Jul 2019****Module/Topic**

Landscape ecology, biogeography and restoration approaches.

Tools to assess vegetation and ecosystem condition.

Indicators of ecosystem functions.

**Chapter**

Tongway &amp; Ludwig, Chapters 13 and 16

Online Readings.

**Events and Submissions/Topic****Week 2 - 22 Jul 2019****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 - 29 Jul 2019

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 Readings online	

### Week 4 - 05 Aug 2019

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 - 12 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
Restoration of mine sites - waste-rock dumps and tailings management.	Tongway & Ludwig, Chapters 6 and 7.	Submit Assignment 1 Due Date: 18th August, 2019 11.45 PM AEST

### Vacation Week - 19 Aug 2019

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 - 26 Aug 2019

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 - 02 Sep 2019

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 Due Date: 8th September, 11.45 PM AEST

### Week 8 - 09 Sep 2019

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 - 16 Sep 2019

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.**  
**18th September to 20th September 2019**  
**(Bldg 9 Room G14; Time 8 am to 6 pm; except during field trips)**

### Week 10 - 23 Sep 2019

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 - 30 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
GIS and mapping in integrated landscape assessment and planning.	Online readings	

### Week 12 - 07 Oct 2019

Module/Topic	Chapter	Events and Submissions/Topic
Statistical analysis of plant and landscape parameters Summary and conclusions.	Online readings	<b>Submit Final Report</b> <b>Due: 14th October 2019; 11.45 PM AEST</b>

### Review/Exam Week - 14 Oct 2019

Module/Topic	Chapter	Events and Submissions/Topic

### Exam Week - 21 Oct 2019

Module/Topic	Chapter	Events and Submissions/Topic

## Term Specific Information

Please make sure to attend the zoom sessions, to learn more about the way you will prepare yourself to conduct on-site surveys during residential school. This will also give you an opportunity to clarify re: procedures to be used in on-site work. The residential school activities will expose you to state of the art activities (Landscape Function Analysis), so prior preparation is critical to gain hands on experience in evaluating restoration success- the techniques that are highly sought after by the industry...

## 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: 2000 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

18th Aug 2019 11.45 PM AEST

### Return Date to Students

31st August 2019

### 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 the same report converted into **FINAL** report after adding the work carried out during residential school.

#### Background:

Landscape restoration can occur in three steps, **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, during residential school, to collect data. These data must be analysed and interpreted to write results, discussion and conclusions. At the end, you will produce the **Final Report** by combining all the work you have undertaken on this topic.

#### Phase 1 activity

Phase 1 is a planning exercise wherein you will collect information on restoration practices via literature search and reading your text book highlighting various approaches used in restoring disturbed sites, and in evaluating the success of such restoration efforts (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 draft report (approx 1500 words) must be submitted on-line by the 8th of September 2019.



The lecturer will review the report and return the hard copy of the report to students 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 undertaking 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. The write up of Phase 2 activity should include title, author details, abstract, key words, contents page, methods, results, discussion, conclusions, acknowledgments, references and appendices (2500 words excluding tables, photos and figures).

The final report can be prepared by upgrading the draft report (Phase 1) into the final report (Phase 1 + Phase 2).

### **Assessment Due Date**

Draft Report is due on the 8th September 2019, 11.45 pm AEST. Please note that this is to be upgraded and re-submitted as Final Report by the 14th October 2019, 11.45 pm AEST.

### **Return Date to Students**

Corrected DRAFT report will be handed back to the students on day 1 of the residential school. Final report will be returned on the 27th October 2019.

### **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 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 (including description of how certain aspects of the information within the sources might have turned out to be technically incorrect/scientifically inappropriate?)
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

## Examination

**Outline**

Complete an invigilated examination.

**Date**

During the examination period at a CQUniversity examination centre.

**Weighting**

50%

**Length**

180 minutes

**Minimum mark or grade**

45%

**Exam Conditions**

Open Book.

**Materials**

Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).

Calculator - non-programmable, no text retrieval, silent only

## 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