



ENVR11012 *Applications of Environmental* Science

Term 2 - 2018

Profile information current as at 13/05/2024 01:48 am

All details in this unit profile for ENVR11012 have been officially approved by CQUUniversity 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.

Corrections

Unit Profile Correction added on 02-08-18

Examination duration is 180 minutes.

General Information

Overview

This unit describes the science behind environmental problems caused by human activities. Students will develop practical skills in the laboratory and the field that relate to environmental assessment. Students will integrate science knowledge and practical techniques to propose solutions to environmental problems. Topics covered are: energy and biomass flow in terrestrial and aquatic ecosystems; water resources and pollution; land degradation; the soil environment; formation and degradation; evolution of agricultural systems.

Details

Career Level: *Undergraduate*

Unit Level: *Level 1*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

There are no requisites for this unit.

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 - 2018

- Bundaberg
- Distance
- Rockhampton

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. **Group Discussion**

Weighting: 10%

2. **Presentation**

Weighting: 10%

3. **Practical and Written Assessment**

Weighting: 30%

4. **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 Formal unit student evaluations, informal student feedback.

Feedback

Aspects of unit receiving complimentary evaluation included unit content (topics, comprehensive lectures, residential school), assessment tasks and style (assessable questions, technical report) and the delivery (support features of the unit, weekly summaries and tutorials, lecturer attention and response, the practical and applied approaches).

Recommendation

These aspects will be maintained and refined where possible.

Feedback from Formal unit student evaluations, informal student feedback (including a straw poll).

Feedback

Some students viewed the writing day as unnecessary and preferred a shorter residential school.

Recommendation

Since this was a new modification and removal was not the majority student view, this feature requires continued monitoring and further consideration.

Feedback from Formal unit student evaluations, self-reflection

Feedback

An infrequent criticism that residential school instructions could be made clearer.

Recommendation

These instructions will be reviewed with a view to make them clearer and more supportive to provide more knowledge and comfort prior to attendance at residential school.

Unit Learning Outcomes

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

1. Apply knowledge of scientific content to describe the basis of environmental science problems.
2. Perform practical environmental field and laboratory assessments and report the results.
3. Demonstrate research communication skills relevant to environmental issues.
4. Analyse environmental problems and propose strategies to address the problems.

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Group Discussion - 10%	•			•
2 - Presentation - 10%	•		•	•

Assessment Tasks	Learning Outcomes			
	1	2	3	4
3 - Practical and Written Assessment - 30%	•	•	•	
4 - Examination - 50%	•			•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
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 - Group Discussion - 10%	•	•	•	•	•			•		
2 - Presentation - 10%		•		•	•	•		•		
3 - Practical and Written Assessment - 30%	•	•	•	•		•				
4 - Examination - 50%	•	•	•							

Events and Submissions/Topic

Foundations I: environmental science and its application	Textbook Chaps 1 & 2: 'Environmental systems and ecosystem ecology' & 'Earth's physical systems: matter, energy, and geology'.	ALL students: make at least one constructive post to this week's 'fortnightly assessable questions' online forum, and post, each fortnight thereafter, to that week's topic after reviewing the preceding forum.
Week 2 - 16 Jul 2018		
Module/Topic	Chapter	Events and Submissions/Topic
Foundations II: ecosystems and communities	Textbook Chaps 4 & 5: 'Species interactions and community ecology' & 'Environmental systems and ecosystem ecology'.	
Week 3 - 23 Jul 2018		
Module/Topic	Chapter	Events and Submissions/Topic
Foundations III: populations and communities	Textbook Chap 3: 'Evolution, biodiversity, and population ecology'.	ALL students: post to 'assessable questions' forum.
Week 4 - 30 Jul 2018		
Module/Topic	Chapter	Events and Submissions/Topic
Foundations IV: impacts of disturbance	Textbook Chaps 4 (part, see lecture) & 6 (part, see lecture): 'Species interactions and community ecology' & 'Ethics, economics, and sustainable development' or 'Environmental ethics and economics: values and choices'.	ALL students: submit your completed <i>PowerPoint</i> slides, and nominate your preferred presentation session, by 2345 hrs (11.45 pm) AEST Wednesday 1 August 2018 (Week 4) in preparation for presenting online in a self-nominated session in Week 5.
Week 5 - 06 Aug 2018		
Module/Topic	Chapter	Events and Submissions/Topic
Application: soil management	Textbook Chap 'Soil and agriculture' (soil sections).	ALL students: post to 'assessable questions' forum. ALL students: attend, and deliver your online presentation during, your nominated preferred session this week (Week 5).
Vacation Week - 13 Aug 2018		
Module/Topic	Chapter	Events and Submissions/Topic
Week 6 - 20 Aug 2018		
Module/Topic	Chapter	Events and Submissions/Topic
Application: agricultural land management I	Textbook Chap 'Soil and agriculture'.	
Week 7 - 27 Aug 2018		
Module/Topic	Chapter	Events and Submissions/Topic
Application: agricultural land management II	Textbook Chap 'Agriculture, biotechnology, and the future of food'.	ALL students: post to 'assessable questions' forum.
Week 8 - 03 Sep 2018		
Module/Topic	Chapter	Events and Submissions/Topic
Application: aquatic and marine systems management	Textbook Chaps 'Freshwater systems and resources' & 'Marine and coastal systems and resources'.	
Week 9 - 10 Sep 2018		
Module/Topic	Chapter	Events and Submissions/Topic
Application: native vegetation and forest management	Textbook Chap 'Forests, forest management, and protected areas'.	ALL students: post to 'assessable questions' forum.

Week 10 - 17 Sep 2018

Module/Topic	Chapter	Events and Submissions/Topic
Application: management for conservation	Textbook Chap 'Biodiversity and conservation biology'.	ALL students: attend residential school (combined block practicum) in Rockhampton: Mon 17 - Thurs 20 Sept 2018, inclusive (Week 10).

Week 11 - 24 Sep 2018

Module/Topic	Chapter	Events and Submissions/Topic
Application: Indigenous land management	Textbook Chap 6 'Ethics, economics and sustainable development' or 'Environmental ethics and economics: values and choices' (part, see lecture).	ALL students: post to 'assessable questions' forum.

Week 12 - 01 Oct 2018

Module/Topic	Chapter	Events and Submissions/Topic
Holism of environmental science: putting it all together for the term	Review textbook chapters listed above.	ALL students; submit your technical report from Rockhampton Residential school (combined block practicum) by 2345 hrs (11.45 pm) AEST Fri 5 Oct 2018 (Week 12). 'Environmental degradation assessment' technical report Due: Week 12 Friday (5 Oct 2018) 11:45 pm AEST

Review/Exam Week - 08 Oct 2018

Module/Topic	Chapter	Events and Submissions/Topic
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Exam Week - 15 Oct 2018

Module/Topic	Chapter	Events and Submissions/Topic
		ALL students: examination.

Assessment Tasks

1 Forum posts (discussion of fortnightly 'assessable questions')

Assessment Type

Group Discussion

Task Description

You will need to access the specific requirements, dates, and resources published on our unit Moodle site (click on the appropriate link in the 'Assessment' box there), however a general description is published here.

In **each** fortnight of term, beginning Week 1, you are invited to participate in an online discussion that will relate to some aspects of each fortnight of lecture content in the unit. The fortnightly 'assessable questions' forum tasks and topics will differ each time - you might be invited to critique a media article for its scientific content, to provide some solutions to a mock environmental problem, or to explore and apply your environmental science knowledge and life experience to a current environmental issue. Other times you will be asked to respond to questions that allow you to demonstrate your knowledge of the unit content. Occasionally, you will be asked simply for your reasoned personal opinion.

Each new fortnightly forum will open only for one week. You are well advised to attempt your best answer since this assessment activity will provide learning opportunities, skills training, and good practice for the examination. Only **'constructive participation'** will be rewarded.

A 'model answer' and other feedback will be posted for each forum assessed once the period for student posts has closed. Consequently, any student posts appearing after the 'model answer' **cannot** be counted towards a student's grade.

Past experience and research indicated a strong relationship between unit participation (especially forum participation) and student success.

Assessment Due Date

Each new 'fortnightly assessable questions' forum opens for student posts at 0900 hrs (9 am) AEST on the Monday morning of the relevant week and closes the very next Monday morning at 0900 hrs (9 am) AEST (i.e., 7 days after that particular discussion opened).

Return Date to Students

Student posts will be read, constructive participation assessed, feedback provided, and marks awarded (at up to two marks per forum for a maximum of 10 marks total) before the next forum opens.

Weighting

10%

Minimum mark or grade

45% of total marks available for this activity.

Assessment Criteria

In recognition of the range of new experiences that these forums will provide you, you will be assessed on your 'constructive participation'.

'Constructive participation' is defined here as providing a logical, reasoned rationale based on relevant environmental science principles and concepts (**not** just stating agreement or disagreement with an earlier post or the topic question) and means a post must include some new (to the discussion) relevant information (**not** simply restating or paraphrasing views expressed in earlier posts in the forum that week).

Note the Week 1 forum is not graded but please contribute just the same. You should participate constructively and within the relevant time frames in the remaining 5 forums to score full marks (i.e., at 2 marks per forum for a maximum 10% of total unit marks).

- 0.5 mark — typically response(s) marred by multiple simple spelling or grammatical mistakes and/or is disorganised without clear points made or obvious reasoning and/or is a brief and superficial treatment of the issue or shows little relevance;
- 1 mark — typically response(s) marred by several spelling or grammatical errors and/or by no citation of sources, and only a few relevant points or arguments made (or more made but insubstantially) often not integrated well;
- 1.5 marks — typically response(s) displaying only a few spelling or grammatical errors, otherwise well-organised and considered/reasoned, exploring the issue adequately but sources are limited and only textbooks and generalist websites and the like; and
- 2 marks — typically response(s) display only a couple of spelling or grammatical errors, excellent organisation of clear, salient and reasoned points and arguments of significant length exploring the issue considerably, citing numerous scientific sources and in the proper manner.

Please note there is a minimum achievement level set for this assessment task, i.e., you must equal or exceed the set minimum achievement level for this assessment in order to be considered for a passing grade for the course overall (irrespective of your achievement level in other assessment activities).

Referencing Style

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

Submission

Online

Submission Instructions

After considering the assessment criteria and the task, make at least one post to each fortnightly 'assessable questions' forum before each forum closes. The link for each fortnightly 'assessable questions' forum will be found on our unit Moodle site within the relevant week's unit materials.

Learning Outcomes Assessed

- Apply knowledge of scientific content to describe the basis of environmental science problems.
- Analyse environmental problems and propose strategies to address the problems.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Team Work
- Ethical practice

2 Online oral presentation

Assessment Type

Presentation

Task Description

You will need to access the specific requirements, dates, advice and resources published on our unit Moodle site (click on the appropriate link in the 'Assessment' box), however a general description is published here.

Your broad task is to speak online to your *PowerPoint* presentation on a topic of your choice (but within the specific requirements prescribed on our unit Moodle site for this activity) delivered online in real time (i.e., live) to an audience of fellow students from ENVR11012 and a member of the teaching team, and to be a member of the audience whilst fellow students are presenting.

There are two requirements:

Task 1: Submission of your completed PowerPoint slides, and nomination of your preferred session (from options provided), by 2345 hours (11.45 pm) AEST Wednesday 1 August (Week 4); and

Task 2: Attendance at your nominated preferred presentation session in the audience, and speaking to your *PowerPoint* presentation (for three minutes \pm 10 seconds (see unit Moodle site for other requirements)), in Week 5.

You will be able to nominate (from a list of available sessions published online, via our unit Moodle site) your preferred presentation session in which you would like to present (there will be a range of them to try to accommodate your other commitments), however, numbers permitted in each session will be limited so choose early to avoid disappointment.

You will be required to be in attendance in your session some 10 minutes before the published start time, and to remain in attendance for the maximum allocated duration (typically, around two hours). In order to present your work and otherwise participate in a session, you will employ an online conferencing system known as *Zoom*, entering your presentation session via a link published on our unit Moodle site). The session will be recorded.

You will not transmit video during your presentation (thus we won't be able to see you), only audio and your PowerPoint slides will be shared (thus your computer system will need to be equipped with microphone and speakers), hopefully helping to reduce your anxiety.

Assessment Due Date

ALL students: submit your completed PowerPoint slides, and nominate your preferred presentation session, by 2345 hrs (11.45 pm) AEST Wednesday 1 August 2018 (Week 4) in preparation for presenting online in a previously self-nominated session in Week 5.

Return Date to Students

Generalised verbal feedback at each session. Marks and personal feedback will be delivered via our unit Moodle site within one week of completion of all presentations.

Weighting

10%

Minimum mark or grade

45% of total marks available for this activity.

Assessment Criteria

I will be measuring your achievement using the following four (4) criteria (with a maximum of 10 marks available for each):

1. Describes the species / population / community / ecosystem / biome in detail and identifies essential requirements of the area/species in question.
2. Correctly identifies and explains the consequences of environmental threats/problems.
3. Correctly identifies and explains the scientific basis of the environmental threats and problems described (the 'science behind the story'). *If time permits, describes management options for the species/environment in question.
4. Presentation quality – engaging speech (incl. not reading), appropriate slide format, referenced slide material, time management, handles questions well (incl. evidence of research beyond content).

** This is an optional part of this criterion (Criterion #3), and students should consider the following before attempting to satisfy the criterion:*

- *You will be awarded more marks if you have chosen a topic specific enough to allow you time to satisfy the first*

three criteria well AND describe management options.

- You still can obtain full marks for Criterion #3 if you do not address management options but describe a more complex environmental problem comprehensively.
- Addressing the primary part of Criterion #3 less than comprehensively, and then spending time discussing management options is not an adequate strategy - taking this strategy will result in low marks for Criterion #3.

Please note a minimum achievement level is set for this assessment task (i.e., you must equal or exceed the set minimum achievement level for this assessment in order to be considered for a passing grade for the unit overall, irrespective of your achievement level in other assessment components of the unit).

Referencing Style

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

Submission

Online

Submission Instructions

Choose and research your topic, and construct and upload/submit your finished PowerPoint slides (those to be used in your presentation; only your slides and not the actual text of your spoken presentation), and nominate online your preferred presentation session (in which to present in Week 5), by 2345 hrs (11.45 pm) AEST, Wednesday, 1 August 2018 (Week 4).

Learning Outcomes Assessed

- Apply knowledge of scientific content to describe the basis of environmental science problems.
- Demonstrate research communication skills relevant to environmental issues.
- Analyse environmental problems and propose strategies to address the problems.

Graduate Attributes

- Problem Solving
- Information Literacy
- Team Work
- Information Technology Competence
- Ethical practice

3 'Environmental degradation assessment' technical report

Assessment Type

Practical and Written Assessment

Task Description

You will need to access the specific requirements, dates, instructions, and resources published on our unit Moodle site (click on the appropriate link in our 'Assessment' box), however a general description is published here.

During your ENVR11012 residential school (combined block practicum), you will undertake the following:

1. participate in a field trip to visit locations displaying environmental degradation,
2. make observations at, and take plant, soil and water samples from, these sites,
3. spend time in the laboratory analysing these samples, and
4. spend time writing up the results for later submission of your findings as an 'advisory technical report'.

To assist you with the task of writing up the results as a technical report, general assistance in interpreting results will be provided at the end of the laboratory sessions, and a day during our combined block practicum (CBP) is set aside for you to use for writing with a staff member available to provide advice.

Additionally, you will be provided with information regarding expected purpose of the sections of a technical report in environmental science and a report 'template' (and other resources) to guide you. Guidance will be provided before our combined block practicum as to which areas of environmental science relevant to your report to research, allowing you to write an outline of an introduction and the research methods you'll employ in the field to ensure efficiency and accuracy on the field trip. This should make for meaningful environmental study during our CBP, and easier writing during and after our CBP.

Only those students attending the CBP will be able to submit a report.

While report length will vary according to a student's writing style, experience has demonstrated it is unlikely an

adequate report would be less than 1 200 words in length and commendable reports have been up to 2 000 words in length.

While field and laboratory work will be undertaken in teams, each report is to be an **individual's** written report. That is, whatever your role in your team or the comparative degree of your contribution to the work of the team, the writing up and presentation of the methods and findings is to be **your own, original work** culminating in **your individual report**. (Note though it is expected data within a team, and class data required to be shared, will be common to reports as appropriate, and there might be literature cited commonly at times.) Plagiarism, and the weak paraphrasing of the work of another, even that of a fellow team member, will **not** be acceptable, tolerated, or treated lightly.

Assessment Due Date

Week 12 Friday (5 Oct 2018) 11:45 pm AEST

Return Date to Students

Within two weeks of submission.

Weighting

30%

Minimum mark or grade

45% of total marks available for this activity.

Assessment Criteria

The more detailed criteria published on our unit Moodle site are summarised here as the following three (3) broad criteria:

1. preparing a technical report of appropriate structure with appropriate functionality of report sections for a general audience interested in environmental issues (60%);
2. description, explanation, interpretation and critique of scientific data and the drawing of reasonable conclusions from these data (25%), and
3. the communication of environmental science through acceptable presentation format and good concise written expression (including accepted treatment of sources) (15%).

The report template provided on our unit Moodle site will clarify and assist you with meeting these assessment criteria. Please note a minimum achievement level is set for this assessment activity (i.e., you must equal or exceed this set minimum achievement level for you to be considered for a passing grade for this unit overall, irrespective of your achievement level in other assessment components in this unit).

Referencing Style

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

Submission

Online

Learning Outcomes Assessed

- Apply knowledge of scientific content to describe the basis of environmental science problems.
- Perform practical environmental field and laboratory assessments and report the results.
- Demonstrate research communication skills relevant to environmental issues.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

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

40% of total marks available for this activity.

Exam Conditions

Restricted.

Materials

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

No calculators permitted

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