AVAT12010 *Commercial Pilot Licence Flight Planning*

Term 2 - 2023

Profile information current as at 20/04/2024 02:53 pm

All details in this unit profile for AVAT12010 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 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

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 2 - 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 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 Unit Evaluation Recommendation

Feedback
Assessments are too complex

Recommendation
The assessment structure and the assessment problems should be reviewed.

Feedback from Unit Evaluation Recommendation

Feedback
Lecture delivery needs improvement

Recommendation
The lecture delivery strategy should be reviewed to make the delivery more interesting and interactive.

Feedback from Unit Evaluation Recommendation

Feedback
Assessment feedback is not adequate

Recommendation
The marking rubric should be updated and a new method to provide individual assessment feedback should be developed.

Feedback from Unit Evaluation Recommendation

Feedback
Learning resources need improvement

Recommendation
New self-learning material should be developed to better explain some of the complex topics covered in the unit.

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					

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)

Referencing Style

No referencing style set.

Teaching Contacts

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Schedule

Week 1 - 10 Jul 2023

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

Week 2 - 17 Jul 2023

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 and Tutorial. Lecture 2A and Tutorial

Week 3 - 24 Jul 2023

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 3 and Tutorial. Lecture 3A and Tutorial

Week 4 - 31 Jul 2023

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 and Tutorial. Lecture 4A and Tutorial

Week 5 - 07 Aug 2023

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 5 and Tutorial. Lecture 5A and Tutorial

Vacation Week - 14 Aug 2023

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 21 Aug 2023

Module/Topic	Chapter	Events and Submissions/Topic
Mid term revision Mid term quiz feedback Introduction to Equi time points	Chapter 7 - ATC Topic 5 - Bob Tait	Lecture 6 and Tutorial. Lecture 6A and Tutorial I. **Mid-Term quiz** Due: Week 6 Monday (21 Aug 2023) 11:45 pm AEST

Week 7 - 28 Aug 2023

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 7 and Tutorial. Lecture 7A and Tutorial

Week 8 - 04 Sep 2023

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 8 and Tutorial. Lecture 8A and Tutorial

Week 9 - 11 Sep 2023

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	Chapter 4 - ATC Topic 6 - Bob Tait	Lecture 9and Tutorial. Lecture 9A and Tutorial

Week 10 - 18 Sep 2023

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 10 and Tutorial. Lecture 10A and Tutorial

Week 11 - 25 Sep 2023

Module/Topic	Chapter	Events and Submissions/Topic
Flight Planning Airworthiness and Equipment	Chapter 8 - ATC Topic 7 - Bob Tait	Lecture 11 and Tutorial. Revision Lecture 11A and Tutorial Revision

Week 12 - 02 Oct 2023

Module/Topic	Chapter	Events and Submissions/Topic
Flight Planning and Loading - Overall Review	Review CPL Exam	Lecture 12 and Tutorial. Revision Lecture 12A and Tutorial Revision Final Quiz 40 questions and answers
Review/Exam Week - 09 Oct 2023		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Exam Week - 16 Oct 2023		
Module/Topic	**Chapter**	**Events and Submissions/Topic**

Assessment Tasks

1 Mid-Term quiz

Assessment Type
Online Quiz(zes)

Task Description

Online Quiz

- This online quiz will test your understanding of the underlying concepts discussed so far including take-off, en route and landing performance.
- It will cover the lecture material in the slides up to and including the first five weeks.
- This in a non pass quiz and is worth 40%

Number of Quizzes

Frequency of Quizzes
Other

Assessment Due Date
Week 6 Monday (21 Aug 2023) 11:45 pm AEST
This quiz will be held on the second teaching period of week 6 times to be advised.

Return Date to Students
Week 8 Monday (4 Sept 2023)

Weighting
40%

Assessment Criteria

This quiz is weighted at 40% of your final grade and there is no pass or fail mark allotted

Any material from weeks 1 to 5 may be assessed. The quiz will consist of multiple-choice questions and will test your underlying knowledge of core concepts required for Operational flight planning and performance. 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
- Aerodrome ALA's
- Performance charts (take-off, landing, Climb, and descent)

Submission
Online

Submission Instructions
Online TEST through Moodle. Conditions Use minimum mark or grade?

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.

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
Condition (Minimum %) 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