AVAT12010 *Flight Planning, Performance and Loading (Commercial Pilot Licence)*

Term 2 - 2021

Profile information current as at 13/12/2025 03:59 pm

Corrections

Unit Profile Correction added on 20-09-21

Currently, this unit has the following assessment components:
a) Online quizzes: 40%
b) Invigilated Exam: 60% (hurdle 50% pass rate)
This amendment replaces the invigilated exam (60%) with an online test (60%).
The online test will be held at the same time and date as the previously scheduled exam in the exam timetable for T2/2021.

General Information

Overview

This unit will provide you with the knowledge required to plan a Visual Flight Rules (VFR) flight in a small commercial aircraft. You will learn how to interpret small commercial aircraft performance data. From meteorological forecasts, you will determine the appropriate route, altitude, and alternate aerodromes. You will also learn how to conduct a weight and balance assessment for a flight.

Details

Career Level: *Undergraduate*
Unit Level: *Level 2*
Credit Points: *12*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.25*

Pre-requisites or Co-requisites

Prerequisites: AVAT12008 Meteorology (Commercial Pilot Licence); AVAT12009 Navigation (Commercial Pilot Licence) and AVAT11006 Aviation Law
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 2 - 2021

- Bundaberg
- Cairns
- Online
- Perth

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 12-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 25 hours of study per week, making a total of 300 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: 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 Student evaluation

Feedback
Continued engagement with the students and ensured a comprehensive understanding of the core concepts by everyone.

Recommendation
Will continue the efforts in delivery, and further identify improvements for making the interactions more worthy.

Feedback from Student evaluation

Feedback
All content required to pass the CASA examination and practical application are thoroughly covered

Recommendation
Assessment material must be kept updated with CASA requirements.

Feedback from Student evaluation

Feedback
Expect more challenge in the exam

Recommendation
Invigilated exam will replace the online test to make it inline with CASA practices.

Unit Learning Outcomes

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

1. Interpret small commercial aircraft performance data
2. Critically analyse appropriate route, altitude, and aerodromes using forecast meteorological conditions
3. Calculate weight and balance and prepare a load sheet for a small commercial aircraft
4. Prepare a small commercial aircraft Visual Flight Rules (VFR) flight plan, including navigation plan and fuel plan
5. Exercise judgement in the flight planning process for small commercial aircraft.

N/A

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	5
1 - Online Quiz(zes) - 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	•	•	•	•	•
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) - 40%	•	•	•	•	•	•	•	•		
2 - Examination - 60%	•	•	•	•		•	•	•		

Textbooks and Resources

Textbooks

AVAT12010

Prescribed

Aircraft Operation, Performance and Planning
Edition: Sixth (2019)
Authors: David Robson
Aviation Theory Centre
Darra , QLD , Australia
ISBN: 978-1-875537-27-3
Binding: Paperback

View textbooks at the CQUniversity Bookshop

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

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Schedule

Week 1 - 12 Jul 2021

Module/Topic	Chapter	Events and Submissions/Topic
Aerodrome & Aeroplane Landing Areas ALA's)	Chapter 1 - ATC Topic 1 - Bob Tait	Lecture 1 & 1A and Tutorial.

Week 2 - 19 Jul 2021

Module/Topic	Chapter	Events and Submissions/Topic
Aircraft Performance - Part 1 a. Factors affecting performance b. Density Altitude and pressure height calculation using various methods. Flight computer, flow chart	Chapter 2 - ATC Topic 2 - Bob Tait	Lecture 2 & 2A and Tutorial. Assignment Overview

Week 3 - 26 Jul 2021

Module/Topic	Chapter	Events and Submissions/Topic

Aircraft Performance - Part 2 a. Understanding Climb, Cruise, Enroute, Descent performance. b. Range and Endurance	Chapter 2 - ATC Topic 3 - Bob Tait	Lecture Lecture 3 and Tutorial.

Week 4 - 02 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Aircraft Performance - Part 3 a. Echo performance charts and tables. b. Take-off, Landing and Climb weight limited charts Question and Exercises	Chapter 3 - ATC Topic 4 - Bob Tait	Lecture 4 (a) 4A (b) and Tutorial.

Week 5 - 09 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
ECHO performance charts and tables and Exercise 4.8	Topic 4 pages 87 to108 CPL Performance Bob Tait	Lecture 4B and Tutorial.

Vacation Week - 16 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Vacation week.		

Week 6 - 23 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Alternate and holding fuel CPL	Chapter 7 - ATC Topic 5 - Bob Tait	Lecture 4C and Tutorial. **MID TERM TEST** Due: Week 6 Monday (23 Aug 2021) 11:45 pm AEST

Week 7 - 30 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Equi Time Points (ETP) and Point of No Return (PNR)	Chapter 7 - ATC Topic 5 - Bob Tait	Lecture 4D and Tutorial.

Week 8 - 06 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic
Flight Planning - Part 1 Determining operational weights MTOW, MLW, MZFW. Using Beetle diagram to find fuel limits	Chapter 4 - ATC Topic 6 - Bob Tait	Lecture 5 Part 1 and Tutorial. Discussion - Assignment submission.

Week 9 - 13 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic
Flight Planning - Part 2 Calculate weight and balance data for various loading systems Alpha, Bravo, Charlie as CoG limits using loading and P charts.pptx	Chapter 4 - ATC Topic 6 - Bob Tait	Lecture 5 Part 2 and Tutorial. Assignment due date.

Week 10 - 20 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic
Flight Planning - Part 3 ECHO Loading weight and balance performance and CoG limits ECHO weight and balance restrictions and adjustments of CoG using various methods practice questions	Chapter 5 - ATC Topic 6 - Bob Tait	Lecture 5 Part 3 and Tutorial. Lecture 5 Part 4 and Tutorial

Week 11 - 27 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic
Flight Planning Airworthiness and Equipment	Chapter 8 - ATC Topic 7 - Bob Tait	Lecture 6 and Tutorial. Lecture 7 and Tutorial

Week 12 - 04 Oct 2021

Module/Topic	Chapter	Events and Submissions/Topic
Flight Planning and Loading - Overall Review	Review CPL Exam	Lecture and Tutorial.

Review/Exam Week - 11 Oct 2021

Module/Topic	Chapter	Events and Submissions/Topic

Exam Week - 18 Oct 2021

Module/Topic	Chapter	Events and Submissions/Topic

Assessment Tasks

1 MID TERM TEST

Assessment Type
Online Quiz(zes)

Task Description
This online quiz will test your understanding of the underlying concepts discussed so far, including takeoff, enroute and landing performance, and up to and including the lecture material in the first five weeks.

Number of Quizzes

Frequency of Quizzes
Other

Assessment Due Date
Week 6 Monday (23 Aug 2021) 11:45 pm AEST

Return Date to Students
Week 7 Monday (30 Aug 2021)

Weighting
40%

Assessment Criteria
This quiz is weighted at 40% of your final grade.
Any material from weeks 1 to 5 may be assessed. The quiz will consist of multiple choice questions, and will test your underlying understanding of core concepts.
In particular, you will be assessed on your ability to:

- identify performance limitations
- calculate performance in given conditions
- interpret the effect a given factor will have on performance

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Online TEST through Moodle.

Learning Outcomes Assessed

- Interpret small commercial aircraft performance data
- Critically analyse appropriate route, altitude, and aerodromes using forecast meteorological conditions
- Calculate weight and balance and prepare a load sheet for a small commercial aircraft
- Prepare a small commercial aircraft Visual Flight Rules (VFR) flight plan, including navigation plan and fuel plan
- Exercise judgement in the flight planning process for small commercial aircraft.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Team Work
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

Examination

Outline
Complete an invigilated examination.

Date
During the examination period at a CQUniversity examination centre.

Weighting
60%

Length
150 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).
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