



# AVAT13009 Meteorology (Air Transport Pilot Licence)

## Term 1 - 2023

Profile information current as at 08/05/2024 03:56 am

All details in this unit profile for AVAT13009 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

Meteorology (Air Transport Pilot Licence) will provide you with knowledge of high altitude meteorology applicable to aviation operations. The unit will cover all the aeronautical knowledge requirements of the Civil Aviation Safety Authority Air Transport Pilot Licence (ATLP) meteorology syllabus. You will study the atmosphere, its structure, composition and dynamics. By examining global weather systems and atmospheric circulation, you will determine the effect of seasons on flying conditions. You will study precipitation, cloud formation and other weather conditions. You will learn to interpret synoptic charts, weather radar data and upper-level charts.

### Details

Career Level: *Undergraduate*

Unit Level: *Level 3*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

### Pre-requisites or Co-requisites

Prerequisite: AVAT12008 Meteorology (Commercial Pilot Licence).

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 - 2023

- Brisbane
- Bundaberg
- Cairns
- Online

### 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: 40%

#### 2. **Examination**

Weighting: 60%

### 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 Students

##### Feedback

Limited feedback from Written Assessment and End of Semester Exam

##### Recommendation

Future classes will be provided with a debrief of Written Assessment outcomes, particularly strong and weak points from the Assessments. Exam feedback should be uploaded to Moodle.

## Unit Learning Outcomes

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

1. Examine atmospheric characteristics and how temperature, pressure and density vary with altitude
2. Analyse global weather systems and atmospheric circulation conditions for flight
3. Interpret the weather associated with the motion of air masses and fronts
4. Interpret synoptic charts, weather radar data and upper-level charts
5. Analyse global atmospheric motion and how the Hadley, Ferrel and Polar Cells form.

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	5
1 - Written Assessment - 40%	•	•	•	•	
2 - Examination - 60%	•	•	•	•	•

### Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
1 - Communication	•	•	•	•	•
2 - Problem Solving	•	•		•	•
3 - Critical Thinking		•	•	•	•

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
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 - 40%	•		•	•				•		
2 - Examination - 60%	•	•	•			•	•	•		

## Textbooks and Resources

### Textbooks

There are no required textbooks.

### IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Manual of Aviation Meteorology (BoM)

## Referencing Style

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

## Teaching Contacts

**Aruna Ranganathan** Unit Coordinator  
[a.ranganathan@cqu.edu.au](mailto:a.ranganathan@cqu.edu.au)  
**Simon Overton** Unit Coordinator  
[s.overton@cqu.edu.au](mailto:s.overton@cqu.edu.au)

## Schedule

### Week 1 - 06 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Introduction - Atmospheric basics	Introduction - Atmospheric basics	

### Week 2 - 13 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Global circulations, jetstreams, air masses, fronts and wave circulation	Global circulations, jetstreams, air masses, fronts and wave circulation	

### Week 3 - 20 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Atmosphere stability and obstructions to visibility	Atmosphere stability and obstructions to visibility	

### Week 4 - 27 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Structural icing, turbulence	Structural icing, turbulence	

### Week 5 - 03 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
Thunderstorm fundamentals and hazards	Thunderstorm fundamentals and hazards	

### Vacation Week - 10 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
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### Week 6 - 17 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
Tropical weather	Tropical weather	

### Week 7 - 24 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
Space weather	Space weather	<b>Written Assessment</b> Due: Week 7 Monday (24 Apr 2023) 11:45 pm AEST

### Week 8 - 01 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
High altitude weather	High altitude weather	

### Week 9 - 08 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
Satellites and radar	Satellites and radar	ASSIGNMENT SUBMISSION 11 MAY

### Week 10 - 15 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
Weather charts, reports and map analysis	Weather charts, reports and map analysis	

### Week 11 - 22 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
Atmospheric boundary layer, numerical weather prediction	Atmospheric boundary layer, numerical weather prediction	WRITTEN ASSIGNMENT RETURN TO STUDENTS

### Week 12 - 29 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
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Revision questions for End of Year Exam and ATPL Exam

Revision

### Review/Exam Week - 05 Jun 2023

**Module/Topic**

**Chapter**

**Events and Submissions/Topic**

Revision for Exam questions from AVAT13009 material covered during Semester 1, 2022

### Exam Week - 12 Jun 2023

**Module/Topic**

**Chapter**

**Events and Submissions/Topic**

Exam questions from AVAT13009 material covered during Semester 1, 2022

## Assessment Tasks

### 1 Written Assessment

#### Assessment Type

Written Assessment

#### Task Description

You are required to demonstrate your research capabilities, utilization and application of the material covered to discuss the nominated meteorological phenomena which can affect safe flight operation. Details will be promulgated in Moodle. Your assessment document must be produced in electronic form (either as (a) a single page word processed document, (b) a single page Publisher document saved in a PDF format, or (c) a single Power Point slide saved in a PDF format) and should be submitted through the assessment link in Moodle, by uploading your file following the on-screen instructions. Note: all submissions are processed through the similarity detection software (called Turnitin) hence, the requirement to submit the Publisher or Power Point documents as PDF files.

You must ensure that all of the work submitted is your own, in line with University Policy requirements.

#### Assessment Due Date

Week 7 Monday (24 Apr 2023) 11:45 pm AEST

#### Return Date to Students

Week 9 Monday (8 May 2023)

#### Weighting

40%

#### Assessment Criteria

High distinction standard

- \* the answer is very well written and clearly expressed
- \* there is a demonstrated appreciation and understanding of the issues involved
- \* the answer is well structured and logically organised
- \* demonstrated mastery of referencing system
- \* there is evidence of a comprehensive analysis of the issues
- \* conclusions are backed by well-reasoned arguments demonstrating a detailed insight and analysis of issues
- \* comprehensive coverage of all relevant issues

Distinction standard

- \* the answer is well written and expressed
- \* the answer is structured and logical
- \* the issues have been reasonably well identified and appreciated
- \* there is correct use of referencing
- \* issues have been analysed
- \*\* there is a comprehensive coverage of the issues

### Credit standard

- \*the answer is generally well written and expressed
- \* the answer is structured and sequential
- \* referencing is satisfactory
- \* issues are identified and addressed
- \* there has been an attempt to analyse some of the issues
- \* the coverage of issues is reasonably comprehensive often with a good treatment and analysis of particular points
- \* depth of treatment is often lacking in some of the issues.

### Pass standard

- \* the answer is able to be followed and understood
- \* the answer could perhaps be better organised and structured
- \* the referencing may need improvement
- \* issues may need to be identified and addressed in more depth
- \* analysis when present may be incorrect
- \* sometimes the conclusions reached are simple
- \* there may be quantities of material of marginal relevance included in the answer.

### Fail standard

- \* the answer may be significantly short of the required length
- \* the written expression is poor and difficult to understand
- \* the answer is poorly organised
- \* there has been a failure to identify and address the issues in the question
- \* referencing is generally inadequate
- \* the reasoning and application demonstrated is poor
- \* frequently there is much irrelevant material.

### Referencing Style

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

### Submission

Online

### Learning Outcomes Assessed

- Examine atmospheric characteristics and how temperature, pressure and density vary with altitude
- Analyse global weather systems and atmospheric circulation conditions for flight
- Interpret the weather associated with the motion of air masses and fronts
- Interpret synoptic charts, weather radar data and upper-level charts

### Graduate Attributes

- Communication
- Critical Thinking
- Information Literacy
- Ethical practice

## Examination

### Outline

Complete an invigilated examination.

### Date

During the examination period at a CQUniversity examination centre.

### Weighting

60%

### Length

120 minutes

### Minimum mark or grade

50%

**Exam Conditions**

Restricted.

**Materials**

Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).

## 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