



# **BOTN13002 *Plants and the Environment***

## **Term 1 - 2020**

Profile information current as at 27/04/2024 07:14 pm

All details in this unit profile for BOTN13002 have been officially approved by CQUUniversity 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.

### Corrections

#### **Unit Profile Correction added on 28-04-20**

The end of term examination has now been changed to an alternate form of assessment. Please see your Moodle site for details of the assessment.

The Residential School for this unit has been postponed and you will need to complete this activity or its alternative, at a later date. Further details about the residential school will be made available on Moodle in due course.

## General Information

### Overview

This unit is concerned with the in vivo responses of plants to the environment. There is coverage of structure and function of the whole plant.

### 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

BOTN11004 Foundation Plant Biology or BIOL11100 Functional Biology

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 - 2020

- 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. **Online Quiz(zes)**

Weighting: 10%

#### 2. **Written Assessment**

Weighting: 25%

#### 3. **Practical Assessment**

Weighting: 25%

#### 4. **Examination**

Weighting: 40%

### 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](#).

## Unit Learning Outcomes

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

1. Describe and illustrate the principal physiological processes of angiosperms as an integrated system.
2. Apply knowledge of plant physiology in real life situations in agriculture, forestry and vegetation management.
3. Conduct plant physiology experiments, write experimental reports in the correct format and critique existing reports.

## Alignment of Learning Outcomes, Assessment and Graduate Attributes



### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes		
	1	2	3
1 - Online Quiz(zes) - 10%	•	•	
2 - Written Assessment - 25%	•	•	
3 - Practical Assessment - 25%	•	•	•
4 - Examination - 40%	•	•	

### Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes		
	1	2	3
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 - Online Quiz(zes) - 10%	•	•	•			•				

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
2 - Written Assessment - 25%	•	•	•	•						
3 - Practical Assessment - 25%		•	•		•	•	•	•		
4 - Examination - 40%	•	•	•							

## Textbooks and Resources

### Textbooks

**There are no required textbooks.**

#### Additional Textbook Information

An on-line (free) text is used (Plants in Action).

'Plant Physiology' by Salisbury and Ross is recommended for reading (not as a required text).

### IT Resources

**You will need access to the following IT resources:**

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Computer with Microsoft Office and Endnote installed. The 'Real Statistics' add-In for Microsoft Excel is highly recommended to undertake the statistical analysis required for this course

## Referencing Style

All submissions for this unit must use the referencing style: [Harvard \(author-date\)](#)

For further information, see the Assessment Tasks.

## Teaching Contacts

**Kerry Walsh** Unit Coordinator

[k.walsh@cqu.edu.au](mailto:k.walsh@cqu.edu.au)

**Nathan Brooks-English** Unit Coordinator

[n.english@cqu.edu.au](mailto:n.english@cqu.edu.au)

## Schedule

### Week 1 - 09 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Introduction & Overview	Please read 'Plants in Action ed 1' sections 'Preamble', 'A Plant Science Manifesto' and 'Plant Science Applied: case study cotton'. from <a href="https://www.asps.org.au/plants-in-action-2nd-edition-pdf-files">https://www.asps.org.au/plants-in-action-2nd-edition-pdf-files</a>	

### Week 2 - 16 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Seed dormancy and germination	Study Guide Module 1 Plants in Action ed 1: Chapters 8.1.1, 8.1.2 and case study 8.1.	

**Week 3 - 23 Mar 2020**

Module/Topic	Chapter	Events and Submissions/Topic
Water potential	Study Guide Module 2 Plants in Action: Chapter 3 (Water movement) and 5 (Phloem transport) and the section in Chapter 7 on cell expansion (over several weeks)	Week 1 Quiz closes Week 3 Monday night (11.59 pm)

**Week 4 - 30 Mar 2020**

Module/Topic	Chapter	Events and Submissions/Topic
Water uptake and transport	Study Guide Module 3 as for week 2: Plants in Action: Chapter 3 (Water movement) and 5 (Phloem transport), the section in Chapter 7 on cell expansion and Chapter 15.	Week 2 Quiz closes Week 4 Monday night (11.59 pm)

**Week 5 - 06 Apr 2020**

Module/Topic	Chapter	Events and Submissions/Topic
Water relations	as for week 4	Week 3 Quiz closes Week 5 Monday night (11.59 pm) (Optional - progress submission on Assignment 1).

**Vacation Week - 13 Apr 2020**

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

**Week 6 - 20 Apr 2020**

Module/Topic	Chapter	Events and Submissions/Topic
Mineral nutrition	Study Guide Module 4 Plants in Action: Chapters 4 and 16	Week 4 Quiz closes Week 6 Monday night (11.59 pm)

**Week 7 - 27 Apr 2020**

Module/Topic	Chapter	Events and Submissions/Topic
Nitrogen and sulphur	Study Guide Module 5 Plants in Action: Chapters 4 and 16	Week 5 Quiz closes Week 7 Monday night (11.59 pm) Compulsory Residential School is scheduled in Rockhampton May 1 to 3, 2020 (Optional - progress submission on Assignment 1).

**Week 8 - 04 May 2020**

Module/Topic	Chapter	Events and Submissions/Topic
Photosynthesis	Study Guide Module 6 Plants in Action: Chapters 1, 2 and 13	Week 6 Quiz closes Week 8 Monday night (11.59 pm)

**Week 9 - 11 May 2020**

Module/Topic	Chapter	Events and Submissions/Topic
Carbohydrate metabolism	Study Guide Module 7 Plants in Action: Chapters 2.4 and 11.3 to 11.7	Week 7 Quiz closes Week 9 Monday night (11.59 pm)

**Week 10 - 18 May 2020**

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

Plant growth - description and regulation

Study Guide Module 8  
Plants in Action: Chapter 6 and 9

Week 8 Quiz closes Week 10 Monday night (11.59 pm)  
Monday - Assignment 1 and Practical reports due

**Making Sense of Plant Processes**  
Due: Week 10 Monday (18 May 2020) 11:45 pm AEST  
**Practical Reports** Due: Week 10 Monday (18 May 2020) 11:45 pm AEST

### Week 11 - 25 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Plant growth modelling - bringing it all together	Plants in Action: Chapter 6	Week 9 and 10 Quiz close Week 11 Monday night (11.59 pm) .

### Week 12 - 01 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic
Review		Week 11 Quiz closes Week 12 FRIDAY night (11.59 pm)

### Review/Exam Week - 08 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic
		Week 12 review quiz closes 11:59 pm; Monday of exam/review week (i.e., week '13')

### Exam Week - 15 Jun 2020

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

## Assessment Tasks

### 1 Online Quizzes

#### Assessment Type

Online Quiz(zes)

#### Task Description

On-line quizzes are associated with each week of activity in Moodle. For most weeks the deadline is the second following Monday (e.g., week 1 quiz is due Week 3 Monday). The exceptions are the last weeks of term. The quizzes are designed to check that you have done the reading and understood the concepts associated with each weeks' learning. As items of continuous assessment, each quiz is of small 'value', but understanding each week's material will lead to better assignment and exam scores!

For each quiz: there is no time limit; 1 re-attempt of a quiz is allowed but not required; and there is a 20 minute enforced time period between attempts. The highest grade of the two attempts will be used in assessment. Questions are generally multiple choice but include term matching and calculations.

The questions in each quiz are taken from a question bank, so you may not get the same questions the second time you take the quiz. All quizzes must be attempted.

#### Number of Quizzes

12

#### Frequency of Quizzes

Weekly

#### Assessment Due Date

Quizzes covering a given week of material are due just over a week later, on the Monday evening at 11:59 pm; e.g. week 1 quiz closes on Monday night of Week 3.

#### Return Date to Students

Automated marking return on submission of quizz.

**Weighting**

10%

**Minimum mark or grade**

50% (for average of all quizzes)

**Assessment Criteria**

Multiple choice / matching term / calculation answer questions will be automatically marked as correct or incorrect.

**Referencing Style**

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

**Submission**

Online

**Learning Outcomes Assessed**

- Describe and illustrate the principal physiological processes of angiosperms as an integrated system.
- Apply knowledge of plant physiology in real life situations in agriculture, forestry and vegetation management.

**Graduate Attributes**

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

## 2 Making Sense of Plant Processes

**Assessment Type**

Written Assessment

**Task Description**

The 'Making Sense of Plant Processes' assessment item is meant to check and demonstrate your progress in various plant topics covered in the unit to the point of submission.

This assessment item is comprised of a number of tasks, including calculations and descriptive/interpretive short answers. It will cover material presented in Weeks 1 - 10. The specific questions will be posted on the Moodle site by the end of Week 2. Start this assessment right away and keep on top of it. Don't wait for the last week to do it!

Please submit your answers in a Word document (doc, docx or rtf). PDF documents will **NOT** be accepted. You can perform calculations or draw figures by hand and insert them as images (e.g. jpegs) in the word document. If you don't have a scanner - take a photo on your mobile phone, or use SnagIt or similar (remember to attribute your sources). Please consider redrafting your calculations for clarity before photographing/scanning them. Blurred or blank images are not acceptable. Also (although obvious, its an issue each year...) ...remember to number your answers (keyed to questions).

**Assessment Due Date**

Week 10 Monday (18 May 2020) 11:45 pm AEST

**Return Date to Students**

Week 12 Monday (1 June 2020)

Do look over assignment feedback in preparation for the exam.

**Weighting**

25%

**Minimum mark or grade**

45%

**Assessment Criteria**

For *calculation based tasks*, marks are awarded for:

1. a statement of the principle and key relationship (20%);
2. clear step by step calculations, with explanation and unit analysis (60%);
3. the correct numerical answer (20%).

For *descriptive/interpretative tasks* cite and reference relevant supporting information and interpret it in the context of your response to the question asked. Marks are awarded for:

1. the quality of the background review, including a definition of the topic (30%);
2. the discussion of this information in context of the question asked (50%);
3. and the clarity of English expression, spelling, grammar, accuracy of referencing, appropriate length (20%).



## Referencing Style

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

### Submission

Online

### Submission Instructions

Please submit your assignment as a doc, docx or rtf file with images of your calculations/figures embedded in the document.

### Learning Outcomes Assessed

- Describe and illustrate the principal physiological processes of angiosperms as an integrated system.
- Apply knowledge of plant physiology in real life situations in agriculture, forestry and vegetation management.

### Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy

## 3 Practical Reports

### Assessment Type

Practical Assessment

### Task Description

Two practical reports (1000 words each, excluding references, figure captions, tables and title page) are required in the format of a scientific paper or technical report. Each will describe one of the experiments undertaken at residential school. The choice of the exercises undertaken during Residential School will be discussed at the School. These reports will each 'stand alone', but should be submitted as one document (with one section for each report).

Please submit your answers in a Word document (doc, docx or rtf). PDF documents will **NOT** be accepted. You can perform calculations or draw figures by hand and insert them as images (e.g. jpegs) in the word document. If you don't have a scanner - take a photo on your mobile phone. You must make sure we know what question you're answering by putting the question number in front of the text. Please consider redrafting your calculations for clarity before photographing/scanning them. Blurred or blank images in the word document are not acceptable.

### Assessment Due Date

Week 10 Monday (18 May 2020) 11:45 pm AEST  
same due date as assignment 1, but you can submit earlier!

### Return Date to Students

Week 12 Monday (1 June 2020)

### Weighting

25%

### Minimum mark or grade

45%

### Assessment Criteria

The reports will not be assessed on the 'success' of the experiment. Assessment will be based on:

1. structure (as a scientific or technical report, with Title, Abstract, Keywords, Introduction, Materials and Methods, Results and Discussion, Acknowledgements, References, Appendices (if any));
2. demonstration and explanation of calculations, with explanation of units in each step;
3. appropriate data analysis;
4. interpretation of data in the discussion section, with reference to existing knowledge.
5. correct citations

## Referencing Style

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

### Submission

Online

### Submission Instructions

Please submit your assignment as a doc, docx or rtf file with images of your calculations/figures embedded in the document.

### **Learning Outcomes Assessed**

- Describe and illustrate the principal physiological processes of angiosperms as an integrated system.
- Apply knowledge of plant physiology in real life situations in agriculture, forestry and vegetation management.
- Conduct plant physiology experiments, write experimental reports in the correct format and critique existing reports.

### **Graduate Attributes**

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

## **Examination**

### **Outline**

Complete an invigilated examination.

### **Date**

During the examination period at a CQUniversity examination centre.

### **Weighting**

40%

### **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).

## 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