



# BOTN19001 Australian Botany

## Term 1 - 2020

Profile information current as at 28/04/2024 07:03 am

All details in this unit profile for BOTN19001 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.

## General Information

### Overview

In this unit, you will learn about Australian plants, their taxonomy, distribution and economic uses. Emphasis will be placed on plant identification, so you can apply this knowledge in vegetation surveys, biodiversity conservation and selection of plant species for economic development. Compulsory practical classes, field visits and specimen 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 or BIOL11102 Life Science Laboratory

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: 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 Have your say

**Feedback**

Students have appreciated the hands-on work on specimen collection, inspecting various plant communities and keying specimens during residential school.

**Recommendation**

I will ensure that these activities will be continued and improved in Australian Botany..

#### Feedback from Have your say

**Feedback**

Several students commented that the lecturer is extremely knowledgeable, passionate, willing to help, and inspiring students to learn more about Australian plants

**Recommendation**

I am glad to receive these comments. I too enjoy visiting native plant communities and giving lectures on Australian plants, particularly in exploring native plants for revegetation and other economic activities.

#### Feedback from Have your say

**Feedback**

The practical exercises were backed by the theoretical information, and both were tested through regular quizzes

**Recommendation**

The quizzes will help prompt the students to keep up with the studies, and the Moodle information will help them gain further knowledge on plant taxonomy and plant community dynamics. These aspects will be enhanced in 2020 via inclusion of aquatic plants.

#### Feedback from Have your say

**Feedback**

Moodle navigation could be made more easier

**Recommendation**

University-recommended template has been used to upload unit contents. Ways of improving this navigation will be explored and the students will be informed of the adapted structure at the beginning of the Term.

#### Feedback from Have your say

**Feedback**

More instructions required re: residential school

**Recommendation**

The proposed residential school activities will be explained to students, a few weeks prior to residential school.

#### Feedback from Have your say

**Feedback**

Consideration should be given to other co-hort of students (eg Education students)

**Recommendation**

Backgrounds of the students who enroll in this unit will be considered while setting assignments and examination papers. Possible application of the skills learnt in this unit to high school teaching will be highlighted.

## Unit Learning Outcomes

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

1. Define selected botanical terms
2. Collect and curate native plant specimens and use taxonomic keys to identify native plants
3. Examine characteristic features of Australian flora and discuss the uses of native plants in conservation, vegetation management and economic development
4. Describe how native flora respond to environmental disturbances, and explain how this knowledge can be applied in revegetation and restoration programs
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
<b>1 - Online Quiz(zes) - 15%</b>	•		•	•	•
<b>2 - Practical Assessment - 45%</b>		•	•	•	•
<b>3 - Examination - 40%</b>	•		•	•	•

### Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
<b>1 - Communication</b>	•				
<b>2 - Problem Solving</b>		•	•	•	•
<b>3 - Critical Thinking</b>		•	•	•	•
<b>4 - Information Literacy</b>		•	•	•	
<b>5 - Team Work</b>			•		•
<b>6 - Information Technology Competence</b>					•
<b>7 - Cross Cultural Competence</b>			•		
<b>8 - Ethical practice</b>					

## Graduate Attributes

## Learning Outcomes

1 2 3 4 5

### 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%

#### 3 - Examination - 40%

		•		•						
	•	•	•		•		•			
•	•	•								

## Textbooks and Resources

### Textbooks

BOTN19001

#### Prescribed

#### Plant Systematics Third edition

Edition: third (2019)

Authors: Michael G Thompson

Academic Press

Sydney , NSW , Australia

Binding: Paperback

#### Additional Textbook Information

Copies can be purchased at 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)

## Schedule

### Week 1 - 09 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Australian Plants - Evolution & Diversity	Study Guide Module 1 Text Book 'Plant Systematics' Chapters 6, 7 & 8.	<b>Independent Practical Work (IPW) 1</b> The IPW is to be completed by the students during each week of the Term. See the Moodle site for details. <i>Access the Student Forum</i> each week, beginning this week, to learn more on the topics from each other.' Watch all 10 parts of the <i>YouTube</i> videos ( <a href="https://tinyurl.com/herbarium-techniques">https://tinyurl.com/herbarium-techniques</a> ) to familiarise yourself with the Herbarium Techniques. Repeat this until you are confident of all the procedures, as you will have to apply this knowledge in preparing your plant collections. Review your <i>Life Science Laboratory</i> or <i>Living Systems</i> notes that show names of different plant parts, and floral diagrams. Every time you read a module, try to write down possible questions that may be asked from that module (prepare your-own question bank!) Ask your lecturers for assistance. <b>The PRACTICAL SESSIONS will be held during residential school. These sessions will also include field trips.</b>

### Week 2 - 16 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
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Plant Collection, identification, Nomenclature and Herbarium maintenance.

Study Guide Module 2  
Text book 'Plant Systematics' Chapters **9, 17**, 15, 16, 18 and Appendix 1 and Appendix 2 (selected sections only; please see the Moodle site for details)  
Also consult the resources supplied on the Moodle site for this week.

**Online Quiz 1 (Quiz opens on Thursday (12.10 am) and closes on the following Monday; 11.59 pm)**

IPW 2

Practice the art and science of collecting native plants - choose the right section(s) of the plant, cut it and place it in the plant press as shown in relevant *YouTube* videos. Be ready to dissect the spare flowers of the specimen you have collected. Examine different parts and then draw the floral diagram.

Hint: Use a large flower, such as an hibiscus flower, because large flowers are more robust and their size makes it easier for you to see the different parts without the aid of a microscope or hand lens. You will have the opportunity to work on smaller flowers during residential school

Plant collection for assessment be only of Australian native plants, as our identification keys contain information for native plants only

Collect and curate ONE plant specimen this week for your plant collection assignment.

### Week 3 - 23 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Cyanobacteria	Study Guide Module 3 Text Book 'Plant Systematics' Chapter 3.	<b>Online Quiz 3</b> IPW 3 Using a magnifying lens (hand held or microscope) to see the flower parts clearly, draw floral diagrams for two different, medium-sized flowers. Avoid using grasses or tiny flowers at this time, as they are difficult; you need dissection experience before you attempt these tiny flowers Continue to collect and curate plant specimens for your plant collection assignment.

### Week 4 - 30 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Green Algae and Diatoms	Study Guide Module 4 Text Book 'Plant Systematics' Chapter 3 (selected sections) and the Resources supplied on the Moodle site for this week.	<b>Online Quiz 3</b> IPW 4 Continue to collect and curate plant specimens for your plant collection assignment.

### Week 5 - 06 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
Bryophytes and Ferns	Study Guide Module 5 Text Book 'Plant Systematics' Chapter 4 (selected sections) Read the Resources supplied on the Moodle site for this week.	<b>Online Quiz 4</b> IPW 5 Continue to collect and curate plant specimens for your plant collection assignment.

### Vacation Week - 13 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
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Term Break: Collect and curate plant specimens for your plant collection assignment.

Prepare yourself for the residential school.

IPW 5a

Try to collect as many specimens as possible (more than you need, so you can discard those not suitable for dissection)

Hint: Try to visit only undisturbed natural sites, to minimise the chances of collecting exotic plants, as we do not have the keys to identify exotic plants

Draw floral diagrams of the large to medium-sized specimens you have collected.

## Week 6 - 20 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
Gymnosperms and Legumes	Study Guide Module 6 Text Book 'Plant Systematics' Chapters 5 to 8 (selected sections) Read the Resources supplied on the Moodle site for this week.	<b>Online Quiz 5</b> IPW 6 Prepare for your Residential School by: (i) revising the botanical terms you have learnt, writing botanical names of some common plant species, pronouncing botanical names, learning about ethics in plant collection, and knowing International Code of Nomenclature (ICN) for algae, fungi and plants (ii) packing your specimens properly to bring to Residential School to use in the practical sessions and/or to work on their identification during the scheduled voluntary after-hours sessions (see the Moodle site for details).

## Week 7 - 27 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
Myrtaceae, Casuarinaceae, Proteaceae, Poaceae, Asteraceae and Euphorbiaceae.	<b>Residential School</b> Study Guide Module 7 Text Book 'Plant Systematics' Chapters 5 to 8 (selected sections) Read the Resources supplied on the Moodle site for this week	IPW 7 <b>Residential School (30 Apr - 3 May, inclusive)</b> Field trip: <b>Linking the theory to practice</b> On Day 3 of the residential school, we will go on a field trip to inspect selected plant communities that occur around Rockhampton While on the trip (and after), start to question: 'Why plant species differ from one location to the other?' 'Why are the plants found around Rockhampton differ to those found around Cairns, Canberra, Europe or Malaysia?' 'What factors dictate the differences in plant distribution?' <b>Practical test during Residential School - 3rd May 2020</b> <b>Hand-in your Practical Note Book for correction - 3rd May 2020.</b>

## Week 8 - 04 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
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Plant communities and their habitat features (Which plant grows where, and why?).	Study Guide Module 8 Read about unique features of the following plant communities: Brigalow, serpentine flora, limestone flora, woodlands, coastal heaths, rainforests, grasslands, wetlands, mine sites, mangroves, and agricultural landscapes.	IPW 8 Continue to collect and curate plant specimens for your plant collection assignment.
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### Week 9 - 11 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Vegetation survey and interpretation	Study Guide Module 9 Text Book 'Plant Systematics' Appendix 4 Read the Resources supplied on the Moodle site for this week Peruse info on various methods of surveying plant communities, and classifying the vegetation into regional ecosystems (REs') and land zones.	IPW 9 Finalise the specimen collection assignment.

### Week 10 - 18 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Economic uses of plants	Study Guide Module 10 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 To maximise marks, replace, if you can, any damaged or fungus-infected specimens with clean specimens.

### Week 11 - 25 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Responses of plants to environmental variables	Study Guide Module 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 accelerated 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. Preparing a list showing the names (genus) of the specimens and their family 2. Maintaining the quality - no wrinkles and no fungi infested specimens 3. Completing the descriptions on the label 4. Drawing floral diagrams 5. Keying out the specimens to family and then to genus levels, and 6. Packing the samples to avoid damage during transportation.

### Week 12 - 01 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic
The role of native plants in ecosystem reconstruction	Study Guide Module Module 12 Read the Resources supplied on the Moodle site for this week. Examine the strategies to be used for successful revegetation, and note the importance of using native plants in mine site restoration programs.	IPW 12 <b>Dispatch or hand-in your plant collection by Friday of Week 12</b> <b>See the Moodle site for details.</b>

### Review/Exam Week - 08 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic
		Every time you read a module, try to write down possible questions that may be asked from that module with the view to creating your-own question bank.
<b>Exam Week - 15 Jun 2020</b>		
Module/Topic	Chapter	Events and Submissions/Topic
Prepare for your examination.	Peruse past exam papers and note the presence of three types of questions. Prepare yourself for the exam. Hint: nice pens (preferably blue), comfortable clothing, drinking water, etc.	

## Term Specific Information

Please try to collect plant specimens as soon as the Term commences. This is because most native plants flower around February - April, and the presence of flowers is essential for plant identification.

## Assessment Tasks

### 1 Online botanical terms and concepts quiz

#### Assessment Type

Online Quiz(zes)

#### Task Description

There will be a total of 5 online quizzes, weekly from week 3 to week 7

These quizzes are mostly multiple choice questions and they will help to familiarise you 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

On scheduled weeks, the Quiz opens on Thursday (12.10 am) and closes by 11.59 pm on the following Monday.

#### Return Date to Students

Quiz results will be made available online, one week after the quiz closes.

#### Weighting

15%

#### Minimum mark or grade

40% of the total of 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
- Examine characteristic features of Australian flora and discuss the uses of native plants in conservation, vegetation management and economic development
- Describe how native flora respond to environmental disturbances, and explain how this knowledge can be applied in revegetation and restoration programs
- Undertake vegetation surveys, interpret data and explain the use of GIS and remote sensing techniques in vegetation management.

## Graduate Attributes

- Problem Solving
- Information Literacy

## 2 Practical Assessment

### Assessment Type

Practical Assessment

### Task Description

This assessment includes two tasks. They are:

#### Task 1. Specimen collection (30% of the 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 (e.g., flowers), specimens must be pressed, dried, labelled and keyed out to family and genus levels. The specimen sheet must also show the proof of using the key, by listing of the steps taken to reach to Family and genus levels. Plant collection must also include the floral diagrams (where applicable).

#### Task 2. Plant identification test (15% of the 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

Plant identification test will be conducted on the last day of residential school. Completed plant collections must be dispatched by post, or delivered personally, to the HMAS administration (Building 6, level 1, Rockhampton, QLD 4701) by Friday of week 12.

### Return Date to Students

Please see the Moodle site for further details

### Weighting

45%

### Minimum mark or grade

50% of the marks allocated for practical assessment (specimens and in-class test)

### Assessment Criteria

#### Task 1

Number of botanically acceptable (e.g., presence of flowers) specimens submitted

Quality of the 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.

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 (e.g., '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 photos of the specimens sent, for your own records, or to use it as an evidence for collecting and sending the specimens.

**Learning Outcomes Assessed**

- Collect and curate native plant specimens and use taxonomic keys to identify native plants
- Examine characteristic features of Australian flora and discuss the uses of native plants in conservation, vegetation management and economic development
- Describe how native flora respond to environmental disturbances, and explain how this knowledge can be applied in revegetation and restoration programs
- Undertake vegetation surveys, interpret data and explain the use of GIS and remote sensing techniques in vegetation management.

**Graduate Attributes**

- Problem Solving
- Critical Thinking
- 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 the examination

**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