



# **BOTN19001 *Terrestrial Botany***

## **Term 1 - 2019**

Profile information current as at 28/04/2024 03:47 am

All details in this unit profile for BOTN19001 have been officially approved by CQUiversity 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 06-05-20**

Assessment 1 - "In-class Test" will be held during residential school. You will be informed of the date of the residential school as soon as it is finalised.

Assessment 2 - "Specimen Collection" assignment is due after the residential school. You will be informed of the date of the residential school as soon as it is finalised.

The end of term examination has now been changed to an alternative form of assessment. This will be an online test. Please see your moodle site for further details.

## General Information

### Overview

In BOTN19001, you will learn about terrestrial plants – particularly, Australian plants. You will study their evolution, taxonomy, distribution and economic uses. In this Unit, emphasis will be placed on plant identification so you can apply this knowledge in vegetation surveys, ecosystem restoration, remote sensing, assessing responses of native flora to environmental impacts and selecting suitable plant species for economic development. Compulsory practical classes, field visits and herbarium collection will enable you to gain practical skills in plant identification and vegetation surveys.

### Details

Career Level: *Undergraduate*

Unit Level: *Level 2*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

### Pre-requisites or Co-requisites

Pre-requisites: BIOL11099 Living Systems 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: 15%

#### 2. **Practical Assessment**

Weighting: 45%

#### 3. **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 Moodle

**Feedback**

"I enjoyed the practical work, residential school, herbarium assignmen, and got to see Australian plants in nature"

**Recommendation**

This unit is designed to provide the students with practical experience in plant identification and plant community description. The above focus will be retained and improved.

#### Feedback from Moodle

**Feedback**

This a discipline which I have come to highly respect and enjoy yet there is so much content that it could be broken into two subjects, the vertical and horizontal aspects.

**Recommendation**

The rejuvenation program has addressed this issue and accordingly, the contents will be spread across two units. This change will come into effect in 2020.

#### Feedback from Moodle

**Feedback**

I learnt a lot in this unit, from Ashwa. He is an engaging lecturer who is extremely knowledgeable in this unit. Not a common quality in lecturers.

**Recommendation**

Thank you and I will endeavour to maintain this enthusiasm.

#### Feedback from Moodle

**Feedback**

The unit needs to be more inclusive for students in WA. The different climate is an issue with collecting herbarium specimens.

**Recommendation**

Since the students of this unit come from different parts of Australia, and the local conditions do affect their performance, I will certainly consider this suggestion.

#### Feedback from Moodle

**Feedback**

Provide clearer instructions on assignments, due dates and specimen mailing address

**Recommendation**

Assignment instructions will be rewritten. Assignment details will be explained in the tutorial sessions

## Unit Learning Outcomes

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

1. Define selected botanical terms
2. Collect and curate specimens and use taxonomic keys to identify native plants
3. Examine characteristic features of terrestrial Australian flora, and describe the use of those features in vegetation management and their economic exploitation
4. Describe how native flora respond to environmental disturbances, and explain how this knowledge can be applied in revegetation and ecosystem reconstruction
5. Undertake vegetation surveys, interpret data and explain the use of GIS and remote sensing techniques in vegetation management.

N/A

## Alignment of Learning Outcomes, Assessment and Graduate Attributes



### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
1 - Online Quiz(zes) - 15%	•				
2 - Practical Assessment - 45%		•	•		•
3 - Examination - 40%	•		•	•	•

### 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 - Online Quiz(zes) - 15%	•	•	•			•		•		
2 - Practical Assessment - 45%	•	•	•	•	•		•			

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
<b>3 - Examination - 40%</b>	•	•	•							

## Textbooks and Resources

### Textbooks

BOTN19001

#### Prescribed

##### Plant systematics

2nd edition (2010)

Authors: Michael G. Simpson

Elsevier (Academic Press)

Sydney , NSW , Australia

ISBN: 978-0-12-374380-0

Binding: Paperback

#### Additional Textbook Information

Copies can be purchased from the CQUni Bookshop here: <http://bookshop.cqu.edu.au> (search on the Unit code)

[View textbooks at the CQUniversity Bookshop](#)

### IT Resources

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

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Lucid software 3.3 (download from [www.lucidcentral.org](http://www.lucidcentral.org))
- Microsoft Excel
- Microsoft Word

## Referencing Style

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

For further information, see the Assessment Tasks.

## Teaching Contacts

**Nanjappa Ashwath** Unit Coordinator

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

**Nathan Brooks-English** Unit Coordinator

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## Schedule

### Week 1 - 11 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic

Introduction  
 Unit Overview  
 Evolution & Diversity of Plants  
 Morphology

Study Guide 1  
 Plant Systematics; Chapters 1, 6, 9  
 (also skim Chapters 3, 4, 5).

### Independent Practical Work (IPW) 1

IPW is to be completed by the students during each week of the Term. Details on the Moodle site.

Familiarise yourself with Herbarium Techniques, site description and plant community description.

Use 'Student Forum' on the Moodle site to clarify doubts and to find out new information.

Refer to YouTube videos "Herbarium Techniques" (watch all 10 parts);

<https://tinyurl.com/herbarium-techniques>

Collect a plant specimen (eg hibiscus) and familiarise yourself with its morphology. Refer to the notes of previous units (eg Living Systems), which show the names of different parts of a plant.

Ask your lecturers for assistance.

**The scheduled official PRACTICAL SESSIONS will be held during residential school, and these sessions will also include field trips.**

### Week 2 - 18 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
Collection and Curating Nomenclature Identification & Authentication Herbarium Maintenance	Study Guide 2 Plant Systematics; Chapters 17, 16, 12, 18, Appendix 1, Appendix 2 and the Resources supplied on the Moodle site for this week.	<p><b>Online Quiz 1 (Quiz opens on Thursday and closes on the following Monday)</b></p> <p>IPW 2 Practice the art of collecting a native plant - choose the right section (s) of the plant, cut it and place it in a plant press as shown in the YouTube videos. Be ready to dissect the flowers of the specimen you have collected to examine different parts and then to draw a floral diagram. <u>Warning:</u> Please use a large flower such as an hibiscus flower, as it is easy to see different parts without the aid of a microscope. You will have the opportunity to work on smaller flowers during residential school. Collect and curate at least two specimens this week.</p>

### Week 3 - 25 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
Diversity and classification Taxonomic evidence History of plant taxonomy.	Study Guide 3 Plant Systematics; Chapters 2, 7 and 14	<p><b>Online Quiz 3</b></p> <p>IPW 3 Use a magnifying lens to draw floral diagrams of two medium-sized flowers (avoid using grasses or tiny flowers at this time, as they are difficult and you need dissection experience before you attempt these flowers). Collect and curate plant specimens.</p> <p><b>On-line botanical terms and concepts quiz</b> Due: Week 3 Monday (25 Mar 2019) 11:59 pm AEST</p>

### Week 4 - 01 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
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Plant families and their spotting characteristics  
Synoptic keys

Study Guide 4  
Plant Systematics; Chapters 7, 8, 15,  
and the Resources supplied on the  
Moodle site for this week.

### Online Quiz 3

IPW 4  
Prepare a table showing characteristic features of selected families  
Collect and curate plant specimens.

## Week 5 - 08 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
Soils, climate and plants.	Study Guide 5 Read the Resources supplied on the Moodle site for this week. Familiarise with the soil types and their influence on plant growth. Examine the composition and structure of plant communities (eg serpentine, limestone, sand dunes, rainforests, mangroves).	<b>Online Quiz 4</b> IPW 5 Collect and curate plant specimens.

## Vacation Week - 15 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
Make use of the Term break to collect plant specimens for your assignment.	Prepare for your residential school.	IPW 5a Try to collect as many specimens as possible (more than what you need so you can discard the ones that are not suitable for dissection) Please visit an undisturbed natural site, so the chances of you collecting exotic plants (for which you may not find the info in your key) could be minimised. Draw floral diagrams of the specimens you collect by focusing on the large to medium sized specimens.

## Week 6 - 22 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
Australian plant communities: origin, evolution and unique features.	Study Guide 6 Read the Resources supplied on the Moodle site for this week. Examine how Australian flora has changed over time in response to continental drift, Circum Antarctic Current, and human inhabitation.	<b>Online Quiz 5</b> IPW 6 Please come prepared for the Residential School, via: Revising the botanical terms you have learnt, writing a botanical name, pronouncing botanical names, learning ethics in plant collection, and knowing international code of botanical nomenclature. Pack your specimens and bring them with you to the residential school, so you could use them in practical sessions and also identify them while learning the techniques.

## Week 7 - 29 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
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Field trip will occur during Residential School: 29th Apr to 2nd May

Study Guide 7  
Study the Resources supplied on the Moodle site for this week.  
On Day 3 of the residential school, we will go on a field trip to inspect selected plant communities around Rockhampton.  
Read about unique features of the following plant communities: Brigalow, serpentine flora, limestone flora, woodlands, coastal heaths, rain forests, grasslands, wetlands, mine sites and mangroves.

IPW 7  
Please come prepared for the field trip.  
Start with a question " why plant species differ from one location to the other?" why plant communities found in Rockhampton differ from those present in Cairns or Canberra or Europe or Malaysia. And ask the question 'what are the causes for these differences?  
**Practical test during residential school - 2nd May 2019**  
**Hand-in your Practical Note Book for correction - 2nd May 2019**

### Week 8 - 06 May 2019

Module/Topic	Chapter	Events and Submissions/Topic
Vegetation Survey	Study Guide 8 Understand various methods of surveying plant communities, and classifying the vegetation into regional ecosystems (RE's) and land zones.	IPW 8 Collect and curate plant specimens.

### Week 9 - 13 May 2019

Module/Topic	Chapter	Events and Submissions/Topic
Data analysis and display - basic and modern methods of data analysis and presentation	Study Guide 9 Plant Systematics; Chapters 2, 19 and Appendix 4 Comparison of different plant communities. Preparation of dendrograms and PCA plots to show interrelationships between different species or plant communities.	IPW 9 Finalise the sample collection part of your assignment

### Week 10 - 20 May 2019

Module/Topic	Chapter	Events and Submissions/Topic
Economic uses of plants- plant species, and plant parts used in daily life. Bush food and medicinal plants. Techniques used in the development of new cultivars of plants	Study Guide 10 Plant Systematics; Chapters 13 and 14 Read the Resources supplied on the Moodle site for this week.	IPW 10 Ensure that you have collected, curated and identified required number of specimens. Inspect the specimens and make sure that they are all clean (fungus-free) and intact. Replace, if you can, the damaged or fungus-infected specimens with clean specimens.

### Week 11 - 27 May 2019

Module/Topic	Chapter	Events and Submissions/Topic
Environmental effects on plants Identification of stress tolerant plants	Study Guide 11 Delineate the responses of plants to environmental and edaphic stresses (fluoride, sulphur, acid rain, drought, salinity, waterlogging and heavy metals), and assess the possible impacts of climate change on Australian plants. Read the Resources supplied on the Moodle site for this week.	IPW 11 Finalise your specimen collection - and ensure that you have satisfactorily completed the following: 1. Preparation of a list showing the names of species and their family names 2. Maintaining the quality- no wrinkles and no fungi infested specimens 3. Completing the descriptions on the label 4. Drawing floral diagrams and 5. Keying the specimens to family and then to genus levels.

## Week 12 - 03 Jun 2019

Module/Topic	Chapter	Events and Submissions/Topic
Ecosystem reconstruction- principles of matching plants to site conditions to achieve long term sustainability.	Study Guide 12 Examine the strategies to be used for successful revegetation, and note the importance of using native plants in mine site revegetation or restoration programs.	IPW 12 <b>Dispatch or hand-in your plant samples by Friday of week 12. See the Moodle site for details</b> <b>Practical Assessment</b> Due: Week 12 Friday (7 June 2019) 11:59 pm AEST

## Review/Exam Week - 10 Jun 2019

Module/Topic	Chapter	Events and Submissions/Topic

  

Module/Topic	Chapter	Events and Submissions/Topic
Prepare for your examination	Peruse past exam papers and note the presence of three types of questions	Every time you read a module, try to write down possible questions that may be asked from that module.

## Term Specific Information

Please attend the tutorials as you will get to know how to collect and curate your plant samples. You can also show your samples to the lecture and seek his help in the collection and identification of specimens. In Queensland, most plants tend to flower from Feb to April. Please hurry and collect most of your samples during this time.

## Assessment Tasks

### 1 On-line botanical terms and concepts quiz

#### Assessment Type

Online Quiz(zes)

#### Task Description

There will be a total of 5 on-line quizzes, weekly from week 3 to week 7.

These quizzes are mostly multiple choice questions and they will help familiarise with various botanical terms used in the Unit.

Choose a correct answer (s) from multiple choices. There are 10 questions in each quiz

Duration 30 minutes; Attempts allowed 3; no penalty for guessing an answer.

#### Number of Quizzes

5

#### Frequency of Quizzes

Other

#### Assessment Due Date

Week 3 Monday (25 Mar 2019) 11:59 pm AEST

On scheduled weeks, the Quiz opens on Thursday and closes by midnight on the following Monday.

#### Return Date to Students

Quiz results will be made available on-line, one week after the expiry of each quiz.

#### Weighting

15%

#### Minimum mark or grade

40% of the marks allocated for all quizzes

#### Assessment Criteria

A correct answer will score one mark.

Attempts allowed 3; Grading method: highest grade

## Referencing Style

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

## Submission

Online

## Learning Outcomes Assessed

- Define selected botanical terms

## Graduate Attributes

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

# 2 Practical Assessment

## Assessment Type

Practical Assessment

## Task Description

This assessment includes two tasks. They are:

### Task 1. Specimen collection (30% of Unit total)

Submit 20 plant specimens, ensuring that there is **no more than one specimen** in each genus. The specimens must contain essential parts that are used in the identification (eg flowers), they must be pressed, dried, labelled and keyed out to genus level, by drawing floral diagrams (where applicable).

### Task 2. Plant identification test (15% of Unit total)

Identify, using keys provided, 5 plant specimens that are supplied by the lecturer during residential school (in-class test).

**Both Rockhampton and Flex students must attend the residential school to satisfactorily complete this Unit.**

## Assessment Due Date

Week 12 Friday (7 June 2019) 11:59 pm AEST

Plant identification test will be conducted during the last day of residential school (2nd May 2019). Completed plant specimens must be dispatched via post, or handed in to HMAS school secretary on Friday of week 12.

## Return Date to Students

Please see the Moodle site for further details

## Weighting

45%

## Minimum mark or grade

50% of practical assessment marks overall

## Assessment Criteria

Task 1.

Number of botanically acceptable (eg presence of flowers) specimens submitted

Quality of specimens - mounting, drying and labeling

Quality and accuracy of floral diagrams

Correctness of plant identification, including details of the steps taken to assign the specimen to a genus.

Provision of details provided on the labels

Task 2.

Accuracy of evidence provided, including floral diagrams, steps taken in keying, and other observations recorded to help assign the specimen to family and genus.

## Referencing Style

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

**Submission**

Offline

**Submission Instructions**

Students should submit 20 botanically acceptable specimens along with a LIST showing the names of the specimens collected (genus level only), and the families to which they belong. Please pack the specimens using an A3 size cardboard box (eg 'PostPac' ) and mail or hand-in the box to the Admin officer, School of Health, Medical and Applied Sciences, Level 1, Bldg 6, CQUniversity, Rockhampton, Qld 4701. The post-mark will be used to assess the date posted. Please take a photo of the samples sent, for your own records.

**Learning Outcomes Assessed**

- Collect and curate specimens and use taxonomic keys to identify native plants
- Examine characteristic features of terrestrial Australian flora, and describe the use of those features in vegetation management and their economic exploitation
- Undertake vegetation surveys, interpret data and explain the use of GIS and remote sensing techniques in vegetation management.

**Graduate Attributes**

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Team Work
- Cross Cultural Competence

## 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**

40% of the marks allocated for examination

**Exam Conditions**

Closed Book.

**Materials**

Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).

Calculator - non-programmable, no text retrieval, silent only

## 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