



COURSE OUTLINE

ENS242 Weather and Climate

Course Coordinator: Adrian McCallum (amccallu@usc.edu.au) **School:** School of Science, Technology and Engineering

2021 | Semester 2

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 provides you with a practical introduction and overview of meteorology and climate. The nature of the physical processes responsible for changes in daily weather will be discussed, including links between oceans, atmosphere and land. You will gain a better understanding of the nightly television weather charts and reports, and an improved understanding of important issues including climate change and the impacts of severe weather. The course will focus on Australian and regional Queensland conditions.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
ON CAMPUS			
Laboratory 1 – computer lab	2hrs	Week 1	13 times
Lecture	2hrs	Week 1	13 times

1.3. Course Topics

Meteorology; climate change; global warming; greenhouse gases; marine and coastal weather and forecasts; severe weather; rainfall, floods and droughts, waves, currents and surf; weather forecasts.

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	GRADUATE QUALITIES
On successful completion of this course, you should be able to...	Completing these tasks successfully will contribute to you becoming...
1 Recognise, understand and explain key concepts in weather and climate, and the links to Earth System Science	Knowledgeable
2 Identify and collect weather/climate data from different sources including the Internet	Empowered
3 Critically assess sources and types of weather/climate data and trends	Creative and critical thinker
4 Understand, describe and present weather/climate data and information to a non-professional audience	Empowered
5 Evaluate climate data in relation to possible impacts on the Earth and on humanity	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. Pre-requisites

Not applicable

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

Not applicable

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

Computer and internet literate; access to television and internet; access to, and use of, MS Word, PowerPoint and Excel.

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

Several of the tutorials include group tasks that are reviewed to provide formative feedback to the students. Tutorials in weeks 3, 5 and 6 contain such tasks. The tutorial tasks in weeks 8 and 9 will be assessed as components of Task 1.

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	Quiz/zes	Individual	20%	<600 words	Throughout teaching period (refer to Format)	Online Assignment Submission with plagiarism check
All	2	Oral	Group	40%	~20 min group presentation plus accompanying presentation notes (<2000 words)	Week 10	Online Assignment Submission with plagiarism check
All	3	Examination - Centrally Scheduled	Individual	40%	2 hr + 10 mins perusal	Exam Period	Exam Venue

All - Assessment Task 1: Tutorial lab exercise report(s)

GOAL:	You will understand weather and climate terms and develop proficiency of using weather observations to forecast weather. You will find, access and use weather data and other information to create weather forecast(s) and/or answer short answers quizzes.		
PRODUCT:	Quiz/zes		
FORMAT:	Submit: Beginning of next tutorial lab Create a brief (<600 words), written forecast (report) of the weather using weather data either supplied and/or accessed via the Internet and answer a content knowledge quiz about weather.		
CRITERIA:	No.		Learning Outcome assessed
	1	Assessed on the ability to create a knowledgeable, accurate, readable forecast that matches the data and scientific assumptions/understanding used and that shows understanding of the technical terminology used in meteorology.	1 2 3 4

All - Assessment Task 2: Weather/climate project presentation

GOAL:	Working as a group, report some aspect of weather and/or climate studies (students' choice to topic), either by data gathering, literature research or a field project.		
PRODUCT:	Oral		
FORMAT:	Attractive, professional oral presentation to class, summarising the project and findings. Includes presentation notes and references.		
CRITERIA:	No.		Learning Outcome assessed
	1	Demonstrated ability to produce a comprehensible, formal, professional presentation of the project. Includes presentation notes and relevance to project/task and issues, clarity of language and logic, and sources of information used.	2 3 4

All - Assessment Task 3: Final Examination

GOAL:	This exam will allow you to consolidate and demonstrate your learning of the key concepts, theories and practices in weather and climate science covered in this course.		
PRODUCT:	Examination - Centrally Scheduled		
FORMAT:	Two-hour examination held during formal end-of-semester, examination period, and comprised of a mixture of short, medium and essay length questions.		
CRITERIA:	No.		Learning Outcome assessed
	1	Answers and clarity of language and logic used	1 4 5
	2	Explaining key concepts in weather and climate science	1 4
	3	Explaining and/or assessing contemporary issues in weather and climate science	3 4 5

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.

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

Please note that you need to have regular access to the resource(s) listed below. Resources may be required or recommended.

REQUIRED?	AUTHOR	YEAR	TITLE	PUBLISHER
Recommended	Aguado and Burt	2015	Understanding Weather and Climate.	Pearson
Recommended	Ahrens	2016	Meteorology Today	Cengage Learning
Recommended	Whitaker and Colls	2012	The Australian Weather Book.	CSIRO Publishing
Recommended	Sturman and Tapper	2005	The Weather and Climate of Australia and New Zealand.	Oxford University Press

8.2. Specific requirements

Links to relevant web pages including the Australian Bureau of Meteorology (BoM) will be provided also during tutorials. Students expected to view daily weather forecasts (TV, newspaper or internet).

9. How are risks managed in this course?

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

