BOTN13002 *Plants and the Environment*
Term 1 - 2019

Profile information current as at 02/05/2024 11:58 pm

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 - 2019

- 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.

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 Have My Say feedback

Feedback
Feedback was positive on ease of navigation of Moodle site and assignment task description

Recommendation
maintain practices!

Feedback from Have My Say feedback

Feedback
I was very reluctant to study too much about calculation in equations and physics, and found that I could not escape...this unit 'forces' me to get to the details and rewrite what I thought I knew. All part of the learning experience, I think. Thank you

Recommendation
Maintain level of chemistry/physics/math with good explanation and practice examples

Feedback from Have My Say feedback

Feedback
focus too agricultural rather than enviromental

Recommendation
Add more environmental examples

Feedback from Have My Say feedback

Feedback
Residential School could be 3 days not 4

Recommendation
To be discussed with Program Committee

Feedback from Have My Say feedback

Feedback
Quizz submission timing was not regular

Recommendation
Ensure regular submission times on weekly quizzes

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%	•	•	•			•				
2 - Written Assessment - 25%	•	•	•	•						
3 - Practical Assessment - 25%		•	•		•	•	•	•		
4 - Examination - 40%	•	•	•							

Textbooks and Resources

Textbooks

BOTN13002

Prescribed

Plants in Action
Edition: 2nd (1999)
Authors: Atwell, Kriedeman, Turnbull
Australia
Binding: Paperback
BOTN13002

Supplementary

Plant Physiology
Edition: 4th (1992)
Authors: Salisbury and Ross
Wadsworth
Belmont , CA , USA
Binding: Website Link

Additional Textbook Information
Plants in Action is available directly at the publisher's website here:
https://www.asps.org.au/plants-in-action-2nd-edition-pdf-files
Plant Physiology is now Out of Print. You may be able to source an electronic copy.

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

Schedule

Week 1 - 11 Mar 2019

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 https://www.asps.org.au/plants-in-action-2nd-edition-pdf-files	

Week 2 - 18 Mar 2019

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 - 25 Mar 2019

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 - 01 Apr 2019

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 - 08 Apr 2019

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 - 15 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 22 Apr 2019

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 - 29 Apr 2019

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 3 to 5, 2019 (Optional - progress submission on Assignment 1).

Week 8 - 06 May 2019

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 - 13 May 2019

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 - 20 May 2019

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) **Practical Reports** Due: Week 10 Monday (20 May 2019) 11:59 pm AEST

Week 11 - 27 May 2019

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) . **Making Sense of Plant Processes** Due: Week 11 Monday (27 May 2019) 11:59 pm AEST

Week 12 - 03 Jun 2019

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

Review/Exam Week - 10 Jun 2019

Module/Topic	Chapter	Events and Submissions/Topic
		Week 12 review quiz closes 11:59 pm 12 June 2019

Exam Week - 17 Jun 2019

Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

The text for this unit is 'Plants in Action'. It is an Australian text, available for free, on line. Some chapters have been updated, leading to a slightly messy situation - you can find the revised chapters at: 'Plants in Action ed 2' (http://plantsinaction.science.uq.edu.au/), while the edition 1 original chapters can be seen at https://www.asps.org.au/plants-in-action-2nd-edition-pdf-files OR https://www.asps.org.au/plants-in-action-2nd-edition-pdf-files
You can print the pdfs or 'printer friendly version' if you prefer hardcopy.
Please note there is a three (3) day residential school associated with this unit.

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 assigment 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 quizz 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 11 Monday (27 May 2019) 11:59 pm AEST

Return Date to Students
Week 12 Thursday (6 June 2019)
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 (20 May 2019) 11:59 pm AEST

Return Date to Students
Week 12 Thursday (6 June 2019)

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).
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