

ANM302

Global-Change Ecology

School: School of Science, Technology and Engineering

2025 | Semester 2

UniSC Sunshine Coast
UniSC Moreton Bay

**BLENDED
LEARNING**

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

Please go to usc.edu.au 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

The world we live in is changing at an unprecedented rate. In this course, you will investigate how animals respond to global change. Building from physiological and ecological theory, you will learn how to predict the types and magnitudes of responses that might be expected for different animal groups and global-change phenomena under various future scenarios. By comparing these predictions to responses observed over the past three decades, you will build your appreciation of the challenges facing natural ecosystems in the Anthropocene.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – Asynchronous learning material	1hr	Week 1	13 times
Laboratory 1 – Computer workshop	2hrs	Week 1	13 times
Tutorial/Workshop 1 – Student presentations	2hrs	Week 4	9 times
Fieldwork – Field trip with Detection Dogs for Conservation	6hrs	Week 5	Once Only

1.3. Course Topics

- Urbanisation
- Invasive species
- Pollution
- Exploitation
- Climate change
- Spatial analysis
- Data visualisation
- Mapping

2. What level is this course?

300 Level (Graduate)

Demonstrating coherence and breadth or depth of knowledge and skills. Independent application of knowledge and skills in unfamiliar contexts. Meeting professional requirements and AQF descriptors for the degree. May require pre-requisites where discipline specific introductory or developing knowledge or skills is necessary. Normally undertaken in the third or fourth full-time study 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?

COURSE LEARNING OUTCOMES	GRADUATE QUALITIES
On successful completion of this course, you should be able to...	Completing these tasks successfully will contribute to you becoming...
1 Connect concepts from different disciplines and apply relevant theory to identify and solve problems using a range of techniques	Knowledgeable
2 Employ logical reasoning and empirical support to arrive at independent conclusions	Creative and critical thinker
3 Contextualise discipline-specific knowledge to assess and advance wider social and environmental objectives	Sustainability-focussed
4 Communicate effectively and coherently in written form, using correct terminology, appropriate formats	Empowered

5. Am I eligible to enrol in this course?

Refer to the [UniSC Glossary of terms](#) for definitions of “pre-requisites, co-requisites and anti-requisites”.

5.1. Pre-requisites

ANM201 and ANM203

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

Not applicable

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

Candidates will be expected to have a good working knowledge of animal diversity, ecology and physiology, an understanding of how to search the scientific literature, as well as a basic understanding of numerical analysis in R.

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

The first two Assessment Tasks for this Course (see descriptions of the Assessment Tasks, below) necessarily involve groupwork, with extensive peer evaluation of your initial contributions to the development of your group's final product. Both of these Assessment Tasks also involve extensive in-class discussion, which will provide clear and direct formative feedback opportunities.

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	Oral	Group	30%	10 mins for presentation per position, 5 minutes for debate, plus 5 minutes for general questions	Week 4	In Class
All	2	Oral	Individual	20%	10 mins	Throughout teaching period (refer to Format)	In Class
All	3	Report	Individual	50%	2000 words +/- 10%	Week 13	Online Submission

All - Assessment Task 1: Group Oral Presentation and Debate

GOAL:	In this task, you will learn to explore both sides of an argument by sourcing information and assessing its veracity, and by building coherent arguments; you will then communicate your thoughts clearly and concisely, in a "public debate". This will help you to think about the nature and value of evidence and will also help you to see both sides of an argument.						
PRODUCT:	Oral						
FORMAT:	You will work in a group with your peers to develop, present and defend an argument for or against the existence of, or anthropogenic role in, global climate change. From the list of topics provided, select one, and prepare to debate the topic with your peers. Individual debate slots will comprise (in the context of your chosen topic): An opening statement (what you are talking about, and what position you are taking); a brief discussion of the major evidence in favour of your position; a closing statement that synthesises your take-home points; an opportunity for opposing groups to debate each other; time for three questions from the audience. Each group will be asked to accompany their monologue with a succinct PowerPoint presentation. Once all groups have presented their arguments, there will be time for open debate among members of all groups.						
CRITERIA:	No.				Learning Outcome assessed		
	1	Communicate this evidence in the context of your position both verbally and in the form of simple PowerPoint slides	1	2	3	4	
	2	Use evidence, logical reasoning and rational argument to defend your position in the face of questioning	2				
	3	Identify and articulate problems in arguments presented by your peers	2				
	4	Consider the wider societal impacts of your conclusions	1	3			
	5	Work as a group to achieve your goals					
GENERIC SKILLS:							

All - Assessment Task 2: Peer-review Paper Synopsis

GOAL:	In this task, you will learn to search the scientific literature for useful material, to study and understand the material in detail, and to communicate your understanding to your peers. This will enhance your engagement with the material, and assist you in contextualising information and achieving deeper understanding of the core concepts.		
PRODUCT:	Oral		
FORMAT:	In this task, you will source a peer-reviewed paper on a selected topic and present its central concepts to your peers verbally. Your presentation should focus on the central question being addressed by your selected paper, the scope of inference associated with the study, the main results and conclusions, and the ways in which this adds to existing knowledge already generated within the Course. Presentations should last no more than 10 minutes, and may be supported by PowerPoint or other media, should you so wish. Presentations are anticipated to occur between Week 5 and Week 10. More information on the timings will be available on Canvas.		
CRITERIA:	No.		Learning Outcome assessed
	1	Assess the quality and utility of published scientific papers	1 2
	2	Identify and articulate the main contributions made by such a paper to the field of study, including the critical analysis of strengths and weaknesses, including the wider societal context	3
	3	Integrate your own understanding of global-change ecology into unfamiliar contexts, using logical reasoning and empirical support in communicating your thoughts (specifically in terms of questions you ask your peers)	1 2 3
	4	Communicate clearly and succinctly at all times	3 4
GENERIC SKILLS:			

All - Assessment Task 3: Research Report

GOAL:	In this task, you will undertake research first-hand with the goal of quantifying an effect of global change on a selected study species or system. This will help you recognise that global change operates at all spatial scales, from global to local.		
PRODUCT:	Report		
FORMAT:	In this task, you will: (i) set an appropriate hypothesis; (ii) describe a survey designed to address it; (iii) collect associated data from the laboratory, the field and/or existing databases; (iv) analyse and interpret results, and (v) present your findings as a formal scientific paper.		
CRITERIA:	No.		Learning Outcome assessed
	1	A clear and concise Abstract	4
	2	A brief Introduction that sets out the motivation and rationale for your study in the light of existing knowledge	3 4
	3	A concise and accurate description of Methods	4
	4	An illustrated account of the main Results	2 4
	5	Use logical reasoning to place new results in the context of existing knowledge and discuss advances made by your study, given the caveats associated with design and implementation	2 3 4
	6	A list of Literature Cited in the text.	1 4
GENERIC SKILLS:			

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. Student workload is calculated at 12.5 learning hours per one unit.

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 Canvas 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

There are no specific requirements for this Course, although it is likely to involve fieldwork, for which standard personal protective equipment (sunhat, long trousers, long-sleeved shirt and stout walking shoes/boots) would be useful. It would also be helpful, although not essential, to have access to a laptop computer.

9. How are risks managed in this course?

Risk assessments have been performed for all field activities and a low level of health and safety risk exists. Some risks concerns may include working in an unknown environment as well as slip and trip hazards. 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 Canvas, are electronically checked through Turnitin. This software allows for text comparisons to be made between your submitted assessment item and all other work to which Turnitin has access.

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. SafeUniSC

UniSC is committed to a culture of respect and providing a safe and supportive environment for all members of our community. For immediate assistance on campus contact SafeUniSC by phone: [07 5430 1168](tel:0754301168) or using the [SafeZone](#) app. For general enquires contact the SafeUniSC team by phone [07 5456 3864](tel:0754563864) or email safe@usc.edu.au.

The SafeUniSC Specialist Service is a Student Wellbeing service that provides free and confidential support to students who may have experienced or observed behaviour that could cause fear, offence or trauma. To contact the service call [07 5430 1226](tel:0754301226) or email studentwellbeing@usc.edu.au.

10.5. 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.

10.6. 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.

10.7. 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.

10.8. 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
- Central Examinations
- Deferred Examinations
- Student Conduct
- Students with a Disability

For more information, visit <https://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching>

10.9. Student Charter

UniSC is committed to excellence in teaching, research and engagement in an environment that is inclusive, inspiring, safe and respectful. The [Student Charter](#) sets out what students can expect from the University, and what in turn is expected of students, to achieve these outcomes.

10.10. General Enquiries

In person:

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

Tel: +61 7 5430 2890

Email: studentcentral@usc.edu.au