BIOL11102 *Life Science Laboratory*

Term 1 - 2022

Profile information current as at 12/10/2024 02:23 pm

All details in this unit profile for BIOL11102 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.

General Information

Overview

Understanding the evolution, anatomy and identification of plants and animals is critical in tackling the scientific study or management of organisms, ecosystems and animal or plant production. In Life Science Laboratory, you will study evolution and phylogeny, and the anatomy of the most common vertebrate and invertebrate animals, plants, algae and fungi, to support the development of your practical skills, which include specimen collection, preparation and curation; microscopic and macroscopic identification; and animal and plant dissection. This unit includes field work where you will use the knowledge and skills developed to study organisms in both terrestrial and marine ecosystems. On conclusion of this unit, you will understand the important role that biology plays in research and innovation in the fields of science, environmental science and agriculture.

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

Anti-requisite 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 - 2022

- 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. **Written Assessment**
Weighting: 20%
2. **Practical Assessment**
Weighting: 30%
3. **Laboratory/Practical**
Weighting: Pass/Fail
4. **Online Quiz(zes)**
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 Unit and Teaching Evaluation

Feedback

Very little information received prior to residential school. This needs to be fleshed out a bit more.

Recommendation

More information should be provided to students regarding the scheduling and laboratory activities at least two weeks prior to the Residential Schools.

Feedback from Student Unit and Teaching Evaluation

Feedback

The lectures were well presented. The presentation maintained interest. All the lecture materials were accessible.

Recommendation

The unit should continue to use a diverse range of teaching and learning sources to support student learning and understanding.

Feedback from Student Unit and Teaching Evaluation

Feedback

The lecturer explains things well. The unit layout and instructions for assessment were easy to follow. I learnt a lot. The subject was enjoyable and well presented.

Recommendation

Continue to provide instructions and information around assessment to support student learning and achievement of the unit learning objectives.

Feedback from Student Unit and Teaching Evaluation

Feedback

The residential school was a great way to learn the practical side to the unit.

Recommendation

The residential school is seen as an integral part of the unit with the primary focus on contextualization of classroom theory/concepts and building practical skill-sets. The residential school should continue.

Unit Learning Outcomes

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

1. Distinguish between major taxa of plants and animals using morphological features
2. Discuss evolution and the Hierarchy of Classification in relation to the diversity of living organisms
3. Safely perform laboratory activities, including the use of microscopes and aseptic techniques, and the dissection of plants and animals
4. Collect and curate plant specimens
5. Use dichotomous keys to identify flowering plants and insects.

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%			•	•	•
3 - Laboratory/Practical - 0%			•	•	•
4 - Online Quiz(zes) - 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 - Laboratory/Practical - 0%		•	•	•	•					
4 - Online Quiz(zes) - 50%	•	•	•	•						

Textbooks and Resources

Textbooks

There are no required textbooks.

Additional Textbook Information
Recommended reference textbook
Campbell Biology (Australian and New Zealand Edition)
Lisa A. Urry, Philippa Howden-Chapman, Lisa Early, Steven Alexander Wasserman, Jenny Ombler, Michael Lee Cain, Neil A. Campbell, Jane B. Reece, Peter V. Minorsky, Noel Meyers
ISBN: 9781488613715
Published: 21st September 2017
Publisher: Pearson Education Australia
Country of Publication: AU

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
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Schedule

Week 1 - 07 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Unifying Themes of Biology Mechanisms of Evolution Evolution of Populations	Evolution, the themes of biology, and scientific inquiry (pg 2 - 26) Mechanisms of Evolution (pg 471 - 575) (Note: page references are for the 12th edition and may differ from early editions)	

Week 2 - 14 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
The Tree of Life and Phylogeny Cell Theory The Prokaryotes	Phylogeny and the Tree of Life (pg 578 to 597) The Cell (pg 94 to 213) Bacteria and Archaea (pg 598 to 617)	

Week 3 - 21 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic

Protists Fungi Tutorial - Lookin' back	Protists (pg 618 to 642) Fungi (pg 689 to 709)	

Week 4 - 28 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Plant Diversity, Form and Function I	Plant diversity I: How plants colonised land (pg 643 to 662) Plant diversity II: The evolution of seed plants (pg 663 to 688)	

Week 5 - 04 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
Plant Diversity, Form and Function II	Plant form and function (pg 798 to 920)	

Vacation Week - 11 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
		Media article on an organism recently discovered in Australia Due: Vacation Week Monday (11 Apr 2022) 9:00 am AEST

Week 6 - 18 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
Animal Diversity Animal Morphology The Invertebrates	An overview of animal diversity (pg 710 to 724) An introduction to invertebrates (pg 725 to 729)	

Week 7 - 25 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
Eumetazoans (Cnidarians) Lophotrochozoans (Platyhelminths, Annelids).	An introduction to invertebrates (pg 730 to 743)	

Week 8 - 02 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
Lophotrochozoans (Molluscs, Arthropods) Introduction to Insects	Ecdysozoans are the most species-rich animal group (pg 744 to 751)	

Week 9 - 09 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
Residential School A		Residential School A, 9th-15th May, Rockhampton Campus

Week 10 - 16 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
Residential School B		Residential School B, 16th-22nd May, Rockhampton Campus

Week 11 - 23 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
Deuterostomes (Echinoderms) The Origin and Evolution of Vertebrates	Echinoderms and chordates are deuterostomes (pg 752 to 754) The origin and evolution of vertebrates (pg 757 to 797)	

Week 12 - 30 May 2022

Module/Topic	Chapter	Events and Submissions/Topic

The Origin and Evolution of Vertebrates cont Animal Form and Function Recap.	Animal Form and Function (pg 921 to 946)	

Review/Exam Week - 06 Jun 2022

Module/Topic	Chapter	Events and Submissions/Topic
		End of Unit Online Test Due: Review/Exam Week Monday (6 June 2022) 9:00 am AEST

Exam Week - 13 Jun 2022

Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

This unit comprises a series of online lectures and a face-to-face residential school held at the Rockhampton North campus. Unless otherwise stated, lectures are recorded to maximize student flexibility and will be available on the unit's Moodle page, there are no live or face-to-face lectures for this unit. New topics, lectures and other learning materials will be made available each week over the 12 week term. The practical component for this unit consists of a week long residential school held in Week 9 and 10, you must attend one of the scheduled residential school's. The unit's Moodle page will be the key access point for all learning materials, relevant information, and communication regarding all aspects of the unit.
The recommend text, Campbell Biology, Australia and New Zealand 11th edition, has recent been superseded by the 12th edition. Either editions are suitable for the unit.

Assessment Tasks

1 Media article on an organism recently discovered in Australia

Assessment Type
Written Assessment

Task Description
This assessment requires you to research an organism that has been discovered in Australia (including surrounding waters) within the last ten years and write a 500 word article for a popular science magazine.
Your article should include a description of the scientific classification (kingdom, phylum etc) and the characteristics associated with organisms in that group (approximately 200 words). In the remaining words (approximately 300), you should describe what is interesting about the organism, what makes it different from other similar organisms, the significance of the discovery, or other relevant information that will attract and keep the audience's attention. At the end of the article, you must provide a list of the references you have used, but do not use any in-text referencing except to refer to the scientific paper that describes the species that has been discovered. As well as uploading your assignment as a Word document, you must upload a pdf of the original paper where the species is described. Exemplar articles will be available on the unit's Moodle page at the commencement of the term.

Assessment Due Date
Vacation Week Monday (11 Apr 2022) 9:00 am AEST

Return Date to Students
Week 8 Monday (2 May 2022)

Weighting
20%

Assessment Criteria
Assessment Criteria
The complete assessment rubric will be available on the unit's Moodle site at the commencement of the term.
The assessment criteria primarily focuses on the following:
1. Accuracy of the information about the newly discovered species and its classification.
2. Relevance of the material.
3. Accuracy of referencing.

4. Correct English grammar.
5. Clarity of expression and ability to engage an audience.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Upload your article as a Word document (.doc or .docx) and the original article where the species is described as an Adobe pdf.

assessmentOutcome

- Distinguish between major taxa of plants and animals using morphological features
- Discuss evolution and the Hierarchy of Classification in relation to the diversity of living organisms

assessmentGradAttribute

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy

2 Practical Assessment

Assessment Type
Practical Assessment

Task Description
You will demonstrate a range of biological laboratory skills and complete a series of assessments during the Residential School. Assessment activities will address competence in the use of microscopes and preparation of biological slides, scientific drawings for biological, plant and animal dissection, identification of plant and animal organs, tissues, and structures, use of dichotomous and lucid keys for plant and insect identification, and short online quiz based on the material covered during the practical laboratory session.

Assessment Due Date

Residential School Week

Return Date to Students

Residential School Week

Weighting
30%

Assessment Criteria
Competency and performance of assessment tasks will be evaluated on the correctness, comprehensiveness and relevance of the response. Specific details regarding each Residential School assessment will be available on the Moodle two weeks prior to the the residential school (see Week 9 and 10) and be explained prior to undertaking the relevant practical laboratory session.

Referencing Style

- Harvard (author-date)

Submission
Offline Online

assessmentOutcome

- Safely perform laboratory activities, including the use of microscopes and aseptic techniques, and the dissection of plants and animals
- Collect and curate plant specimens
- Use dichotomous keys to identify flowering plants and insects.

assessmentGradAttribute

- Communication
- Problem Solving

- Critical Thinking
- Information Technology Competence

3 Laboratory/Practical

Assessment Type
Laboratory/Practical

Task Description
During or after each laboratory session, students will present their work to a supervisor for marking and feedback. Students must ensure that all required skills checks are completed and signed off on.

Assessment Due Date

Residential School Week

Return Date to Students

Residential School Week

Weighting
Pass/Fail

Minimum mark or grade
Pass

Assessment Criteria
The assessment criteria for each laboratory session will vary, but assessment criteria will generally involve the following: Safety, Accuracy, Completeness, and Concept understanding. After receiving feedback, and at the supervisors discretion students maybe asked to demonstrate proficiency in skills. This assessment is a Pass/Fail.

Referencing Style

- Harvard (author-date)

Submission
Offline

assessmentOutcome

- Safely perform laboratory activities, including the use of microscopes and aseptic techniques, and the dissection of plants and animals
- Collect and curate plant specimens
- Use dichotomous keys to identify flowering plants and insects.

assessmentGradAttribute

- Problem Solving
- Critical Thinking
- Information Literacy
- Team Work

4 End of Unit Online Test

Assessment Type
Online Quiz(zes)

Task Description
The unit test is based on lecture and study material covered during Weeks 1-12 (students are asked to revise the lecture and reading material associated with each week). The unit test limited to 120 minutes for completion and must be submitted after completion. Answers will be automatically submitted after 120mins. Test questions will be a combination ten (10) short and eight (8) long answer questions. Short answer questions will form 20% and long answer questions 80% of total available marks

Number of Quizzes
1

Frequency of Quizzes
Other

Assessment Due Date
Review/Exam Week Monday (6 June 2022) 9:00 am AEST

Return Date to Students

Weighting
50%

Assessment Criteria
Answers will be assessed on their completeness, relevance, depth and correct application of biological knowledge.

Referencing Style

- Harvard (author-date)

Submission
Online

assessmentOutcome

- Distinguish between major taxa of plants and animals using morphological features
- Discuss evolution and the Hierarchy of Classification in relation to the diversity of living organisms

assessmentGradAttribute

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy

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