GEOG12020 *Australian Weather and Climate*
Term 1 - 2017

Profile information current as at 18/05/2024 09:17 pm

General Information

Overview

The saying; “climate is what you expect, weather is what you get”, sums up why you will study atmospheric processes from two time perspectives in this unit. You will examine how the atmosphere, the oceans and the land exchange radiation, heat and water to create the physical structure and circulation characteristics of the troposphere. You will explore the forces that create the life-cycle of weather features with particular attention to Australian examples. Your study will examine how these features are depicted in weather maps. The importance of time and spatial scales with respect to weather systems will be emphasised. In recent years, atmospheric research has unmasked a range of longer term climate features that have a profound influence on Australian weather. You will learn how the fluctuations of these climate structures affect our region. You will gain introductory experience in using weather data from instruments, radar, satellites and weather models. This will lead to an examination of climate data – where to find it and how to use it. You will examine case studies of Aboriginal and Torres Strait Islander peoples' weather knowledge.

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

18 Units of Credit
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 - 2017

- Distance
- 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).

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: 30%
2. **Presentation**
Weighting: 20%
3. **Written Assessment**
Weighting: 50%

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.

Unit Learning Outcomes

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

1. Explain the role of energy balance and physical forcing in atmospheric structure, circulation and air-mass characteristics
2. Apply synoptic, regional and local scale weather system concepts and data to Australian environment case studies
3. Analyse climate concepts that affect Australian weather and environment
4. Recognise and value Aboriginal and Torres Strait Islander people's weather knowledge.

Alignment of Learning Outcomes, Assessment and Graduate Attributes

N/A Level | Introductory Level | Intermediate Level | Graduate Level | Professional Level | Advanced Level

Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Online Quiz(zes) - 30%	•	•	•	
2 - Presentation - 20%				•
3 - Written Assessment - 50%	•	•	•	

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
1 - Communication	•			
2 - Problem Solving		•		
3 - Critical Thinking	•	•	•	
4 - Information Literacy	•	•	•	•
5 - Team Work				
6 - Information Technology Competence		•	•	
7 - Cross Cultural Competence				•
8 - Ethical practice				
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) - 30%			•	•		•				
2 - Presentation - 20%	•	•	•	•		•	•			

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
3 - Written Assessment - 50%	•	•	•	•		•				

Textbooks and Resources

Textbooks

There are no required textbooks.

Additional Textbook Information
Students will be directed to required readings and a recommended text book in the unit Moodle site.

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)

Referencing Style

All submissions for this unit must use the referencing style: Harvard (author-date)
For further information, see the Assessment Tasks.

Teaching Contacts

Michael Hewson Unit Coordinator
m.hewson@cqu.edu.au

Schedule

Week 1 - 06 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
The atmospheric environment.	All weekly learning activity resources are available in the unit Moodle website.	

Week 2 - 13 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Atmospheric motion - radiation budget and energy balance.		

Week 3 - 20 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Atmospheric motion - stability.		

Week 4 - 27 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Atmospheric motion – features.		Quiz 1 due 27th March 2017 9 am – weeks 2 and 3 material.

Week 5 - 03 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Weather and climate data and models.		

Vacation Week - 10 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 17 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Synoptic scale weather systems of the Australian region.		Quiz 2 due 20th April 2017 9 am – weeks 4 and 5 material.

Week 7 - 24 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Mesoscale, regional and local scale weather systems of the Australian region.		

Week 8 - 01 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Climate indices of the Australian region.		Quiz 3 due 1st May 2017 9 am – weeks 6 and 7 material.

Week 9 - 08 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Atmospheric constituents and particulates.		**Written Assessment - Weather Report** Due: Week 9 Monday (8 May 2017) 9:00 am AEST

Week 10 - 15 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Indigenous Australian climate knowledge.		

Week 11 - 22 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Climate change – the theoretical basis.		

Week 12 - 29 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Weather and climate – some emerging issues.		

Review/Exam Week - 05 Jun 2017

Module/Topic	Chapter	Events and Submissions/Topic
		Academic Poster - Aboriginal or Torres Strait Islander community weather knowledges Due: Review/Exam Week Monday (5 June 2017) 9:00 am AEST

Exam Week - 12 Jun 2017

Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

CQUniversity is committed to Indigenising the curriculum. This involves recognising and introducing, where relevant, Aboriginal and/or Torres Strait Islander content into courses. Students will be provided with opportunities to explore how the major paradigms of their discipline affect or influence Aboriginal and/or Torres Strait Islander peoples and communities. Students will also be able to assess their own understandings and values in the context of the cultural values of Aboriginal and/or Torres Strait Islander peoples and communities.

Assessment Tasks

1 Online Quiz(zes)

Assessment Type
Online Quiz(zes)

Task Description
The three assessable quizzes consist of 20 multiple choice or true/false type questions – each worth 0.5 of a mark. The quizzes examine the weekly learning as follows:
Quiz 1 : weeks 2 and 3;
Quiz 2 : weeks 4 and 5; and
Quiz 3 : weeks 6 and 7.
This quiz is available via a link in the Moodle learning management system site for the unit. You should answer all the questions. You have only 1 attempt at each assessable quiz so review your answers before you submit the quiz.

Number of Quizzes
3

Frequency of Quizzes
Other

Assessment Due Date

Quiz 1 due 27th March 2017; Quiz 2 due 20th April 2017; Quiz 3 due 1st May 2017 - al at 9 am AEST

Return Date to Students

Scores returned electronically as the quizzes are completed.

Weighting
30%

Assessment Criteria
No Assessment Criteria

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- Explain the role of energy balance and physical forcing in atmospheric structure, circulation and air-mass characteristics
- Apply synoptic, regional and local scale weather system concepts and data to Australian environment case studies
- Analyse climate concepts that affect Australian weather and environment

Graduate Attributes

- Critical Thinking
- Information Literacy
- Information Technology Competence

2 Academic Poster - Aboriginal or Torres Strait Islander community weather knowledges

Assessment Type
Presentation

Task Description
An academic poster has become one of the primary means by which researchers communicate their research. At the week-long American Geophysical Union conferences held in San Francisco at the beginning of each year for example – some 30,000 posters are presented. The idea is that the author stands by their poster and discusses the content with interested readers for a defined time period. It is an engaging way to communicate knowledge – and the poster must be prepared and presented in such a way to best garner that engagement. As with any research communication medium – a poorly prepared poster will fail to communicate effectively.
You are not presenting research work with this assessed poster per se. The intention is that you gain ab-initio poster production skills useful for your later studies.
Your task is to craft an A1 size academic poster that shares and extends an aspect of your GEOG12020 learning on Indigenous Australian weather and climate knowledges (note: the plural is deliberately used – you will select one knowledge to present most likely). You have freedom concerning the poster content – you may choose to:
- compare such knowledge to climate information supplied by the Bureau of Meteorology (or other sources);
- document a specifically located Aboriginal or Torres Strait Islander community knowledge or a wider knowledge perspective of an Aboriginal Nation;
- showcase Indigenous Australian weather related artwork;
- include how such knowledges are related to the ecology of selected species of fauna or flora; and/or
- document a specific weather related story.

For this assessment you must ensure that you acknowledge the Aboriginal or Torres Strait Island group or nation this knowledge belongs to and include the copyright acknowledgement by including the source of the information below the artwork and in your reference list. This permission is often provided if the story is currently in an approved source. If you have access to a currently undocumented story - you must ensure you have custodian permission.

Assessment Due Date
Review/Exam Week Monday (5 June 2017) 9:00 am AEST

Return Date to Students
Exam Week Wednesday (14 June 2017)

Weighting
20%

Assessment Criteria
The assessment marking criteria is located in the Moodle site for GEOG12020.
That document describes the two marking criteria - poster content and poster structure.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Submit the poster via the Moodle website.

Learning Outcomes Assessed

- Recognise and value Aboriginal and Torres Strait Islander people’s weather knowledge.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Cross Cultural Competence

3 Written Assessment - Weather Report

Assessment Type
Written Assessment

Task Description
Your task is to:
1. Collect daily local weather data (websites and other places) for an area of your choice for 5 days from 17th to 21st

April 2017 and report on its association with the changing synoptic scale weather pattern.
2. Present the tabulated/graphed data into a report of no more than 2500 words.
You will explain the connections between synoptic weather features and local scale weather measurements informed by the unit learning material. Highlight any notable meteorological events which result in severe or unusual weather such as storms, flooding or damaging winds, or unusually high levels of air pollution.
Clearly it is best to document the weather in your local area so that you can directly observe and feel the weather situation. But your observation location should be near a current Bureau of Meteorology (BoM) weather data collection site. If the area in which you live and study does not have sufficient meteorological data – then advise the lecturer – and negotiate to select a nearby regional centre or use Rockhampton.
A fully detailed assessment task description describes the report format and weather data sources - it is lodged in the GEOG12020 Moodle site.

Assessment Due Date
Week 9 Monday (8 May 2017) 9:00 am AEST

Return Date to Students
Week 10 Friday (19 May 2017)

Weighting
50%

Assessment Criteria
The GEOG12020 Moodle site contains the assessment marking criteria.
This document describes in detail the criteria related to:
- report structure and engagement;
- local weather data presentation;
- synoptic scale weather data presentation;
- links drawn between synoptic and local data for the observation period; and
- scholarly resources utilized.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Submit the report via Turnitin from the unit Moodle website.

Learning Outcomes Assessed

- Explain the role of energy balance and physical forcing in atmospheric structure, circulation and air-mass characteristics
- Apply synoptic, regional and local scale weather system concepts and data to Australian environment case studies
- Analyse climate concepts that affect Australian weather and environment

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

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