# ZOOL13015 *Environmental Physiology of Animals*
## Term 1 - 2023

Profile information current as at 26/03/2023 10:13 pm



## General Information

### Overview

In Environmental Physiology of Animals, you will learn about the limits placed on organisms by their physiology in both aquatic and terrestrial habitats, how organisms respond to environmental challenges, and how organisms have evolved to and are adapted to their ecological niche. This unit will cover topics such as the central nervous system and sensory system design, metabolism, respiration and energy supply, locomotion and allometric scaling, stress and the effects of capture and release, conservation physiology and extreme habitats. There is a strong focus on experimental physiology and incorporating theory and hands-on experience into practical classes during the Residential School, where you will conduct your own experiments. A fundamental knowledge of statistical design and analyses is assumed.

### 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

BIOL11100 or BIOL12112
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 1 - 2023

- 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. **Online Quiz(zes)**
Weighting: 40%
2. **Presentation**
Weighting: 10%
3. **Practical Assessment**
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 SUTE Student Comments.

**Feedback**

More quizzes please, at least 6, so that one bad result doesn't throw out our whole grade.

**Recommendation**

The number of quizzes are appropriate given the unit has a 12-week duration.

## Unit Learning Outcomes

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

1. Examine the functioning and control of physiological systems in a range of animals and habitats
2. Apply knowledge of physiological responses of animals to a range of environmental challenges
3. Present, analyse and interpret physiological data
4. Design experiments and apply a range of practical skills relevant to the study of environmental physiology.

## 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 - Presentation - 10% | • | • | • | |
| 3 - Practical Assessment - 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 | • | • | | |

| Graduate Attributes | Learning Outcomes | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| 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 - Presentation - 10% | • | • | • | • | • | • | | | | |
| 3 - Practical Assessment - 50% | • | • | | | • | | | • | | |

# Textbooks and Resources

## Textbooks

**There are no required textbooks.**

## 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 - 06 Mar 2023**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| The fundamentals of Environmental Physiology: Animals and Environments. | | |

**Week 2 - 13 Mar 2023**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Energy, metabolism and temperature. | | |

**Week 3 - 20 Mar 2023**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Stress. | | |

**Week 4 - 27 Mar 2023**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Residential School. | | Residential School, Monday to Wednesday Week 4 (08:00 - 17:00, Nth ROK campus).<br>Selection and approval of research topic for Student presentation in Week 9. |

**Week 5 - 03 Apr 2023**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Residential School Recap and Data Analysis. | | |

**Vacation Week - 10 Apr 2023**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|

**Week 6 - 17 Apr 2023**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| The curious case of the loss of hemoglobin in Antarctic icefish. | | Online Theory Quiz 1 (covering Weeks 1-3 and 6), opens 06:00 Wednesday Week 6 (AEST). |

**Week 7 - 24 Apr 2023**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Why marine fish are drinkers and freshwater fish aren't. | | Online Theory Quiz 1 closes 23:55 Sunday Week 7 (AEST). |

**Week 8 - 01 May 2023**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Diving by marine mammals. | | |

**Week 9 - 08 May 2023**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Student research presentations. | | **Video Presentation** Due: Week 9 Wednesday (10 May 2023) 11:55 pm AEST |

**Week 10 - 15 May 2023**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| The nocturnal killers: Bats and Owls. | | |

**Week 11 - 22 May 2023**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Understanding the physiological and behavioural responses of animals in the environment. | | Online Theory Quiz 2 (covering Weeks 7, 8, 10 and 11), opens 06:00 Wednesday Week 11 (AEST).<br><br>**Residential School Experimental Report** Due: Week 11 Monday (22 May 2023) 5:00 pm AEST |

**Week 12 - 29 May 2023**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Unit recap and synthesis. | | Online Theory Quiz 2 closes 23:55 Sunday Week 12 (AEST). |

## Assessment Tasks

### 1 Online quiz(zes)

**Assessment Type**
Online Quiz(zes)

**Task Description**
There are two (2) online theory quizzes held in Weeks 6-7 and 11-12. Each quiz is worth 20% of the final grade.
Online theory quiz 1 opens at 06:00 Wednesday of Week 6 and closes at 23:55 Sunday of Week 7. Online theory quiz 2 opens at 06:00 Wednesday of Week 11 and closes at 23:55 Sunday of Week 12.
Questions are based on lecture and study material from previous weeks (please revise the lecture and reading material associated with the weeks covered by the quiz). Questions are a mix of true/false, multiple choice, mix-and-match, data interpretation and other formats. Because the questions are drawn at random from a question bank, you will most likely receive different questions from your peers. You are asked 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. Once a quiz is opened it must be completed within the allocated time, if it is not submitted in the allocated time the quiz will automatically self-submit.

**Number of Quizzes**
2

**Frequency of Quizzes**
Other

**Assessment Due Date**

**Return Date to Students**

On completion

**Weighting**
40%

**Assessment Criteria**
Questions are a mix of true/false, multiple choice, mix-and-match, data interpretation and other formats. Because the questions are drawn at random from a question bank, you will most likely receive different questions from your peers.

**Referencing Style**

- Harvard (author-date)

**Submission**
Online

**Learning Outcomes Assessed**

- Examine the functioning and control of physiological systems in a range of animals and habitats
- Apply knowledge of physiological responses of animals to a range of environmental challenges

**Graduate Attributes**

- Problem Solving

- Critical Thinking
- Information Literacy
- Information Technology Competence

## 2 Video Presentation

**Assessment Type**
Presentation

**Task Description**
This assessment requires you to select, research and present a topic of your choice. The topic can cover any physiological system or process (for example - sensory systems, metabolism and energy supply, osmoregulation and excretion, respiration and circulation, stress) and any vertebrate animal residing in any environment (marine, freshwater, terrestrial). Your presentation must explain and highlight the evolution, functioning and adaptive value that the particular physiological system conveys within the context of the animals environment.
Presentation topics must be approved by the unit coordinator during the residential school *Presentation Workshop* in Week 4 and the presentation submitted by 23:55 Wednesday Week 9 (AEST).

**Assessment Due Date**
Week 9 Wednesday (10 May 2023) 11:55 pm AEST

**Return Date to Students**
Week 12 Monday (29 May 2023)

**Weighting**
10%

**Assessment Criteria**
Student presentations will be evaluated by and assessed against the following criteria;

- Literature search
- Content knowledge and organisation
- Video appearance and quality
- Delivery and flow
- Style and mechanics
- Layout and design
- Focused content
- Viewer engagement

Additional information regarding assessment, topic suggestions, recording/editing software, and development a presentation will be provided on the Moodle and during the *Presentation Workshop* held during the Residential School in Week 4.

**Referencing Style**

- Harvard (author-date)

**Submission**
Online

**Learning Outcomes Assessed**

- Examine the functioning and control of physiological systems in a range of animals and habitats
- Apply knowledge of physiological responses of animals to a range of environmental challenges
- Present, analyse and interpret physiological data

**Graduate Attributes**

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

## 3 Residential School Experimental Report

**Assessment Type**
Practical Assessment

**Task Description**
During the residential school you will undertake experimental activities that require the application of scientific knowledge, techniques and methodologies.
Following the residential school, you will use the data collected to construct a manuscript formatted for submission to the scientific journal 'Conservation Physiology'. General assistance with the interpretation and analysis of data will be provided generally during the residential school and in Week 5.

**Assessment Due Date**
Week 11 Monday (22 May 2023) 5:00 pm AEST

**Return Date to Students**
Exam Week Monday (12 June 2023)

**Weighting**
50%

**Assessment Criteria**
Your manuscript will be assessed against the following criteria:
1. Abstract (clear, concise summary of context, hypothesis, results and conclusions).
2. Introduction (relevant context provided, clear well-articulated hypothesis).
3. Methods (adequate description and justification of methods and materials used so the experiment could be repeated).
4. Results (concise description of results, ordered logically, well presented data, graphs/tables, as well as basic statistical analyses).
5. Discussion (logical structure that discusses key results and their meaning, places results in a discipline specific context and identifies biases/improvements/further avenues of study).
6. References (cited appropriately in text and list, ten-fifteen minimum, no web pages unless of the data repository-type).
7. Spelling & grammar.
A comprehensive assessment rubric and manuscript formatting guidelines will be available at the commencement of term on the Moodle.

**Referencing Style**

- Harvard (author-date)

**Submission**
Online

**Learning Outcomes Assessed**

- Present, analyse and interpret physiological data
- Design experiments and apply a range of practical skills relevant to the study of environmental physiology.

**Graduate Attributes**

- Communication
- Problem Solving
- Team Work
- 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