ENVR11014 *Environmental Monitoring*
Term 2 - 2021

Profile information current as at 14/12/2025 12:33 pm

All details in this unit profile for ENVR11014 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.

Corrections

Unit Profile Correction added on 20-08-21

Only physical copies of the textbook "Ecology: The Economy of Nature" are available from the CQUni Bookstore.

General Information

Overview

In Environmental Monitoring you will learn the basics of ecosystem science as well as the research and industry skills necessary to carry out surveys and research in natural and impacted ecosystems. Your study will focus on two iconic Australian ecosystems, the Great Barrier Reef and the Brigalow Belt. The field skills you acquire in this unit will enable you to perform both academic research and industry surveys in ecosystems anywhere in the world. You will apply your knowledge of ecosystems, and animal and plant biology to sample collection, vegetation surveys, animal trapping and identification. You will also begin to learn some basic project management skills including how to legally document your work and to prepare and plan for safe field work. The residential school in this unit will involve animal trapping and will abide by the approved ethics proposal that includes the destructive sampling of some fish and, if caught, the euthanisation of pest species (e.g. cats) as required by law. Students are advised to contact the unit coordinator if they have any concerns with regard to this aspect of the unit. There is an additional cost for the off-campus component of the residential school in this unit.

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 - 2021

- Mixed Mode
- 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).

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. **Online Quiz(zes)**
Weighting: 30%
2. **Laboratory/Practical**
Weighting: 20%
3. **Report**
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.

Unit Learning Outcomes

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

1. Describe the basic concepts of ecological populations and communities
2. Identify the defining characteristics of biomes and ecosystems
3. Measure biotic and abiotic characteristics of ecosystem communities using appropriate field methods
4. Collate, summarise and present data collected in the field
5. Adhere to Australian environmental and work, health and safety legislation.

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
1 - Online Quiz(zes) - 30%	•	•			
2 - Laboratory/Practical - 20%			•	•	•
3 - Report - 50%	•	•	•	•	

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
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 - Online Quiz(zes) - 30%	•	•	•							
2 - Laboratory/Practical - 20%		•			•			•		

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
3 - Report - 50%	•		•							

Textbooks and Resources

Textbooks

ENVR11014

Prescribed

Ecology: The Economy of Nature
Edition: 8th edn (2018)
Authors: Rick Relyea and Robert Ricklefs
W.H. Freeman & Company,
New York , NY , USA
ISBN: 9781319187729
Binding: Paperback

Additional Textbook Information
Both paper and eBook versions can be purchased at the CQUni Bookshop here: http://bookshop.cqu.edu.au (search on the Unit code).

View textbooks at the CQUniversity Bookshop

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)

Referencing Style

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

Teaching Contacts

Nathan Brooks-English Unit Coordinator
n.english@cqu.edu.au
Guy Carton Unit Coordinator
a.carton@cqu.edu.au

Schedule

Week 1 - 12 Jul 2021

Module/Topic	Chapter	Events and Submissions/Topic

Ecology and the Scientific Method **Adaptations to Terrestrial and Aquatic Environments**	Chapter 1. Introduction: Ecology, Evolution, and the Scientific Method (p 1-29). Chapter 2. Adaptations to Aquatic Environments (p 30-53).	Text Book (any edition from 6th up should be ok) Ecology: The Economy of Nature by Robert E. Ricklefs and Rick Relyea W.H.Freeman & Co Ltd, United States ISBN:9781319187729 CQU Library 577.39 1/2018

Week 2 - 19 Jul 2021

Module/Topic	Chapter	Events and Submissions/Topic
Selection, Evolution and Limiting Factors.	Chapter 7. Evolution and Adaptation (p 152 - 175).	

Week 3 - 26 Jul 2021

Module/Topic	Chapter	Events and Submissions/Topic
Life Histories and Reproductive Strategies.	Chapter 8. Sex and Evolution.	Theory Quiz A will open Wednesday 28 July, 9:00AM AEST.

Week 4 - 02 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Competition and Dispersal. **Populations and Population Growth.**	Chapter 11. Population Distributions (p 240 - 263). Chapter 12. Population Growth and Regulation (p 264 - 287). Chapter 16. Competition (p 360 - 405). Readings on Moodle.	Theory Quiz A will close on Wednesday 4 August, 11:45PM AEST. Residential School Payment due by 5PM AEST Friday, August 6th.

Week 5 - 09 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Survey and Sample Design & Techniques **Preparation Residential School Activities: Terrestrial and Aquatic sampling**	Readings on Moodle.	

Vacation Week - 16 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 23 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Residential School A **No Lectures this week.**		Theory Quiz B will open Wednesday 25 August, 9:00AM AEST. Residential School A begins August 23rd at 8AM at the Keppel Bay Marina and continues on Woppa (Great Keppel Island Hideaway resort) for five days/four nights of field work. Students return by ferry to Rosslyn Bay Marina at 2:30PM on August 27th.

Week 7 - 30 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Biogeochemical Cycles **Zoom Drop In For Residential School Recap for Residential School A students.**	Chapter 21. Movements of Elements in Ecosystems (p 481-505). Readings on Moodle.	Theory Quiz B will close on Wednesday 1 Sept, 11:45PM AEST.

Week 8 - 06 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic

Trophic Levels and Food Webs (Pre-recorded)	Chapter 18. Community Structure. (p406 - 433).	For students attending Residential School A (Aug 23 to 27), Residential School Results and Discussion is due September 6th, 11:45PM AEST.

Week 9 - 13 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic
Terrestrial Ecosystems and Biomes: Brigalow Belt.	Chapter 6. Terrestrial and Aquatic Biomes (p 130 - 151).	Theory Quiz C will open Wednesday 15 September, 9:00AM AEST.

Week 10 - 20 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic
Palaeoclimate Proxies: Tree-rings and Climate Micrometeorological Monitoring & the BOM	Readings on Moodle.	Theory Quiz C will close on Wednesday 22 Sept, 11:45PM AEST.

Week 11 - 27 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic
Aquatic Ecosystems and Biomes: The Great Barrier Reef	Chapter 6. Terrestrial and Aquatic Biomes (p 130 - 151).	

Week 12 - 04 Oct 2021

Module/Topic	Chapter	Events and Submissions/Topic
Residential School B **No Lectures this week.**		Residential School B begins October 5th at 8:30AM at the Keppel Bay Marina and continues on Woppa (Great Keppel Island Hideaway resort) for five days/four nights of field work. Students return by ferry to Rosslyn Bay Marina at 2:30PM on October 9th. Students enrolled in CHEM11044 (Chemical Rxns) and travelling from outside the Rockhampton region are encouraged to enrol in Res School B as it occurs subsequent to the CHEM11044 res school in Week 11.

Review/Exam Week - 11 Oct 2021

Module/Topic	Chapter	Events and Submissions/Topic
Zoom Drop In For Residential School Recap for Residential School B students.		

Exam Week - 18 Oct 2021

Module/Topic	Chapter	Events and Submissions/Topic
This unit does not have a final exam.		For students attending Residential School B (Oct 5 to 9), Residential School Results and Discussion is due October 18th, 11:45PM AEST.

- 25 Oct 2021

Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

The five-day residential school occurs off-campus on Woppa (Great Keppel Island) at the Great Keppel Island Hideaway Resort. Students are required to pay $345 for return ferry, accomodation and meals ($69/day). Payments must be made by the end of Week 4. Students travelling to Rockhampton and also attending the Week 11 CHEM11044 (Chemical Rxns) residential school are encouraged to enrol in Residential School B (Oct 5th to 9th) so that they can minimize their travel costs.
Residential School Selection, payment options and more information will be available on Moodle in Week 1.

Assessment Tasks

1 Online Theory Quizzes

Assessment Type
Online Quiz(zes)

Task Description
These periodic quizzes are based on lecture and study material from previous weeks (so please revise the lecture and reading material associated with the weeks covered by the quiz).
For ALL students, Theory Quizzes open the Wednesday after the weeks' covered in the quiz (*e.g.* Theory Quiz A covers Weeks 1-3, so opens on Wednesday in Week 3) and is open for 1 week.
The Theory Quizzes are limited to **30 minutes for completion**; make sure to submit within the 30 minutes.
You can attempt each quiz a second time, but there is a 60 minute enforced delay between attempts and your **highest** score of the attempt/s will be the score recorded. You must make the attempt while the quiz is open.
Questions are true/false, multiple choice, mix-and-match and other formats. Because the questions are drawn at random from a question bank, you will most likely receive different questions if you make a second attempt, and you will likely receive different questions from your peers. I ask that you not share your quiz questions or answers with other students as this may disadvantage other students and it will be considered academic misconduct.

Number of Quizzes
3

Frequency of Quizzes
Other

Assessment Due Date

Theory Quiz A will close on August 4, 11:45PM AEST. Theory Quiz B will close on Sept 1, 11:45PM AEST. Theory Quiz C will close on Sept 22, 11:45PM AEST.

Return Date to Students

Theory quiz results will be made available to students upon completion of the quiz.

Weighting
30%

Minimum mark or grade
50% or above for the mean of the three quizzes.

Assessment Criteria
No Assessment Criteria

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- Describe the basic concepts of ecological populations and communities
- Identify the defining characteristics of biomes and ecosystems

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Critical Thinking

2 Field competencies checklist and workbook

Assessment Type
Laboratory/Practical

Task Description
Students will complete a series of tasks in the field and associated activities in their workbooks. These activities will address animal monitoring skills (*e.g.* trapping and handling), aquatic monitoring skills, (*e.g.* water sampling for chemical analysis), vegetation monitoring skills (*e.g.* vegetation transects and specimen collection and ID), and peripheral skills (*e.g.* GPS and Chain of Custody). During or after each field activity, students will present their work to a supervisor for marking and feedback. It is important that students make sure that all required skills checks are completed and signed off on at the end of each activity or day. These sheets are due at the end of the residential school before students depart.

Assessment Due Date

Skills checks and workbooks will be checked/marked during or at the end of each activity during the residential school. It is the student's responsibility to make sure all checks/marking is completed at the time indicated in the field workbook.

Return Date to Students

Students will be marked/checked off on skills and workbooks throughout the residential school.

Weighting
20%

Minimum mark or grade
50%

Assessment Criteria
The assessment criteria for each task an activity will vary, but assessment criteria will generally revolve around the following:

1. Safety;
2. Accuracy;
3. Completeness;
4. Compliance;
5. Active participation and teamwork within the group.

After receiving feedback, and at the instructors discretion and within the limits of field work, students will be given an opportunity to demonstrate proficiency in skills they were not able to receive full marks on in the field or workbook.

Referencing Style

- Harvard (author-date)

Submission
Offline

Submission Instructions
During or after each field activity, students will present their work to a supervisor for marking and feedback. It is important that students make sure that all required skills checks are completed at the end of each activity or day. Return the completed checklist to Drs Nathan English or Guy Carton before departing the Residential School.

Learning Outcomes Assessed

- Measure biotic and abiotic characteristics of ecosystem communities using appropriate field methods
- Collate, summarise and present data collected in the field
- Adhere to Australian environmental and work, health and safety legislation.

Graduate Attributes

- Problem Solving
- Team Work
- Ethical practice

3 Residential School Results and Discussion

Assessment Type
Report

Task Description
During your ENVR11014 residential you will undertake survey and monitoring field work activities that require the application of scientific and industry standard environmental monitoring methodologies and technologies. These activities will be across three areas: 1) terrestrial animal; 2) brackish-water aquatic; and 3) terrestrial vegetation. Following the residential school you will use the data collected to write up and present the results of each activity and then discuss those results with reference to accepted ecological theory(ies). Written reports must use both figures, tables and text and include a relevant discussion around each of the field work activities (600 words ±10% per activity report, 1800 words ±10% total). To assist you with the task of writing up the results, general assistance with the interpretation and analysis of data will be provided at the end of field work activities.

Assessment Due Date

For students attending Residential School A (Aug 23 to 27), Residential School Results and Discussion is due Sept 6th, 11:45PM AEST. For students attending Residential School B (Oct 5 to 9), Residential School Results and Discussion is due October 18th, 11:45PM AEST.

Return Date to Students

Both Res School A and Res School B assessments will be returned to students after Oct 18th.

Weighting
50%

Minimum mark or grade
50%

Assessment Criteria
The Residential School Results and Discussion will be marked on:

1. Completeness (relevant observations and results presented from all three activities);
2. Clarity, grammar, punctuation and organisation;
3. Presentation of figures and tables (figures and tables should be publication ready);
4. Correct inline referencing of figures/tables;
5. Discussion of the results (are all the results included discussed?);
6. Appropriate application of ecological theory to the results in the discussion;
7. At least two appropriate and correctly-cited references with appropriate author-date citation (look up "parenthetical referencing" *i.e.* Harvard Referencing).

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Submit a Word document (or a format compatible with TurnItIn) with all relevant figures, tables, appendices, and text. Submission must be through Moodle.

Learning Outcomes Assessed

- Describe the basic concepts of ecological populations and communities
- Identify the defining characteristics of biomes and ecosystems
- Measure biotic and abiotic characteristics of ecosystem communities using appropriate field methods
- Collate, summarise and present data collected in the field

Graduate Attributes

- Communication
- Critical Thinking

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