AVAT13012 *Flight Planning, Performance and Loading (Air Transport Pilot Licence)*
Term 1 - 2024

Profile information current as at 13/05/2024 05:28 pm

General Information

Overview
Flight Planning, Performance and Loading (Air Transport Pilot Licence) will provide you with the advanced knowledge required to plan an international Instrument Flight Rules (IFR) flight in a heavy air transport aircraft. You will learn how to interpret large aircraft performance data. From meteorological forecasts, you will determine the appropriate route, altitude, and alternate aerodromes. You will learn how to prepare a load and trim sheet for a large transport aircraft.

Details
Career Level: *Undergraduate*
Unit Level: *Level 3*
Credit Points: *12*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.25*

Pre-requisites or Co-requisites
Prerequisites: AVAT12012 Instrument Flight Rules and Procedures; AVAT12010 Flight Planning, Performance and Loading (Commercial Pilot Licence); AVAT13008 Navigation (Air Transport Pilot Licence); and AVAT13009 Meteorology (Air Transport 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 - 2024

No offerings for AVAT13012

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 Coordinator Observation

Feedback

Practice Exams will improve students' success in CASA exam

Recommendation

CASA Practice Exams are to be included.

Unit Learning Outcomes

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

1. Interpret large aircraft performance data
2. Analyse critically appropriate route, altitude, and aerodromes using forecast meteorological conditions
3. Prepare a load and trim sheet for a large transport aircraft
4. Prepare a large aircraft Instrument Flight Rules (IFR) flight plan including navigation plan, fuel plan, and load sheet
5. Exercise judgement in the flight planning process for large transport 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	•	•	•	•	•

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

Textbooks and Resources

Textbooks

AVAT13012

Prescribed

Aeroplane Performance, Planning & Loading for the Air Transport Pilot
Edition: 2002 (2002)
Aviation Theory Centre
Australia
ISBN: 187553736-8
Binding: Paperback
AVAT13012

Prescribed

Boeing 727 Performance and Operating Handbook
Edition: 2001 (2001)
Air-Services Australia (CASA)
ISBN: 0644038136
Binding: Paperback

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

Doug Drury Unit Coordinator
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Steve Leib Unit Coordinator
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Schedule

Week 1- Introduction and Basic Concepts - 10 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic
Advanced altimetry, airspeed, temperature and time Jeppesen CR3 Navigation Computer		

Week 1 - 04 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic

Week 2 - 11 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Aeroplane Performance	Aeroplane Performance, Planning & Loading, Chapter 4	

Week 3 - 18 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Take-Off Performance		

Week 4 - 25 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Enroute Performance		

Landing Performance - 01 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Descent considerations Landing runway limitations Landing climb limitations: approach and landing climb performance Brake energy and quick-turnaround limitations	Aeroplane Performance, Planning & Loading, Chapter 3 B727 Performance and Operating Handbook, Section 4 CAO 20.7.1B	

ETP, PNR, and other considerations - 08 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Equi-Time Point (ETP) Point Of No Return (PNR) Introduction to flight planning operational factors, including fuel policy and suitable/acceptable aerodromes	Aeroplane Performance, Planning & Loading, Chapters 4 & 7	

Vacation Week - 15 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic

Flight Planning Fundamentals - 22 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Flight planning limiting factors: takeoff, landing, ZFW, cruise, and abnormal limitations Flight planning flow Estimating Mid Zone Weight (EMZW)	Aeroplane Performance, Planning & Loading, Chapters 6 & 7 B727 Performance and Operating Handbook	

Basic Flight Plans - 29 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Flight planning - takeoff limited Flight planning - landing limited	Aeroplane Performance, Planning & Loading, Chapter 7 B727 Performance and Operating Handbook	

Abnormal Flight Plans - 06 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Flight planning - depressurized operations Flight planning - OEI operations Resolving DP/OEI restrictions during preflight planning	Aeroplane Performance, Planning & Loading, Chapters 6 & 7 B727 Performance and Operating Handbook	

Other Flight Planning Problems - 13 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Other flight planning considerations: maximum payload, step climbs, holding, and alternates In-flight re-planning	Aeroplane Performance, Planning & Loading, Chapter 7 B727 Performance and Operating Handbook	

Aircraft Loading Basics - 20 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Loading terminology Discussion of Training & Examination Workbook B727 Load and Trim Sheet overview	Aeroplane Performance, Planning & Loading, Chapter 8 CASA Training & Examination Workbook for ATPL Weight & Balance	

More Load and Trim Sheet Problems - 27 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
B727 Load and Trim Sheet problems	Aeroplane Performance, Planning & Loading, Chapter 8 CASA Training & Examination Workbook for ATPL Weight & Balance	

Revision - 03 Jun 2024

Module/Topic	Chapter	Events and Submissions/Topic

Exam Period - 10 Jun 2024

Module/Topic	Chapter	Events and Submissions/Topic

Assessment Tasks

1 Online Quiz

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 PNRs & ETPs.

Number of Quizzes
1

Frequency of Quizzes
Other

Assessment Due Date

Details of date and time will be promulgated by Week 2.

Return Date to Students

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
- identify the meaning of common heavy aircraft concepts
- discuss and calculate an ETP or PNR

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- Interpret large aircraft performance data
- Analyse critically appropriate route, altitude, and aerodromes using forecast meteorological conditions
- Prepare a load and trim sheet for a large transport aircraft

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice
- Social Innovation

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).

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