

## Course Outline

**Code: ENS323**

### **Title: Agricultural and Forest Ecology**

<b>School of:</b>	Science & Engineering
<b>Teaching Session:</b>	Semester 2
<b>Year:</b>	2020
<b>Course Coordinator:</b>	Renata Grunennvaldt; rgrunen1@usc.edu.au
<b>Course Moderator:</b>	Dr Gabriel Conroy <a href="mailto:gconroy@usc.edu.au">gconroy@usc.edu.au</a>

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**

One of the planet's most pressing problems is to ensure food security for around 9 billion people - 2 billion more than the world's current population - while dealing with climate change. There is increasing pressure on our natural resources for food and fuel, when there is urgent need to manage resources sustainably. In this course, you will investigate the ecology of agricultural and forest systems. You explore different types of agricultural and forest ecosystems, their use for food and fuel and ways to increase their sustainability and minimise the effects on surrounding ecosystems.

##### **1.2 Course topics**

This course will examine the following themes: food security, poverty and population growth, carbon sequestration and climate change, water use and salinity; genetics of agricultural and forest systems, animal-plant interactions including the ecology of pests and beneficial animals; different types, uses, and problems of pesticides; intensive and agroforestry systems.

#### **2. What level is this course?**

300 level Graduate - Independent application of graduate knowledge and skills. Meets AQF and professional requirements. May require pre-requisites and developing level knowledge/skills. Normally taken in the 3rd or 4th year of an undergraduate program

#### **3. What is the unit value of this course?**

12 units

#### 4. How does this course contribute to my learning?

Specific Learning Outcomes On successful completion of this course you should be able to:	Assessment Tasks You will be assessed on the learning outcome in task/s:	Graduate Qualities or Professional Standards mapping Completing these tasks successfully will contribute to you becoming:
Gather, analyse and synthesise information from the scientific literature and primary data sources	Tasks 1, 2, 3	Creative and critical thinkers. Ethical.
Construct and communicate a compelling argument for funding a research project	Task 1	Engaged. Ethical.
Recognize and communicate professional strengths to demonstrate relevant skills and practice for research	Task 1	Engaged.
Recommend strategies likely to achieve sustainability in agricultural and forest ecology	Task 3	Sustainability-focussed.

#### 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 Enrolment restrictions

Nil

##### 5.2 Pre-requisites

SCI110 Science Research Methods

##### 5.3 Co-requisites

Nil

##### 5.4 Anti-requisites

Nil

##### 5.5 Specific assumed prior knowledge and skills (where applicable)

You will have prior knowledge and skills in scientific research design and statistical methods that can be used to summarise, analyse and interpret scientific data.

#### 6. How am I going to be assessed?

##### 6.1 Grading scale

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

##### 6.2 Details of early feedback on progress

This course provides a practical in week 2 on cv and grant writing. Students receive formative feedback during this practical on aspects of scientific writing that are assessed in both task 1 and task 2.

**6.3 Assessment tasks**

Task No.	Assessment Tasks	Individual or Group	Weighting %	What is the duration / length?	When should I submit?	Where should I submit it?
1	Grant proposal and CV	Individual	30	2000 words	Week 6	In class or online
2	Scientific report	Individual	30	2000 words	Week 12	In class or online
3	Written Exam	Individual	40	2 hours	Central Examination period – end of semester	Central exam venue or online
			100%			

**Assessment Task 1: Grant proposal and CV**

<b>Goal:</b>	To demonstrate your ability to put together a well-argued application for project funding including the ethical considerations of the research
<b>Product:</b>	Grant proposal and CV
<b>Format:</b>	You are required to submit a grant proposal and CV for the research project that you will complete during semester. The proposal should follow the format provided in the tutorial, e.g. aims and significance of research, literature review, methodology, budget and budget justification, and a timeline.
<b>Criteria:</b>	<p>The proposal will be assessed using the following criteria:</p> <ul style="list-style-type: none"> <li>• Summary and background information/introduction</li> <li>• Research plan, Methods and Techniques</li> <li>• Budget and budget justification</li> <li>• Ethics clearance</li> <li>• Timeline</li> <li>• References</li> <li>• Presentation (spelling, grammar, written expression, referencing style and accuracy)</li> </ul>

**Assessment Task 2: Scientific report**

<b>Goal:</b>	To collect and collate information in agricultural and forest ecology to a scientific context and make conclusions based on scientific approaches
<b>Product:</b>	Scientific report
<b>Format:</b>	You are required to submit a 2000 word scientific report (excluding references) on literature/data collected written in the form of a scientific report
<b>Criteria:</b>	<p>You will be assessed on</p> <ol style="list-style-type: none"> <li>1. The quality of your research in terms accessing relevant journal articles and the thoroughness of the literature search</li> <li>2. The interpretation and analysis of the research articles/data including logical structure, critical explanation, analysis and synthesis</li> <li>3. Presentation including: <ul style="list-style-type: none"> <li>- Accuracy of reference list and citations</li> <li>- Referencing style</li> <li>- Spelling, punctuation and grammar</li> <li>- Written expression</li> </ul> </li> </ol>

**Assessment Task 3: Written exam**

<b>Goal:</b>	To demonstrate your knowledge and understanding of agricultural and forest ecology
<b>Product:</b>	Short answer and essay questions
<b>Format:</b>	The final exam will be scheduled in the central exam period. The exam will be two hours consisting of short answer and essay questions based on the lecture and practical/tutorial components
<b>Criteria:</b>	Short answer questions will require the ability to solve practical problems presented in the lectures and practical classes. Essay questions will be assessed on reasoned and logical arguments to analyse complex issues of sustainability in agricultural and forest ecology.

**7. What are the course activities?****7.1 Directed study hours**

The directed study hours listed here are a portion of the workload for this course. A 12 unit course it 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.

This course will be delivered via technology-enabled learning and teaching. All lectures will remain in this mode for Semester 2 2020. When government guidelines allow, students that elected on-campus study via the class selection process will be advised when on campus tutorials and practical sessions will resume.

<b>Location:</b>	<b>Directed study hours for location:</b>
USC Sunshine Coast	Lecture 2 hours per week, practical or online demonstrations 3 hours per fortnight plus Field trip or online demonstrations

**7.2 Course content**

<b>Week # / Module #</b>	<b>What key concepts/content will I learn?</b>
1-2	Feed the world or save the planet? Human population growth, food supply and the environment. Poverty and challenges in developing countries
3-4	Energy, the carbon cycle, and agriculture CO2 emissions from forest clearing, policy challenges and reforestation
6--8	Inputs and outputs- water and chemicals, soil issues
9	Pest control: chemical use and Integrated Pest Management
10-11	Genetics in agricultural systems
12-13	Intensive and agroforestry systems, biodiversity in agricultural and forest systems

Please note course content is subject to variation.

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

Please note that 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)**

Nil

**8.2 Specific requirements**

Laboratory coat, covered shoes, hat

## 9. Risk management

Health and safety risks for this course have been assessed as low.

It is your responsibility as a student 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. It is also your responsibility to familiarise yourself with the University's general health and safety principles by reviewing the [online Health Safety and Wellbeing training module 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:

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

### 10.3 Assessment: Submission penalties

Late submission of assessment tasks will 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 and supply the required documentation to negotiate an outcome.

#### 10.4 Study help

In the first instance, you should contact your tutor, then the Course Coordinator. Additional assistance is provided to all students through Academic Skills Advisers. To book an appointment or find a drop-in session go to [Student Hub](#).

Contact Student Central for further assistance: +61 7 5430 2890 or [studentcentral@usc.edu.au](mailto:studentcentral@usc.edu.au)

#### 10.5 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>

#### 10.6 General Enquiries

In person:

- **USC Sunshine Coast** - Student Central, Ground Floor, Building C, 90 Sippy Downs Drive, Sippy Downs
- **USC South Bank** - Student Central, Building A4 (SW1), 52 Merivale Street, South Brisbane
- **USC Gympie** - Student Central, 71 Cartwright Road, Gympie
- USC Moreton Bay - Service Centre, Building A – Ground Floor, 1 Moreton Bay Parade, Petrie
- **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](mailto:studentcentral@usc.edu.au)