

BIOL11102 *Life Science Fundamentals*

Term 1 - 2026

Profile information current as at 21/04/2026 08:49 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

In this unit you will explore a range of fundamental principles and topics within the life sciences discipline. In Life Science Fundamentals you will study and develop an understanding of cell structure and function, genetics and inheritance, evolutionary processes, and the anatomy and function of common living organisms, including bacteria and viruses. This unit will prepare you for more specialised study and help you understand the important role that life science plays in the scientific study or management of organisms, ecosystems, and animal or plant production. This unit includes a practical component that develops the necessary skills required to study organisms and undertake scientific inquiry in a university context and beyond.

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 - 2026

- 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: 20%

2. Presentation

Weighting: 30%

3. Laboratory/Practical

Weighting: 30%

4. Written Assessment

Weighting: 20%

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 2025 SUTE Evaluations

Feedback

Staff fostered an inclusive and interactive learning environment. Building on this, greater attention to the diversity of student backgrounds could further strengthen engagement.

Recommendation

Staff should continue to build on the inclusive environment established in this unit by more deliberately integrating diverse student perspectives and experiences into learning activities and resources.

Unit Learning Outcomes

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

1. Describe the principles of cell theory, energetics, and metabolism.
2. Apply knowledge of genetics and inheritance to the evolution of populations, conservation, and captive breeding.
3. Demonstrate understanding of evolution by natural selection and biological diversity.
4. Describe the basic principles of plant and animal form and function.
5. Safely and proficiently perform various laboratory activities and techniques, such as the use of microscopes, biological identification keys, thin layer chromatography, gel electrophoresis, and the dissection of plants and animals.
6. Synthesise information from life science information sources and communicate scientific information to general audiences.

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	6
1 - Online Quiz(zes) - 20%	●	●	●	●		
2 - Presentation - 30%	●	●	●	●		●
3 - Laboratory/Practical - 30%					●	
4 - Written Assessment - 20%					●	●

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes

Learning Outcomes

- 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 - First Nations Knowledges
- 11 - Aboriginal and Torres Strait Islander Cultures

	1	2	3	4	5	6
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 - First Nations Knowledges						
11 - Aboriginal and Torres Strait Islander Cultures						

Textbooks and Resources

Textbooks

BIOL11102

Supplementary

Campbell Biology, Australian and New Zealand Edition

Edition: 12th (2021)

Authors: Wasserman, Steven. A., et al.

Pearson Education

ISBN: 9781488626241

Additional Textbook Information

CQU students can access the online ebook version of Campbell Biology at ProQuest Ebook Central via the CQU Library.

If you prefer your own paper copy, you can purchase at the University Shop here: <https://shop.cqu.edu.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
a.carton@cqu.edu.au

Schedule

Week 1 - 09 Mar 2026

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Unit Unifying Themes of Biology The Cell Tutorial Q and A		

Week 2 - 16 Mar 2026

Module/Topic	Chapter	Events and Submissions/Topic
Genetics Tutorial Q and A		

Week 3 - 23 Mar 2026

Module/Topic	Chapter	Events and Submissions/Topic
Mechanisms of Evolution Biological Diversity Tutorial Q and A		

Week 4 - 30 Mar 2026

Module/Topic	Chapter	Events and Submissions/Topic
Plant Diversity, Form and Function I		

Week 5 - 06 Apr 2026

Module/Topic	Chapter	Events and Submissions/Topic
Plant Diversity, Form and Function II Tutorial Q and A		

Week 6 - 13 Apr 2026

Module/Topic	Chapter	Events and Submissions/Topic
Prokaryotes Eukaryotes Tutorial Q and A		Video Presentation of a Recent Biological Discovery Due: Week 6 Monday (13 Apr 2026) 11:55 pm AEST

Vacation Week (Mid-term break) - 20 Apr 2026

Module/Topic	Chapter	Events and Submissions/Topic
		Quiz 1 Due: Vacation Week Sunday (26 Apr 2026) 11:55 pm AEST.

Week 7 - 27 Apr 2026

Module/Topic	Chapter	Events and Submissions/Topic
Animal Diversity Animal Form and Function Tutorial Q and A		Residential School A (Thursday to Sunday).

Week 8 - 04 May 2026

Module/Topic	Chapter	Events and Submissions/Topic

Lophotrochozoans Ecdysozoans Tutorial Q and A		Scientific Research Report Due: Week 8 Sunday (10 May 2026) 11:55 pm AEST (for Residential School A participants).
Week 9 - 11 May 2026		
Module/Topic	Chapter	Events and Submissions/Topic
Animal Diversity Animal Form and Function Tutorial Q and A		Residential School B (Monday to Thursday).
Week 10 - 18 May 2026		
Module/Topic	Chapter	Events and Submissions/Topic
Insects Chordates Tutorial Q and A		Scientific Research Report Due: Week 10 Thursday (21 May 2026) 11:55 pm AEST (for Residential School B participants).
Week 11 - 25 May 2026		
Module/Topic	Chapter	Events and Submissions/Topic
The Origin of Vertebrates The Tetrapods Tutorial Q and A		
Week 12 - 01 Jun 2026		
Module/Topic	Chapter	Events and Submissions/Topic
Mammals, Primates, and Humans Tutorial Q and A		Quiz 2 Due: Week 12 Sunday (7 Jun 2026) 11:55 pm AEST.

Assessment Tasks

1 Online Quiz(zes) / Short Answer Questions

Assessment Type

Online Quiz(zes)

Task Description

This assessment is exclusively based on lecture, study, and reading material associated with Weeks 1-6 (Quiz 1), and Weeks 7-12 (Quiz 2).

Each quiz is limited to twenty (20) minutes and must be submitted after completion. You have one attempt per quiz. Questions can be a mix of true/false, multiple choice, mix-and-match, drag and drop, short answers, and other formats. Do not share your questions or answers with other students as this may disadvantage other students, such behaviour will be considered a breach of academic integrity and may result in academic misconduct.

Level of GenAI use allowed:

Level 1: The use of Generative Artificial Intelligence (Gen AI) in this assessment is not permitted and is thus unacceptable, if you use Gen AI in this assessment it will be considered Academic Misconduct.

The 72-hour grace period does not apply to this assessment.

Number of Quizzes

2

Frequency of Quizzes

Other

Assessment Due Date

Quiz 1 due 11:55pm Sunday of Vacation week; Quiz 2 11:55pm Sunday of Week 12.

Return Date to Students

Immediately following online submission of the quiz.

Weighting

20%

Minimum mark or grade

50%

Assessment Criteria

Answers will be assessed on their completeness, relevance, depth and correct application of life sciences knowledge as covered in the unit materials.

Please note a minimum achievement level is set for this assessment activity (i.e., you must equal or exceed this set minimum achievement level for you to be considered for a passing grade for this unit overall, irrespective of your achievement in other assessment components in this unit).

Referencing Style

- Harvard (author-date)

Submission

Online

Submission Instructions

You must submit the quiz after completion. The quiz will self-submit twenty (20) minutes after the the quiz is opened.

Learning Outcomes Assessed

- Describe the principles of cell theory, energetics, and metabolism.
- Apply knowledge of genetics and inheritance to the evolution of populations, conservation, and captive breeding.
- Demonstrate understanding of evolution by natural selection and biological diversity.
- Describe the basic principles of plant and animal form and function.

2 Video Presentation of a Recent Biological Discovery

Assessment Type

Presentation

Task Description

This assessment task requires you to produce a video presentation detailing a recent biological event, discovery, or break-through that occurred between the years 2015 to 2026. Your goal is to move beyond the initial general public news report and provide a deeper, technically accurate explanation of the biological mechanism(s) involved, the significance of the discovery, event or break-through, and outline why this matters to the scientific community.

Your video presentation should be five (5) minutes ($\pm 10\%$) long.

There will be three broad components to consider for this assessment:

1. Choice of suitable biological discovery, break-through, or event (this must have occurred between 2015-2026 and be a small enough topic that it can be adequately covered in 5 minutes, but also significant enough to fill the 5 minute presentation);
2. Being scientific and dispassionate in your approach to presentation content (no scientific jargon or value-laden language), inclusion and use of the relevant scientific concepts/terms, and explanations where needed; and
3. Production of a reasonable quality video, audio, and associated presentation.

Level of GenAI use allowed:

Level 2: You may use Generative Artificial Intelligence (GenAI) for planning, idea development, and initial research. Your final submission should show how you have developed and refined these ideas beyond GenAI. If you use GenAI you must include the GenAI model and all GenAI prompts used in a separate document when submitting your video file. You may not use GenAI to generate imagery or scripts.

Assessment Due Date

Week 6 Monday (13 Apr 2026) 11:55 pm AEST

Return Date to Students

Week 7 Friday (1 May 2026)

Assessment, feedback and marking rubric returned via the unit Moodle site.

Weighting

30%

Minimum mark or grade

50%

Assessment Criteria

Submissions will be assessed on the criteria in the table below. A more detailed rubric can be found on the Moodle.

Criteria	Weight
1. Scientific accuracy	20%

2. Context and significance	15%
3. Information relevance	30%
4. Structure and flow	15%
5. Communication and Audio-visual	20%

You will need to find, use and cite at least three *primary peer-reviewed* information sources (e.g., Nature, Science) in your presentation and include a reference list of information sources used at the end of the presentation. You are also required to complete and submit an Assessment Self-Reflection and Metadata Sheet.

Please note a minimum achievement level is set for this assessment activity (i.e., you must equal or exceed this set minimum achievement level for you to be considered for a passing grade for this unit overall, irrespective of your achievement in other assessment components in this unit).

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Online

Submission Instructions

Submit your presentation via the link found on the Moodle under Assessment 2. Submission file size is limited to 100Mb and must be submitted via Echo 360. Instructions on how to do this can be found on the Moodle.

Learning Outcomes Assessed

- Describe the principles of cell theory, energetics, and metabolism.
- Apply knowledge of genetics and inheritance to the evolution of populations, conservation, and captive breeding.
- Demonstrate understanding of evolution by natural selection and biological diversity.
- Describe the basic principles of plant and animal form and function.
- Synthesise information from life science information sources and communicate scientific information to general audiences.

3 Residential School Practical Assessments

Assessment Type

Laboratory/Practical

Task Description

You will demonstrate a range of biological skills and complete a series of assessments during your attendance at the Residential School.

Assessment activities will address competence in the use of microscopes and preparation of biological slides, 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 quizzes based on the material covered during practical laboratory sessions.

Level of GenAI use allowed:

Level 1: The use of Generative Artificial Intelligence (Gen AI) in this assessment is not permitted and is thus unacceptable, if you

use Gen AI in this assessment it will be considered Academic Misconduct.

The 72-hour grace period does not apply to this assessment.

Assessment Due Date

Residential School Week (Residential School A - Week 7, Residential School B - Week 9)

Return Date to Students

Residential School Week

Weighting

30%

Minimum mark or grade

50%

Assessment Criteria

Competency and performance of residential school assessment tasks will be evaluated on the correctness, comprehensiveness and relevance of the response. Specific details regarding Residential School assessment tasks will be available on the Moodle two weeks prior to the residential school (see Week 7 and 9) and be explained prior to undertaking the relevant practical laboratory session.

Please note a minimum achievement level is set for this assessment activity (i.e., you must equal or exceed this set minimum achievement level for you to be considered for a passing grade for this unit overall, irrespective of your achievement in other assessment components in this unit).

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Offline

Learning Outcomes Assessed

- Safely and proficiently perform various laboratory activities and techniques, such as the use of microscopes, biological identification keys, thin layer chromatography, gel electrophoresis, and the dissection of plants and animals.

4 Scientific Research Report

Assessment Type

Written Assessment

Task Description

In this assessment, you will transition from a student in the laboratory to a contributing scientist. Based on the data collected during one of the Residential School practical sessions, you are required to write a formal scientific paper. Your goal is to communicate the findings of your experiment with clarity, precision, and objectivity, while adhering to standard academic conventions in life sciences. Your report must include the following six sections:

Abstract - a concise summary of the entire paper;

Introduction - providing the necessary background information and defining the biological concepts being tested;

Materials and Methods - a description of how the experiment was conducted;

Results - objective presentation of your findings;

Discussion - interpretation of your results.

Level of GenAI use allowed:

Level 2: You may use AI for planning, idea development, and initial research. Your final submission should show how you have developed and refined these ideas beyond GenAI. You may not use GenAI to generate imagery or graphics. If you use GenAI you must include the GenAI model and GenAI prompts used in a separate document when submitting your report. When using references you must include the relevant page and line number within the referenced document.

Assessment Due Date

Seven (7) days after the conclusion of the residential school. For Residential School A this is 11:55pm, Sunday of Week 8. For Residential School B this is 11:55pm, Thursday of Week 10.

Return Date to Students

Vacation/Exam Week Friday (19 June 2026)

Assessment, feedback and marking rubric returned via the unit Moodle site.

Weighting

20%

Minimum mark or grade

50%

Assessment Criteria

Submissions will be assessed on the criteria in the table below. A more detailed rubric can be found on the Moodle.

Criteria

Weight

Scientific Accuracy: Correct interpretation of life sciences principles. 25%

Flow and Structure: Proper use of the AIMRaD (Abstract, Introduction, Methods, Results, and Discussion) format. 20%

Data Presentation: Clarity, relevance and professional standard of data presentation (figures and tables). 15%

Academic Integrity and Analysis: Critical evaluation of the data and results, accurate and consistent referencing. 25%

Communication and Grammar: Correct use of grammatical conventions for readability, clarity and comprehension. 15%

You will need to find, use and cite at least three *primary peer-reviewed* information sources (e.g., Nature, Science) in your report.

Please note a minimum achievement level is set for this assessment activity (i.e., you must equal or exceed this set minimum achievement level for you to be considered for a passing grade for this unit overall, irrespective of your achievement in other assessment components in this unit).

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Online

Submission Instructions

Submit your presentation via the link found on the Moodle under Assessment 4.

Learning Outcomes Assessed

- Safely and proficiently perform various laboratory activities and techniques, such as the use of microscopes, biological identification keys, thin layer chromatography, gel electrophoresis, and the dissection of plants and animals.
- Synthesise information from life science information sources and communicate scientific information to general audiences.

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