BIOL11102 *Life Science Laboratory*
Term 1 - 2021

Profile information current as at 30/04/2024 11:14 am

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 - 2021

- Bundaberg
- 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).

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. **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 SUTE

Feedback
Students enjoy the hands on aspects of this unit.

Recommendation
Practicals and field trips will continue.

Feedback from SUTE

Feedback
Students appreciated the change to online laboratories required during Covid-19.

Recommendation
Online laboratories will be provided as required in future.

Feedback from SUTE

Feedback
Some students would like to see a clear distinction between core and supplementary knowledge.

Recommendation
Information will be designated as core or supplementary where appropriate.

Feedback from SUTE

Feedback
Students liked the level of detail provided in lectures, and the order in which the information was provided.

Recommendation
Lecture format and level of detail will 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%	•	•			

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
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

BIOL11102

Prescribed

Campbell Biology: Australian and New Zealand Version
11th Edition (2018)
Authors: Urry, LA, Meyers, N, Cain, ML, Wasserman, SA, Minorsky, PV, Reece, JB
Pearson Australia
Melbourne , Victoria , Australia
ISBN: 9781488613715
Binding: Hardcover

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

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

Schedule

Week 1 - 08 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Understanding biological diversity	Study Guide Module 1	Laboratory Skill Sets Practical 1
Evolution by natural selection	Study Guide Module 2	Assessment (ROK students only)
Hierarchy of classification	Study Guide Module 3	

Week 2 - 15 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Taxonomy	Study Guide Module 3	
Cell theory	Study Guide Module 4	
Prokaryotes	Study Guide Module 5	

Week 3 - 22 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Endosymbiosis	Study Guide Module 6	Laboratory Skill Sets Practical 3
Protists	Study Guide Module 7	Assessment (ROK students only).
Algae	Study Guide Module 7	

Week 4 - 29 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic

Bryophytes	Study Guide Module 8	
Monilophytes and Lycophytes	Study Guide Module 9	
Gymnosperms	Study Guide Module 10	

Week 5 - 05 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
Angiosperms (flowering plants) Review of plant morphology	Study Guide Module 11 Study Guide Module 12	Media article on an organism recently discovered in Australia due. Due: Week 5 Friday (9 Apr 2021) 11:30 pm AEST. **Media article on an organism recently discovered in Australia** Due: Week 5 Friday (9 Apr 2021) 11:30 pm AEST

Vacation Week - 12 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 19 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
Fungi Porifera Cnidarians	Study Guide Module 13 Study Guide Module 14 Study Guide Module 15	

Week 7 - 26 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
Platyhelminths Annelids	Study Guide Module 16 Study Guide Module 17	Laboratory Skill Sets Practical 6 Assessment (ROK students only).

Week 8 - 03 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
Molluscs Nematodes	Study Guide Module 18 Study Guide Module 19	

Week 9 - 10 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
Arthropods Focus on insects	Study Guide Module 20 Study Guide Module 20	Residential School (including North Keppel Island field trip) for Mixed-mode Students. North Keppel Island field trip for Rockhampton Students (Group A). Laboratory Skill Sets Practical 1, 3 and 6 Assessments (Res Sch A students only).

Week 10 - 17 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
No lectures		Residential school (including North Keppel Island field trip) for Mixed-mode Students. North Keppel Island field trip for Rockhampton Students (Group B). Laboratory Skill Sets Practical 1, 3 and 6 Assessments (Res Sch B students only).

Week 11 - 24 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
Echinoderms Chordates Humans and other vertebrates	Study Guide Module 21 Study Guide Module 22 Study Guide Module 22	

Week 12 - 31 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
Review of animal morphology Origin of life Unit review	Study Guide Module 23 Study Guide Module 24	Field Trip Online Quiz, Practical's 1-4 Online Quiz, Practical's 5-8 Online Quiz due. Online tests on Practical work Due: Week 12 Friday (4 Jun 2021) 11:30 pm AEST **Practical Assessment** Due: Week 12 Friday (4 June 2021) 11:30 pm AEST **End of Unit Online Quiz** Due: Week 12 Monday (31 May 2021) 11:45 pm AEST

Review/Exam Week - 07 Jun 2021

Module/Topic	Chapter	Events and Submissions/Topic

Exam Week - 14 Jun 2021

Module/Topic	Chapter	Events and Submissions/Topic
		End of Unit Online Quiz: Exam week Monday 14th June.

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 units Moodle page at the commencement of the term.

Assessment Due Date
Week 5 Friday (9 Apr 2021) 11:30 pm AEST

Return Date to Students
Week 8 Monday (3 May 2021)

Weighting
20%

Assessment Criteria
The complete assessment rubric will be available on the units 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.

Learning Outcomes Assessed

- 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

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy

2 Practical Assessment

Assessment Type
Practical Assessment

Task Description
You will complete three (3) short tests (10% each) based on the practical material covered during your practical laboratory/field sessions.
The timing of these assessments will vary according to your enrolment mode (On-campus or Mixed-mode). You must complete the relevant practical work before attempting the tests. A full schedule of practical work and associated tests will be available on the unit Moodle site for each enrolment mode and all practical tests will close at the end of Week 12. These on-line tests will be based on the material covered in:

1. Field trip (untimed; short answer).
2. Laboratory Practicals 1 - 4 (30 minutes; multiple choice questions; one attempt only).
3. Laboratory Practicals 5 - 8 (30 minutes; multiple choice questions; one attempt only).

Assessment Due Date
Week 12 Friday (4 June 2021) 11:30 pm AEST

Return Date to Students

Results will available a short time after online submission of the quiz.

Weighting
30%

Assessment Criteria
Answers to on-line tests will be assessed on the correctness, comprehensiveness and relevance of the answers.

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- 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.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Technology Competence

3 Laboratory skills tests

Assessment Type
Laboratory/Practical

Task Description
Three tests will be conducted during practical laboratory classes. These tests will be based on a combination of practical skills and relevant theoretical knowledge in:

1. Practical 1 (Bacteria and protists). Correctly set up a microscope, prepare a wet mount of a protist and draw the specimen on the microscope slide.
2. Practical 3 (Flowering plants), Collect a plant specimen, complete an appropriate plant label and identify the specimen to Family.
3. Practical 6 (Identifying insects). Identify an insect to Order and draw the specimen, labelling the morphological features used in the identification.

Students will be assessed as Pass/Fail during the practical session.

Assessment Due Date

Students will be assessed during the relevant practical laboratory session.

Return Date to Students

Students will be assessed as Pass/Fail during the practical session.

Weighting
Pass/Fail

Assessment Criteria
Ability to perform the laboratory exercises to the required standard.

Referencing Style

- Harvard (author-date)

Submission
Offline

Submission Instructions
You must submit and pass all three Laboratory Skills Tests to successfully complete the unit.

Learning Outcomes Assessed

- 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.

Graduate Attributes

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

4 End of Unit Online Quiz

Assessment Type
Online Quiz(zes)

Task Description
This end of unit quiz 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 end of unit online quiz is limited to **120 minutes for completion** and must be submitted after completion. Answers will be automatically submitted after 120mins.
Quiz 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
Week 12 Monday (31 May 2021) 11:45 pm AEST
During the University examination period

Return Date to Students

Weighting
50%

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

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- 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

Graduate Attributes

- 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