



AVAT12008 Commercial Pilot Licence Meteorology Term 1 - 2023

Profile information current as at 19/05/2024 12:45 pm

All details in this unit profile for AVAT12008 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

This unit will provide you with knowledge of low-altitude meteorology applicable to aviation operations. You will cover the aeronautical knowledge requirements of the Civil Aviation Safety Authority Commercial Pilot Licence (CPL) meteorology syllabus. You will study the atmosphere, its structure, composition, and dynamics. You will learn how temperature, pressure, and density vary with altitude and how this affects your ability to pilot an aircraft. Cloud types and their associated weather will be identified and classified. You will also learn how to read meteorological charts.

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

Students must meet all requisites: 1. AVAT11002 Basic Aeronautical Knowledge OR (AVAT11012 Aviation Practice AND AVAT11013 Introduction to Aviation); AND 2. AVAT11005 Flight Fundamentals; AND 3. AVAT11010 Aviation Safety Fundamentals OR AVAT11007 Flight Planning, Performance, and Operation.

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

- 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 Coordinator reflection

Feedback

Students requiring more quizzes

Recommendation

Introduce fortnightly quizzes.

Unit Learning Outcomes

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

1. Describe the model of the International Standard Atmosphere
2. Explain atmospheric characteristics and how temperature, pressure, and density vary with altitude
3. Classify cloud types and their associated weather
4. Explain the motion of air masses and fronts, and the weather associated with each type
5. Identify features on low-level aviation meteorological charts
6. Decode aviation meteorological forecasts and reports
7. Identify the meteorological hazards for aviation including icing and visibility.

No external accreditation.

Alignment of Learning Outcomes, Assessment and Graduate Attributes

 N/A Level	 Introductory Level	 Intermediate Level	 Graduate Level	 Professional Level	 Advanced Level
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Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes						
	1	2	3	4	5	6	7
1 - Written Assessment - 40%	•	•	•	•	•	•	•
2 - Examination - 60%	•	•	•	•	•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes						
	1	2	3	4	5	6	7
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							

Textbooks and Resources

Textbooks

AVAT12008

Prescribed

Manual of Aviation Meteorology

Edition: 1st (2003)

Authors: Bureau of Meteorology

Airservices Australia

Canberra , ACT , Australia

ISBN: 0-9578991-5-7

Binding: Hardcover

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Prescribed

Private and Commercial Meteorology

Third edition (2021)

Authors: David Robson

Aviation Theory Centre PTY LTD

Narangba , Queensland , Australia

ISBN: 9780949499325

Binding: Hardcover

Additional Textbook Information

It is highly recommended that both books are purchased as the Aviation Meteorology book will be used extensively for ATPL Met.

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

Aruna Ranganathan Unit Coordinator
a.ranganathan@cqu.edu.au

Schedule

Week 1 - 06 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
The Atmosphere	The Atmosphere	

Week 2 - 13 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
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Air temperature and heat exchange processes

Air temperature and heat exchange processes

Week 3 - 20 Mar 2023

Module/Topic

Chapter

Events and Submissions/Topic

Cloud types and associated weather

Cloud types and associated weather

Week 4 - 27 Mar 2023

Module/Topic

Chapter

Events and Submissions/Topic

Air density

Air density

Week 5 - 03 Apr 2023

Module/Topic

Chapter

Events and Submissions/Topic

Atmospheric pressure and stability of the atmosphere

Atmospheric pressure and stability of the atmosphere

Vacation Week - 10 Apr 2023

Module/Topic

Chapter

Events and Submissions/Topic

Vacation Week

Vacation Week

Mid term exam (40%) Due: Vacation Week Friday (14 Apr 2023) 10:00 am AEST

Week 6 - 17 Apr 2023

Module/Topic

Chapter

Events and Submissions/Topic

Moist air and clouds

Moist air and clouds

Mid -term exam

Week 7 - 24 Apr 2023

Module/Topic

Chapter

Events and Submissions/Topic

Wind, turbulence, synoptic charts, tropical weather

Wind, turbulence, synoptic charts, tropical weather

Week 8 - 01 May 2023

Module/Topic

Chapter

Events and Submissions/Topic

Thunderstorms, aircraft icing, visibility

Thunderstorms, aircraft icing, visibility

Week 9 - 08 May 2023

Module/Topic

Chapter

Events and Submissions/Topic

Weather systems and patterns

Weather systems and patterns

Week 10 - 15 May 2023

Module/Topic

Chapter

Events and Submissions/Topic

Meteorological services, reports, forecasts, satellite images, interpretation of charts

Meteorological services, reports, forecasts, satellite images, interpretation of charts

Week 11 - 22 May 2023

Module/Topic

Chapter

Events and Submissions/Topic

Adverse weather, volcanic ash, tropopause, weather radar

Adverse weather, volcanic ash, tropopause, weather radar

Week 12 - 29 May 2023

Module/Topic

Chapter

Events and Submissions/Topic

High-level weather conditions

High-level weather conditions

Review/Exam Week - 05 Jun 2023

Module/Topic

Chapter

Events and Submissions/Topic

Revision of unit material

Revision of unit material

Exam Week - 12 Jun 2023

Module/Topic

Chapter

Events and Submissions/Topic

Assessment Tasks

1 Mid term exam (40%)

Assessment Type

Written Assessment

Task Description

The mid-term exam will cover topics covered in weeks 1-5. There will be between 40 multi-choice questions worth 1 mark each

Assessment Due Date

Vacation Week Friday (14 Apr 2023) 10:00 am AEST

Return Date to Students

Vacation Week Friday (14 Apr 2023)

The mid term quiz will be marked online giving students access to the mark immediately. Individual feedback will be given to the students that request it

Weighting

40%

Assessment Criteria

The quiz will be multi-choice. However, the style of the quiz will require students to plot information on graphs as well as do mathematical equations. The assessment will show an understanding of the concepts of topics covered in weeks 1 to 5.

Referencing Style

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

Submission

Online

Learning Outcomes Assessed

- Describe the model of International Standard Atmosphere
- Explain atmospheric characteristics and how temperature, pressure and density vary with altitude
- Classify cloud types and their associated weather
- Explain the motion of air masses and fronts, and the weather associated with each type
- Identify features on low level aviation meteorological charts
- Decode aviation meteorological forecasts and reports
- Identify the meteorological hazards for aviation including icing and visibility.

Graduate Attributes

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

Closed Book.

Materials

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

Calculator - non-programmable, no text retrieval, silent only

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