ZOOL12009 *Invertebrate Zoology*
Term 1 - 2018

Profile information current as at 09/05/2024 09:48 pm

General Information

Overview
The invertebrates are the largest and most diverse group of animals on Earth, being found in all environments and habitats. This unit provides an overview of the biology, ecology, and taxonomy of the various invertebrate phyla, linking adaptation and evolutionary history to understand the origins and proliferation of this great diversity of life.

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
ZOOL11005 Foundation Animal Biology or BIOL11099 Living Systems
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 - 2018

- 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. **Written Assessment**
Weighting: 20%
2. **Practical Assessment**
Weighting: 30%
3. **Examination**
Weighting: 50%

Assessment Grading

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

CQUniversity Policies

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

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

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

Previous Student Feedback

Feedback, Recommendations and Responses

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

Feedback from Student feedback

Feedback
Make aware to the student about the assessment criteria sheet before the first assignment.

Recommendation
In future the students will be notified about the assessment criteria before the first assessment through the Moodle site.

Feedback from Student feedback

Feedback
To record new lectures each year and update the new information.

Recommendation
New lecture video may be recorded and new information may be updated.

Feedback from Student feedback

Feedback
In residential school include invertebrate identification related to course content.

Recommendation
Extra residential school activity may be added for the invertebrate identification.

Unit Learning Outcomes

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

1. Define terminology associated with the study of invertebrate zoology
2. Describe the structural and functional organisation of animals from the various invertebrate phyla in written and verbal form
3. Explain the evolutionary history of the invertebrates, including their adaptations to particular environments and their ecology
4. Identify the major invertebrate taxa and explain, in wirtten and verbal form, the evolutionary and physiological basis for the taxonomic classification of these animals
5. Acquire practical skills in the study of invertebrates by conducting basic scientific research on invertebrate abundaunce, distribution, behaviour, and ecology in both field and laboratory settings

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 - Written Assessment - 20%	•	•	•		
2 - Practical Assessment - 30%	•	•	•	•	•

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
3 - Examination - 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 - Written Assessment - 20%	•	•	•	•		•	•	•		
2 - Practical Assessment - 30%	•	•	•	•	•		•	•		
3 - Examination - 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

Andrew Irving Unit Coordinator
a.irving@cqu.edu.au

Schedule

Week 1 - 05 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
1. Unit overview 2. Why study invertebrates?	Study guide chapter 1	

Week 2 - 12 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
3. Invertebrates and the environment 4. Taxonomy and evolution of the invertebrates	Study guide chapters 2 & 3	

Week 3 - 19 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
5. Protozoans 6. Porifera	Study guide chapters 4 & 5	

Week 4 - 26 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
7. Cnidarians 8. Coral reefs	Study guide chapter 6	

Week 5 - 02 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
9. Platyhelminthes 10. Of worms and coeloms	Study guide chapters 7 & 8	

Vacation Week - 09 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 16 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
11. Annelida 12. Mollusca part 1	Study guide chapters 9 & 10	**Contribution of 'lower' invertebrates to human populations.** Due: Week 6 Monday (16 Apr 2018) 11:45 pm AEST

Week 7 - 23 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
13. Mollusca part 2: Gastropods 14. Molusca part 3: Cephalopods	Study guide chapter 10	

Week 8 - 30 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
No lectures this week. Let's have fun at the residential school instead!		Residential school, 24-Apr to 1-May Rockhampton campus, Building 9, Room G.14 Note that the oral presentation component of the practical assessment task will be assessed on the final afternoon of the residential school (1st of May).

Week 9 - 07 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
15. Arthropoda part 1 16. Arthropoda part 2: Uniramia	Study guide chapter 11	

Week 10 - 14 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
17. Arthropoda part 3: Crustaceans 18. Lophophorates	Study guide chapters 11 & 12	

Week 11 - 21 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
19. Echinodermata 20. Hemichordates & Chordates	Study guide chapters 13 & 14	

Week 12 - 28 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
21. Unit review, Q&A		**Residential school practical report** Due: Week 12 Friday (1 June 2018) 11:45 pm AEST

Review/Exam Week - 04 Jun 2018

Module/Topic	Chapter	Events and Submissions/Topic

Exam Week - 11 Jun 2018

Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

This unit comprises a series of lectures and a compulsory residential school, to be run on the Rockhampton campus. The residential school will give you a choice of team-based research projects focusing on invertebrates. Projects may be outdoors or indoors and thus vary in their degree of physical requirement, but will all be of equal intellectual challenge. To avoid losing time at the residential school, the unit coordinator (A/Prof Andrew Irving) will be in contact via Moodle early in term to organise research project groupings based on your preferred choice of project.

Assessment Tasks

1 Contribution of 'lower' invertebrates to human populations.

Assessment Type
Written Assessment

Task Description
This written assignment for this course comprises a **concise** 500 word essay.
“Lower invertebrates”, so called because they generally appeared early in the history of life on Earth, provide many benefits to humans (e.g. medical applications, food and resources, understanding how life on Earth ‘works’, etc.), as well as many detriments (infections, parasites, food spoilage, etc.). Your task is to summarize how a lower invertebrate (as an individual species or a higher taxonomic level) contributes to the benefit or detriment of human populations.
You are free to choose any invertebrate/outcome/field of research that interests you, but ensure your topic is based on a ‘lower’ invertebrate. This includes the protozoans, poriferans, cnidarians, platyhelminthes, nematodes and nemerteans, which will be described in detail in lectures.
Additional information regarding assessment requirements, hints, and submission guidelines will be provided on the unit Moodle site.

Assessment Due Date
Week 6 Monday (16 Apr 2018) 11:45 pm AEST

Return Date to Students
Week 8 Monday (30 Apr 2018)

Weighting
20%

Minimum mark or grade
40%

Assessment Criteria
The written assessment will be marked against the following criteria:
1. The overall clarity of the essay with respect to structure and presentation (including figures and tables), grammar and spelling.
2. The extent to which the essay demonstrates research of the topic outside of the lecture content.
3. Appropriate acknowledgment of sources in the text and accurate representation in the reference list, using the Harvard referencing style.
4. Effectively summarising information within the 500 word limit.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Submission (and return) will be done via Moodle.

Learning Outcomes Assessed

- Define terminology associated with the study of invertebrate zoology
- Describe the structural and functional organisation of animals from the various invertebrate phyla in written and verbal form
- Explain the evolutionary history of the invertebrates, including their adaptations to particular environments and their ecology

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

2 Residential school practical report

Assessment Type
Practical Assessment

Task Description
This practical assessment comprises both a written report and oral presentation, both based on the project you will complete during the residential school. This assessment is worth 30% of your unit grade in total, with 20% attributed to the written report, and 10% attributed to the oral presentation.
Written report will be:

1. Prepared in the format of a scientific journal article (a template will be provided on Moodle).
2. Prepared either as an individual or in a group.
3. Maximum of 2500 words.
4. Minimum of 10 references.
5. Submitted as a group effort.

Oral presentation

1. Final day of the residential school in Rockhampton.
2. 8-10 powerpoint slides (a template will be provided on the Moodle site, and an example shown at the residential school).
3. Maximum of 10 minutes plus 5 minutes question time.
4. Presented as a group effort.

You will complete your residential school project as part of a group, usually of three-to-four students depending on enrolments. Groups will be formed by the unit coordinator based on your individual preference for a particular project (a list of projects to choose from will be available early in term). Both the oral presentation and the written report will be submitted for assessment as a group effort, with each group member being awarded the same grade for 80 % of the value of the assessment. The remaining 20 % of your grade will be based on Self and Peer Assessment to reflect individual participation in the group project.
Additional information and assessment instructions will be provided on the unit Moodle site, and at the residential school.

Assessment Due Date
Week 12 Friday (1 June 2018) 11:45 pm AEST
Note that the oral presentation component of this assessment item will be submitted on the final day of the residential school (1st of May, week 8), with the written report component of this assessment due on the 1st of June (week 12).

Return Date to Students
Exam Week Friday (15 June 2018)

Weighting
30%

Minimum mark or grade
40%

Assessment Criteria
The assessment will be marked on specific criteria relating to the oral presentation and report.
Written report:

1. Abstract (clear, concise summary of context, hypothesis, results and conclusions).
2. Introduction (Relevant context provided, starting with a broad focus of observations and models and narrowing to a clear, well-articulated hypothesis for a manipulative experiment).
3. Methods (adequate description and justification of methods used so experiment could be repeated).
4. Results (Concise description of results, ordered logically and presented in graphs/tables, as well as basic statistical analyses).
5. Discussion (Logical structure that discusses the key results and their meaning before placing results in a broader context and identifying biases/improvements/further fields of study etc).
6. References (cited appropriately throughout text, 10 minimum, no web pages unless of the data repository-type).
7. Spelling & grammar.
8. Word count (keeping to guidelines in each section).

Oral presentation:

1. Questions: Are questions and criticisms of the research project adequately considered and answered? Are the speakers able to place their results in a broader context to explain their significance? Do the speakers recognize

possible improvements to the experimental design, including new ideas that have emerged while doing the research?
2. Style: Do the speakers present the research clearly and confidently, demonstrating a sound grasp of the hypothesis and reasoning behind the methodology? Do the speakers present the research at an appropriate pace and keep on time? Do the speakers make good eye contact and engage with the audience?
3. Content: Are the slides clearly presented, logically ordered, well organized and pleasing to the eye? Do the slides present all the relevant information needed to understand the research project, including the reason(s) for doing the experiment, and any conclusions?

Referencing Style

- Harvard (author-date)

Submission
Offline Online Group

Submission Instructions
The oral presentation will be submitted as a group during the residential school. The group written report will be submitted online through Moodle.

Learning Outcomes Assessed

- Define terminology associated with the study of invertebrate zoology
- Describe the structural and functional organisation of animals from the various invertebrate phyla in written and verbal form
- Explain the evolutionary history of the invertebrates, including their adaptations to particular environments and their ecology
- Identify the major invertebrate taxa and explain, in wirtten and verbal form, the evolutionary and physiological basis for the taxonomic classification of these animals
- Acquire practical skills in the study of invertebrates by conducting basic scientific research on invertebrate abundaunce, distribution, behaviour, and ecology in both field and laboratory settings

Graduate Attributes

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

Examination

Outline
Complete an invigilated examination.

Date
During the examination period at a CQUniversity examination centre.

Weighting
50%

Length
180 minutes

Minimum mark or grade
45%

Exam Conditions
Closed Book.

Materials
Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).
Calculator - all non-communicable calculators, including scientific, programmable and graphics calculators are authorised

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