COURSE OUTLINE

ENS221 Plant Diversity and Ecology

Course Coordinator: Alison Shapcott (ashapcot@usc.edu.au) **School:** School of Science, Technology and Engineering

2021 | Semester 1

USC Sunshine Coast
USC Moreton Bay

ON CAMPUS Most of your course is on campus but you may be able to do some components of this course online.

Please go to the USC website for up to date information on the teaching sessions and campuses where this course is usually offered.

1. What is this course about?

1.1. Description

This course explores the evolution, diversity and historical biogeography of Australian plants and vegetation communities as well as the biology, ecology, physiology and adaptations of Australian plants. It includes an introduction to plant classification featuring major Australian plant families. The ecology of Australian plant communities is explored; including effects of fire and nutrient levels on community structure, composition and diversity. Practical sessions develop skills in plant identification, field surveys and data analysis and incorporates several field trips.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
ON CAMPUS			
Lecture – Recorded and or live From week 1: 2 hours x 8 times= weeks 1-4 and 6-9, From week 10: 1 hours x 3 times= weeks 10, 11 and 13	2hrs	Week 1	11 times
Laboratory – Weeks 1-4, 6-8 and 12	2hrs	Week 1	8 times
Fieldwork – Week 5 - 1 time 4 hours, Week 9 - 1 time 2 hours Week 10-11 and 13 - 3 times 3 hours	15hrs	Week 5	5 times

1.3. Course Topics

Phytogeography and evolution of the Australian vegetation; Plant Adaptations to fire and community diversity and composition; Plant: morphology and identification; structure and function; Community ecology plant life history and succession; Environmental effects on vegetation structure and composition; Plant mating systems; Pollination and dispersal.

2. What level is this course?

200 Level (Developing)

Building on and expanding the scope of introductory knowledge and skills, developing breadth or depth and applying knowledge and skills in a new context. May require pre-requisites where discipline specific introductory knowledge or skills is necessary. Normally, undertaken in the second or third full-time year of an undergraduate programs.

3. What is the unit value of this course?

12 units

4. How does this course contribute to my learning?

COURSE LEARNING OUTCOMES On successful completion of this course, you should be able to...		GRADUATE QUALITIES Completing these tasks successfully will contribute to you becoming...
1	Understand and explain the key elements of the historical biogeography of Australian plants.	Knowledgeable Engaged
2	Have knowledge of the major vegetation types in Australia and describe them. Understand the major determinants of vegetation community structure, composition, diversity and distribution.	Knowledgeable Empowered
3	Be familiar with some of the major plant families in Australia and be able to use a variety of methods to identify plants.	Empowered Engaged
4	Become familiar with a variety of field methods to study vegetation.	Knowledgeable Empowered Sustainability-focussed
5	Carry out a field study and undertake data analysis and write a scientific report on the results.	Creative and critical thinker Empowered Engaged Sustainability-focussed
6	Have an understanding of some of the major adaptations of aquatic and terrestrial plants to their environment. Have an understanding of the reproductive biology and major dispersal mechanisms in plants. Understand the responses to fire of plants.	Knowledgeable Ethical Engaged Sustainability-focussed
7	Understand plant life history variations and population ecology	Knowledgeable

5. Am I eligible to enrol in this course?

Refer to the USC Glossary of terms for definitions of “pre-requisites, co-requisites and anti-requisites”.

5.1. Pre-requisites

SCI102

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

ENS201

5.4. Specific assumed prior knowledge and skills (where applicable)

Not applicable

6. How am I going to be assessed?

6.1. Grading Scale

Standard Grading (GRD)

High Distinction (HD), Distinction (DN), Credit (CR), Pass (PS), Fail (FL).

6.2. Details of early feedback on progress

Tutorial assessment; Students will be given feedback during class on their participation during the laboratory sessions during the first 4 weeks of semester to gain experience in interpreting plant anatomy in relation to structure and function necessary for plant identification and classification they will complete tasks during class that test their developing skills

6.3. Assessment tasks

DELIVERY MODE	TASK NO.	ASSESSMENT PRODUCT	INDIVIDUAL OR GROUP	WEIGHTING %	WHAT IS THE DURATION / LENGTH?	WHEN SHOULD I SUBMIT?	WHERE SHOULD I SUBMIT IT?
All	1	Artefact - Technical and Scientific	Individual	15%	10 Species profiles	Week 6	Online Assignment Submission
All	2	Artefact - Technical and Scientific, and Written Piece	Individual	35%	4000 words	Week 10	To Supervisor
All	3	Examination - Centrally Scheduled	Individual	50%	2 hours	Exam Period	Exam Venue

All - Assessment Task 1: Plant species profiles

GOAL:	To improve plant identification skills and knowledge of plant biology
PRODUCT:	Artefact - Technical and Scientific
FORMAT:	Each student is required to collect and present a specified number of plant specimens as species profile sheets suitable for web site publication
CRITERIA:	

No.		Learning Outcome assessed
1	Correct identification of specimens as per instructions; presentation of specimens	
2	Assessment criteria are mapped to the course learning outcomes.	1 2 3 4 5 6 7

All - Assessment Task 2: Scientific report (paper)

GOAL:	Undertake scientific research
PRODUCT:	Artefact - Technical and Scientific, and Written Piece
FORMAT:	Each student is required to write a scientific report based on ecological data collected and compiled by the class during class time.
CRITERIA:	

No.		Learning Outcome assessed
1	Ability to write in scientific paper format as defined in instructions; ability to complete assignment addressing each of the criteria identified in the instructions; ability to present data, analyse and interpret data according to instructions provi	

All - Assessment Task 3: Examination (multiple choice and short answer)

GOAL:	
PRODUCT:	Examination - Centrally Scheduled
FORMAT:	This examination will be based on material covered in lectures and tutorials and will be held in the normal examination period. The exam format will consist of multiple choice questions enabling material covered in tutorials to be assessed and short answer questions which will focus on material covered in lectures.

CRITERIA:	No.	Learning Outcome assessed
	1 Ability to correctly answer questions asked based on material covered during the course	

7. Directed study hours

A 12-unit course will have total of 150 learning hours which will include directed study hours (including online if required), self-directed learning and completion of assessable tasks. Directed study hours may vary by location. Student workload is calculated at 12.5 learning hours per one unit.

7.1. Schedule

PERIOD AND TOPIC	ACTIVITIES
1 Phytogeography and evolution of the Australian vegetation Plant morphology and identification 1	Lecture 2hr Tutorial/ Laboratory 2hr introduction to plant anatomy and identification Review lecture and tutorial material, complete tutorial for submission
2 Biogeography Plant evolution and taxonomy Plant morphology and identification 2	Lecture 2hr will focus on Australian families in an international contex and highlight different levels of diversity Tutorial/ Laboratory 2hr introduction and identification of several plan families
3 Angiosperm evolution and taxonomy 2 Plant morphology and identification 3	Lecture (2hr) Angiosperm evolution and taxonomy Tutorial/Lab (2hr) introduction to plant families and identification tools
4 Plant Adaptations to fire and plant life history Plant morphology and identification 4	Lecture (2hrs) Tutorial/Lab /Field (2 hrs) on campus plant identification
5 Field trip; coastal heath plants and their ecology	Field trip (4hrs) for assignment data collection
6 Community ecology Data entry for assignment	Lecture (2hrs) Tutorial/lab (2hrs) data entry and analysis for assignment
7 Australian Terrestrial Vegetation communities Data analysis f or assignment	Lecture (2hrs) Tutorial/lab (2hrs) data analysis for assignment.
8 Community diversity and composition Measuring and assessing diversity	Lecture (2hrs) Tutorial/lab (2hrs) Review lecture and tutorial material. Continue data analysis for assignment. Finalise Herbarium assignment
9 Australian vegetation communities; Aquatic and Coastal. Rainforest plants and vegetation structure	Lecture (2hrs) Field trip (2hrs) Review lecture and tutorial material complete data analysis for assignment write discussion, Submit Herbarium assignment

PERIOD AND TOPIC	ACTIVITIES
10 Environmental effects on vegetation structure and composition Marine and Coastal vegetation	Lecture (1 hr) Field trip (3hrs) Review lecture and tutorial material submit assignment
11 Community dynamics Field techniques; vegetation, structure, and composition	Lecture (1 hr) Field trip (3 hrs) Review lecture and tutorial material
12 Plant mating systems; Pollination and dispersal Plant adaptations	Lecture (2hr) Tutorial/lab (2hr) Review lecture and tutorial material
13 Exam preparation Field techniques	Lecture (1hr) Field trip on campus (3hrs) Review lecture and tutorial material prepare for exam

8. What resources do I need to undertake this course?

Please note: Course information, including specific information of recommended readings, learning activities, resources, weekly readings, etc. are available on the course Blackboard site– Please log in as soon as possible.

8.1. Prescribed text(s) or course reader

There are no required/recommended resources for this course.

8.2. Specific requirements

Students are expected to wear appropriate protective clothing as specified in course handouts whilst on field trips and in the laboratory

9. How are risks managed in this course?

Risk assessments have been performed for all field activities and low to moderate levels of health and safety risk exists. Moderate risks may include working in an Australian bush setting, working with people, working outside normal office hours for example. It is your responsibility to review course material, search online, discuss with lecturers and peers and understand the health and safety risks associated with your specific course of study and to familiarise yourself with the University's general health and safety principles by reviewing the online induction training for students, and following the instructions of the University staff.

10. What administrative information is relevant to this course?

10.1. Assessment: Academic Integrity

Academic integrity is the ethical standard of university participation. It ensures that students graduate as a result of proving they are competent in their discipline. This is integral in maintaining the value of academic qualifications. Each industry has expectations and standards of the skills and knowledge within that discipline and these are reflected in assessment.

Academic integrity means that you do not engage in any activity that is considered to be academic fraud; including plagiarism, collusion or outsourcing any part of any assessment item to any other person. You are expected to be honest and ethical by completing all work yourself and indicating in your work which ideas and information were developed by you and which were taken from others. You cannot provide your assessment work to others. You are also expected to provide evidence of wide and critical reading, usually by using appropriate academic references.

In order to minimise incidents of academic fraud, this course may require that some of its assessment tasks, when submitted to Blackboard, are electronically checked through SafeAssign. This software allows for text comparisons to be made between your submitted assessment item and all other work that SafeAssign has access to.

10.2. Assessment: Additional Requirements

Eligibility for Supplementary Assessment

Your eligibility for supplementary assessment in a course is dependent of the following conditions applying:

The final mark is in the percentage range 47% to 49.4%
The course is graded using the Standard Grading scale
You have not failed an assessment task in the course due to academic misconduct

10.3. Assessment: Submission penalties

Late submission of assessment tasks may be penalised at the following maximum rate:
- 5% (of the assessment task's identified value) per day for the first two days from the date identified as the due date for the assessment task.
- 10% (of the assessment task's identified value) for the third day - 20% (of the assessment task's identified value) for the fourth day and subsequent days up to and including seven days from the date identified as the due date for the assessment task.
- A result of zero is awarded for an assessment task submitted after seven days from the date identified as the due date for the assessment task. Weekdays and weekends are included in the calculation of days late. To request an extension you must contact your course coordinator to negotiate an outcome.

10.4. Study help

For help with course-specific advice, for example what information to include in your assessment, you should first contact your tutor, then your course coordinator, if needed.

If you require additional assistance, the Learning Advisers are trained professionals who are ready to help you develop a wide range of academic skills. Visit the Learning Advisers web page for more information, or contact Student Central for further assistance: +61 7 5430 2890 or studentcentral@usc.edu.au.

10.5. Wellbeing Services

Student Wellbeing provide free and confidential counselling on a wide range of personal, academic, social and psychological matters, to foster positive mental health and wellbeing for your academic success.

To book a confidential appointment go to Student Hub, email studentwellbeing@usc.edu.au or call 07 5430 1226.

10.6. AccessAbility Services

Ability Advisers ensure equal access to all aspects of university life. If your studies are affected by a disability, learning disorder mental health issue, , injury or illness, or you are a primary carer for someone with a disability or who is considered frail and aged, AccessAbility Services can provide access to appropriate reasonable adjustments and practical advice about the support and facilities available to you throughout the University.

To book a confidential appointment go to Student Hub, email AccessAbility@usc.edu.au or call 07 5430 2890.

10.7. Links to relevant University policy and procedures

For more information on Academic Learning & Teaching categories including:

- Assessment: Courses and Coursework Programs
- Review of Assessment and Final Grades
- Supplementary Assessment
- Administration of Central Examinations
- Deferred Examinations
- Student Academic Misconduct
- Students with a Disability

Visit the USC website: http://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching

10.8. General Enquiries

In person:

- **USC Sunshine Coast** - Student Central, Ground Floor, Building C, 90 Sippy Downs Drive, Sippy Downs
- **USC Moreton Bay** - Service Centre, Ground Floor, Foundation Building, Gympie Road, Petrie
- **USC SouthBank** - Student Central, Building A4 (SW1), 52 Merivale Street, South Brisbane
- **USC Gympie** - Student Central, 71 Cartwright Road, Gympie
- **USC Fraser Coast** - Student Central, Student Central, Building A, 161 Old Maryborough Rd, Hervey Bay
- **USC Caboolture** - Student Central, Level 1 Building J, Cnr Manley and Tallon Street, Caboolture

Tel: +61 7 5430 2890
Email: studentcentral@usc.edu.au