



# GEOG12020 Australian Weather and Climate

## Term 1 - 2018

Profile information current as at 18/05/2024 04:51 pm

All details in this unit profile for GEOG12020 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

## 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 - 2018

- Distance

### 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. **Written Assessment**

Weighting: 10%

#### 2. **Written Assessment**

Weighting: 20%

#### 3. **Project (applied)**

Weighting: 50%

#### 4. **Written Assessment**

Weighting: 20%

### 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](#).

## Previous Student Feedback

### Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

#### Feedback from Student feedback.

##### Feedback

Unit learning activity content in the first few weeks needs refining.

##### Recommendation

Learning content and activities in the first few weeks will be adjusted to reduce the physics based concepts behind the weather, and replace that content with a more geographical approach.

#### Feedback from Student feedback.

##### Feedback

Third assessment item (an academic poster) seems to be disconnected to learning content.

##### Recommendation

Current assessment tasks: the summative assessment quizzes and the poster will be replaced by two portfolio submissions during the term. The quizzes will be used for formative student self-assessment which do not contribute to the term grade. The current weather report written assessment.task will be retained.

## 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.

N/A

## Alignment of Learning Outcomes, Assessment and Graduate Attributes



### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Written Assessment - 10%	•			
2 - Written Assessment - 20%		•		
3 - Written Assessment - 20%			•	•
4 - Project (applied) - 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 - Written Assessment - 10%			•	•						
2 - Written Assessment - 20%		•	•	•						
3 - Written Assessment - 20%		•	•	•			•	•		
4 - Project (applied) - 50%	•		•	•		•				

## Textbooks and Resources

### Textbooks

**There are no required textbooks.**

#### Additional Textbook Information

Students will be directed to required readings and a recommended textbook 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](mailto:m.hewson@cqu.edu.au)

## Schedule

### Week 1 - 05 Mar 2018

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

### Week 2 - 12 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Radiation, Energy and Global Circulation		

### Week 3 - 19 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Atmospheric Forces and Air-masses		

### Week 4 - 26 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Australian Weather - Synoptic Scale		<b>Portfolio #1</b> Due: Week 4 Friday (30 Mar 2018) 5:00 pm AEST

### Week 5 - 02 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
Australian Weather - Mesoscale		

### Vacation Week - 09 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
A break		

### Week 6 - 16 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
Australian Weather - Local Scale		

### Week 7 - 23 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
Weather data and models		<b>Portfolio #2</b> Due: Week 7 Friday (27 Apr 2018) 5:00 pm AEST

### Week 8 - 30 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
An Observation Week		This week you collect the weather data for the weather report - assessment #3.

### Week 9 - 07 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
Australian Climate		
<b>Week 10 - 14 May 2018</b>		
Module/Topic	Chapter	Events and Submissions/Topic
Climate Change - The Evidence Basis		<b>Weather Observation Report</b> Due: Week 10 Friday (18 May 2018) 5:00 pm AEST
<b>Week 11 - 21 May 2018</b>		
Module/Topic	Chapter	Events and Submissions/Topic
Australian Indigenous Weather Knowledge		
<b>Week 12 - 28 May 2018</b>		
Module/Topic	Chapter	Events and Submissions/Topic
Emerging Weather and Climate Issues		<b>Portfolio #3</b> Due: Week 12 Friday (1 June 2018) 5:00 pm AEST
<b>Review/Exam Week - 04 Jun 2018</b>		
Module/Topic	Chapter	Events and Submissions/Topic
<b>Exam Week - 11 Jun 2018</b>		
Module/Topic	Chapter	Events and Submissions/Topic

## Term Specific Information

For 2018 the teaching team is Dr Michael Hewson.  
 Rockhampton North campus Building 32, Room 1.12.  
 07 4930 9329  
 0408 379 373  
 m.hewson@cqu.edu.au

Students are welcome to telephone or email the lecturer - meetings are also invited but must be arranged by an appointment request in advance. From time to time the lecturer may schedule optional "zoom" video conferencing meetings if discussion of the learning material is helpful.

## Assessment Tasks

### 1 Portfolio #1

#### Assessment Type

Written Assessment

#### Task Description

Portfolio #1 is made up of two parts:

- o Short answer questions on the learning material for weeks 1 to 3; and
- o Reflective writing on the learning material for weeks 1 to 3.

Detailed assessment instructions are provided in the GEOG12020 Moodle site.

#### Assessment Due Date

Week 4 Friday (30 Mar 2018) 5:00 pm AEST

#### Return Date to Students

Week 5 Friday (6 Apr 2018)

Lecturer feedback on the student's submission is due within ten days of the due date/time.

#### Weighting

10%

#### Assessment Criteria

Detailed marking criteria are provided in the GEOG12020 Moodle site - synopsis of which:

For short answers:

- o Completeness of the answer with respect to the learning material;
- o Within word limits; and
- o Sentence construction, argument structure and readability of the short answer.

For the reflective writing:

- o The degree to which the insightful commentary reflects on the learning journey of the student;
- o Within word limits; and
- o Sentence construction, argument structure and readability of the reflection.

### **Referencing Style**

- [Harvard \(author-date\)](#)

### **Submission**

Online

### **Submission Instructions**

The student will submit an assessment item via the GEOG12020 Moodle site TurnItIn function.

### **Learning Outcomes Assessed**

- Explain the role of energy balance and physical forcing in atmospheric structure, circulation and air-mass characteristics

### **Graduate Attributes**

- Critical Thinking
- Information Literacy

## **2 Portfolio #2**

### **Assessment Type**

Written Assessment

### **Task Description**

Portfolio #2 is made up of two parts:

- o Short answer questions on the learning material for weeks 4 to 6; and
- o Reflective writing on the learning material for weeks 4 to 6.

Detailed assessment instructions are provided in the GEOG12020 Moodle site.

### **Assessment Due Date**

Week 7 Friday (27 Apr 2018) 5:00 pm AEST

### **Return Date to Students**

Week 8 Friday (4 May 2018)

Lecturer feedback on the student's submission is due within ten days of the due date/time.

### **Weighting**

20%

### **Assessment Criteria**

Detailed marking criteria are provided in the GEOG12020 Moodle site – synopsis of which:

For short answers:

- o Completeness of the answer with respect to the learning material;
- o Within word limits; and
- o Sentence construction, argument structure and readability of the short answer.

For the reflective writing:

- o The degree to which the insightful commentary reflects on the learning journey of the student;
- o Within word limits; and
- o Sentence construction, argument structure and readability of the reflection.

### **Referencing Style**

- [Harvard \(author-date\)](#)

### **Submission**

Online

### **Submission Instructions**

The student will submit an assessment item via the GEOG12020 Moodle site TurnItIn function.

### **Learning Outcomes Assessed**

- Apply synoptic, regional and local scale weather system concepts and data to Australian environment case studies

## Graduate Attributes

- Problem Solving
- Critical Thinking
- Information Literacy

## 3 Weather Observation Report

### Assessment Type

Project (applied)

### Task Description

The weather assessment reports student weather observations for a five day period:

- o Collecting daily local weather data for five days;
- o Discussing local weather association with the changing synoptic scale weather pattern; and
- o Presenting the tabulated/graphed data into a report of no more than 2500 words.

The report will explain the connections between synoptic weather features and local scale weather measurements informed by the unit learning material.

The weather data collection and observation will be at the student's location and near a Bureau of Meteorology weather data collection site.

### Assessment Due Date

Week 10 Friday (18 May 2018) 5:00 pm AEST

### Return Date to Students

Week 12 Friday (1 June 2018)

Lecturer feedback on the student's submission is due within ten days of the due date/time.

### Weighting

50%

### Assessment Criteria

Detailed marking criteria are provided in the GEOG12020 Moodle site - synopsis of which:

- o The report is well structured, cites references correctly and engages readers.
- o The report presents daily local scale weather data and observation analysis for the observation period.
- o The report presents daily synoptic scale weather data analysis for the observation period.
- o The report describes the connecting links between synoptic and local scale weather data illustrating an understanding of the daily weather process at various scales.
- o The report includes scholarly source material as defined in the task description.

### Referencing Style

- [Harvard \(author-date\)](#)

### Submission

Online

### Submission Instructions

The student will submit an assessment item via the GEOG12020 Moodle site TurnItIn function.

### 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
- Critical Thinking
- Information Literacy
- Information Technology Competence

## 4 Portfolio #3

### Assessment Type

Written Assessment

### Task Description

Portfolio #3 is made up of two parts:

- o Short answer questions on the learning material for weeks 7 to 12; and
- o Reflective writing on the learning material for weeks 7 to 12.

Detailed assessment instructions are provided in the GEOG12020 Moodle site.

**Assessment Due Date**

Week 12 Friday (1 June 2018) 5:00 pm AEST

**Return Date to Students**

Exam Week Friday (15 June 2018)

Lecturer feedback on the student's submission is due within ten days of the due date/time.

**Weighting**

20%

**Assessment Criteria**

Detailed marking criteria are provided in the GEOG12020 Moodle site – synopsis of which:

For short answers:

- o Completeness of the answer with respect to the learning material;
- o Within word limits; and
- o Sentence construction, argument structure and readability of the short answer.

For the reflective writing:

- o The degree to which the insightful commentary reflects on the learning journey of the student;
- o Within word limits; and
- o Sentence construction, argument structure and readability of the reflection.

**Referencing Style**

- [Harvard \(author-date\)](#)

**Submission**

Online

**Submission Instructions**

The student will submit an assessment item via the GEOG12020 Moodle site TurnItIn function.

**Learning Outcomes Assessed**

- Analyse climate concepts that affect Australian weather and environment
- Recognise and value Aboriginal and Torres Strait Islander people's weather knowledge.

**Graduate Attributes**

- Problem Solving
- Critical Thinking
- Information Literacy
- Cross Cultural Competence
- Ethical practice

## 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