ENVR12002 *Applied Ecology*
Term 2 - 2023

Profile information current as at 14/12/2025 06:50 am

General Information

Overview

Applied Ecology is the science of understanding and managing natural living resources. Over-harvesting of exploited species, habitat loss, and the spread of invasive species are among the world's most pressing environmental issues. Solutions to these problems are complex, but firmly embedded in the fundamental tenets of ecological knowledge and theory. This unit will provide you with a broad perspective of the field of applied ecology by working across different ecological levels (ecosystem, community, population and species) and issues, in the process you will explore how ecological knowledge and theory is applied to the management of natural living resources.

Details

Career Level: *Undergraduate*
Unit Level: *Level 2*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites

Pre-requisites ZOOL11005 Foundation Animal Biology and BOTN11004 Foundation Plant Biology or BIOL11099 Living Systems and BIOL11100 Functional Biology or BIOL11102 and ENVR11014. Anti-requisite BIOL13031 - Ecology: Theory and Application
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 - 2023

- 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: 40%
2. **Practical Assessment**
Weighting: 30%
3. **Practical Assessment**
Weighting: 30%

Assessment Grading

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

CQUniversity Policies

All University policies are available on the CQUniversity Policy site.
You may wish to view these policies:

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

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

Previous Student Feedback

Feedback, Recommendations and Responses

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

Feedback from SUTE Student Comments

Feedback

Really enjoyed this subject. The residential school was very practical and informative. I will definitely be able to use this knowledge for my future endeavors.

Recommendation

The residential school will continue to be practical and informative with a primary focus on learning and developing practical applied skill-sets.

Feedback from SUTE Student Comments

Feedback

Great subject very interesting.

Recommendation

The unit will continue to explore a diverse range of environmental and ecological topics that stimulated student interest and curiosity.

Unit Learning Outcomes

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

1. Describe how ecological principles are applied to the protection, management, and restoration of terrestrial and aquatic living resources and ecosystems
2. Discuss the elements, concepts, and theories of population and community structure and dynamics
3. Apply integrated knowledge of population, community and ecosystem ecology to real world situations using industry standard methods
4. Develop and utilise the skills necessary to undertake ecological fieldwork successfully and to analyse ecological data/models.

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
1 - Online Quiz(zes) - 40%	•	•		
2 - Practical Assessment - 30%		•	•	•
3 - Practical Assessment - 30%		•	•	•

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 - Online Quiz(zes) - 40%	•		•	•						
2 - Practical Assessment - 30%		•	•		•	•		•		
3 - Practical Assessment - 30%		•	•		•	•		•		

Textbooks and Resources

Textbooks

ENVR12002

Supplementary

Applied Ecology Monitoring, managing, and conserving
(2017)
Authors: Anne Goodenough and Adam Hart
Oxford University Press
ISBN: 9780198723288 4
Binding: Paperback

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

Guy Carton Unit Coordinator
a.carton@cqu.edu.au

Schedule

Week 1 - 10 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic
WEEK 1: INTRODUCTION TO APPLIED ECOLOGY		

Week 2 - 17 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic
WEEK 2: SURVEYING AND MONITORING		

Week 3 - 24 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic
WEEK 3: BEFORE, AFTER, CONTROL, IMPACT (BACI)		Theory Quiz 1 will open 07:00 Friday of Week 3.

Week 4 - 31 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic
WEEK 4: ECOLOGICAL INDICATORS		Theory Quiz 1 will close 23:55 Friday of Week 4. Theory Quiz 2 will open 07:00 Friday of Week 4.

Week 5 - 07 Aug 2023

Module/Topic	Chapter	Events and Submissions/Topic
WEEK 5: REMOTE SENSING		Theory Quiz 2 will close 23:55 Friday of Week 5.

Vacation Week - 14 Aug 2023

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 21 Aug 2023

Module/Topic	Chapter	Events and Submissions/Topic
WEEK 6: EXPLOITED SPECIES - WILD CAPTURE FISHERIES		

Week 7 - 28 Aug 2023

Module/Topic	Chapter	Events and Submissions/Topic
WEEK 7: EXPLOITED SPECIES - WILD CAPTURE FISHERIES		Theory Quiz 3 will open 07:00 Friday of Week 7.

Week 8 - 04 Sep 2023

Module/Topic	Chapter	Events and Submissions/Topic

WEEK 8: RESIDENTIAL SCHOOL		Theory Quiz 3 will close 23:55 Friday of Week 8. Residential School, North ROK Campus, (ROK 09/G.14). 0900-17:00, Monday to Wednesday (inclusive) of Week 8.

Week 9 - 11 Sep 2023

Module/Topic	Chapter	Events and Submissions/Topic
WEEK 9: WILDLIFE INTERACTIONS		

Week 10 - 18 Sep 2023

Module/Topic	Chapter	Events and Submissions/Topic
WEEK 10: LANDSCAPE ECOLOGY AND MANAGEMENT		

Week 11 - 25 Sep 2023

Module/Topic	Chapter	Events and Submissions/Topic
WEEK 11: ENVIRONMENTAL RESTORATION		Theory Quiz 4 will open 07:00 Friday of Week 11.

Week 12 - 02 Oct 2023

Module/Topic	Chapter	Events and Submissions/Topic
WEEK 12: ENVIRONMENTAL REHABILITATION OF IMPACTED SITES		Theory Quiz 4 will close 23:55 Friday of Week 12. **Practical Report 1: Growth Modelling Assessment of Marine Fish** Due: Week 12 Friday (6 Oct 2023) 11:55 pm AEST **Practical Report 2: Ecological Surveying Methods** Due: Week 12 Friday (6 Oct 2023) 11:55 pm AEST

Review/Exam Week - 09 Oct 2023

Module/Topic	Chapter	Events and Submissions/Topic

Assessment Tasks

1 Online Quiz(zes) / Short Answer Questions

Assessment Type
Online Quiz(zes)

Task Description
Online Quiz(zes)/Short Answer Questions will test knowledge across several key areas:

1. Ecological surveying and monitoring / BACI (Topics Week 2 and 3).
2. Ecological indicators (Topic Week 4).
3. Exploited Species: Wild capture fisheries (Topic Week 6 and 7).
4. Wildlife interactions / Landscape ecology and management / Environmental restoration (Topic Week 9, 10, and 11).

Number of Quizzes
4

Frequency of Quizzes
Other

Assessment Due Date

Quiz 1 due 23:55 Friday Week 4, Quiz 2 23:55 Friday Week 5, Quiz 3 23:55 Friday Week 8, Quiz 4 23:55 Friday Week 12

Return Date to Students

Immediately following online submission and completion of the quiz.

Weighting
40%

Minimum mark or grade
50%

Assessment Criteria
Periodic online quizzes/short answers are based on lecture and study material from the previous week(s).
For ALL students, online quizzes will open on the Friday (07:00) of the week of the topic (e.g. Quiz 1 covers Week 2 and 3, so opens 07:00 Friday of Week 3) and is open for 7 days (e.g. Quiz 1 closes on 23:55 Friday of Week 4). Students will have one attempt per quiz. Questions can be a mix of true/false, multiple choice, mix-and-match, short answers, and other formats. Answers will be assessed for completeness and correctness.
Do not share your questions or answers with other students as this may disadvantage other students, and such behaviour will be considered a breach of academic integrity and may result in academic misconduct.

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- Describe how ecological principles are applied to the protection, management, and restoration of terrestrial and aquatic living resources and ecosystems
- Discuss the elements, concepts, and theories of population and community structure and dynamics

Graduate Attributes

- Communication
- Critical Thinking
- Information Literacy

2 Practical Report 1: Growth Modelling Assessment of Marine Fish

Assessment Type
Practical Assessment

Task Description
During your ENVR12002 Residential School you will undertake activities that require the application of scientific and industry standard monitoring, assessment and surveying methodologies and technologies. These activities will be primarily across two areas; 1) Growth Modelling Assessment of Marine Fish (Practical Report 1), and 2) Ecological Surveying Methods (Practical Report 2). Following the Residential School you will use the data collected during each activity to write up and present the results and conclusions in the format of a scientific/industry standard report.
To assist you with the task of writing up the reports, general assistance with the interpretation and analysis of data will be provided at the conclusion of each activity during the Residential School.

Assessment Due Date
Week 12 Friday (6 Oct 2023) 11:55 pm AEST

Return Date to Students
Exam Week Friday (20 Oct 2023)

Weighting
30%

Minimum mark or grade
45%

Assessment Criteria
Practical Report will be assessed on:

1. Completeness (relevant observations, methods and results relating to growth assessment and modelling of teleost fish).
2. Discussion of the results in context with current and relevant fisheries methods for assessment and predictive

modelling of fish growth.
3. Appropriate application and discussion of teleost fish growth and modelling assessment(s) and applications/limitations in the management of exploited stocks.
4. Clarity, grammar, punctuation and organisation.
5. Presentation of figures, tables and diagrams (to publication standard).
6. Correct inline referencing of figures/tables/diagrams.
7. Appropriate and correctly-cited references with appropriate author-date citation (Harvard referencing).
8. Word limit of 2000 words.

Further details of the assessment criteria and rubric will be available on the unit Moodle (Week 8: Residential School) and discussed with students at the conclusion of the Residential School.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Upload to the link on the Assessment page on the Unit Moodle

Learning Outcomes Assessed

- Discuss the elements, concepts, and theories of population and community structure and dynamics
- Apply integrated knowledge of population, community and ecosystem ecology to real world situations using industry standard methods
- Develop and utilise the skills necessary to undertake ecological fieldwork successfully and to analyse ecological data/models.

Graduate Attributes

- Problem Solving
- Critical Thinking
- Team Work
- Information Technology Competence
- Ethical practice

3 Practical Report 2: Ecological Surveying Methods

Assessment Type
Practical Assessment

Task Description
During your ENVR12002 Residential School you will undertake activities that require the application of scientific and industry standard monitoring, assessment and surveying methodologies and technologies. These activities will be primarily across two areas; 1) Growth Modelling Assessment of Marine Fish (Practical Report 1), and 2) Ecological Surveying Methods (Practical Report 2). Following the Residential School you will use the data collected during each activity to write up and present the results and conclusions in the format of a scientific/industry standard report.
To assist you with the task of writing up the reports, general assistance with the interpretation and analysis of data will be provided at the conclusion of each activity during the Residential School.

Assessment Due Date
Week 12 Friday (6 Oct 2023) 11:55 pm AEST

Return Date to Students
Exam Week Friday (20 Oct 2023)

Weighting
30%

Minimum mark or grade
45%

Assessment Criteria
Practical Report will be assessed on:

1. Completeness (relevant observations, methods and results relating to assessment of species diversity through application of different sampling techniques).
2. Discussion of the results in context with current and relevant ecological sampling techniques that seek to

measure and quantify species diversity.
3. Appropriate application and discussion of sampling and assessment of species diversity and consideration of habitat classification for ecological management.
4. Clarity, grammar, punctuation and organisation.
5. Presentation of figures, tables and diagrams (to publication standard).
6. Correct inline referencing of figures/tables/diagrams.
7. Appropriate and correctly-cited references with appropriate author-date citation (Harvard referencing).
8. Word limit of 2000 words.

Further details of the assessment criteria and rubric will be available on the unit Moodle (Week 8: Residential School) and discussed with students at the conclusion of the Residential School.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Upload to the link on the Assessment page on the Unit Moodle

Learning Outcomes Assessed

- Discuss the elements, concepts, and theories of population and community structure and dynamics
- Apply integrated knowledge of population, community and ecosystem ecology to real world situations using industry standard methods
- Develop and utilise the skills necessary to undertake ecological fieldwork successfully and to analyse ecological data/models.

Graduate Attributes

- Problem Solving
- Critical Thinking
- Team Work
- Information Technology Competence
- Ethical practice

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