AVAT12009 *Navigation (Commercial Pilot Licence)*
Term 1 - 2018

Profile information current as at 05/07/2022 04:03 pm

General Information

Overview

Navigation (Commercial Pilot Licence) will provide you with knowledge of navigational procedures applicable to light commercial aircraft operations. You will cover the aeronautical knowledge requirements of the Civil Aviation Safety Authority Commercial Pilot Licence Navigation Syllabus. You will study the form of the Earth including latitude and longitude, magnetic and true poles and directions. By reference to an aeronautical chart and the various chart projections, you will learn how to navigate an aeroplane. You will learn to convert between Coordinated Universal Time (UTC) and local mean and standard times. You will also be able to use a navigation computer to convert between various airspeeds and ground speed and perform critical point calculations.

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

Prerequisites: AVAT11002 Basic Aeronautical Knowledge; AVAT11003 Basic Aeronautical Practice; AVAT11005 Aviation Physics; 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 1 - 2018

- Bundaberg
- Cairns
- Distance

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. **Group Work**
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.

Unit Learning Outcomes

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

1. Explain the form of the Earth, including the Earth's graticule, true and magnetic poles
2. Plan a flight by reference to a navigation chart
3. Describe the various global navigation chart projections and their use on national flights
4. Convert time zones to Coordinated Universal Time (UTC), Local Mean Time (LMT) and Local Sidereal Time (LST)
5. Explain the operation and limitations of radio navigation aids
6. Discuss the altimetry procedures used on national flights
7. Convert between various airspeeds and groundspeeds
8. Calculate critical points for normal and asymmetric operations.

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	6	7	8
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 - Group Work - 40%	•	•	•	•	•	•	•	•		
2 - Examination - 60%	•	•	•	•		•		•		

Textbooks and Resources

Textbooks

AVAT12009

Prescribed

Navigation for the Pilot & Commercial Pilot Licenses
Edition: Current (Latest offered)
Authors: David Robson, Peter Whellum, Melanie Waddell, and Bill Constable
Aviation Theory Centre
Cheltenham , Victoria , Australia
ISBN: 1875537856
Binding: Other

Additional Textbook Information
This text may be purchased at https://aviationtheory.net.au/shop/private-and-commercial/navigation Photo of the textbook: https://aviationtheory.net.au/wp-content/uploads/2016/05/ATB45-04.jpg

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

John Blair Unit Coordinator
j.blair@cqu.edu.au

Schedule

Week 1 - 05 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Fundamentals of Air Navigation	Fundamentals of Air Navigation	

Week 2 - 12 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Time	Time	

Week 3 - 19 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Charts	Charts	

Week 4 - 26 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Publications	Publications	

Week 5 - 02 Apr 2018		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Navigation Computations	Navigation Computations	
Vacation Week - 09 Apr 2018		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Week 6 - 16 Apr 2018		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Computations Continued	Computations	
Week 7 - 23 Apr 2018		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Visual Navigation	Visual Navigation	
Week 8 - 30 Apr 2018		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
NDB	NDB and ADF	
Week 9 - 07 May 2018		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
ADF	NDB/ADF	**Flight PLanning** Due: Week 9 Monday (7 May 2018) 9:00 am AEST
Week 10 - 14 May 2018		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
VOR	VOR	
Week 11 - 21 May 2018		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
DME	DME	
Week 12 - 28 May 2018		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
GPS	GPS	
Review/Exam Week - 04 Jun 2018		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Exam Week - 11 Jun 2018		
Module/Topic	**Chapter**	**Events and Submissions/Topic**

Assessment Tasks

1 Flight PLanning

Assessment Type
Group Work

Task Description

Task Description

TASK DESCRIPTION

See Moodle for Specific Exercise

This assessment is designed to strengthen your understanding of flight planning and navigation.
In order to achieve this you will need to:

- Use maps and flight computer along with computations learned throughout this course to plan a flight to given points and back to

the starting.
- Integrate weather restrictions as well as environmental conditions into the flight plan
- prepare the map with course headings to use and ground speeds. Include distance estimates between points.

Your map and flight plan must be produced in electronic format (either as (a) a single page word-processed document, (b) single page Publisher document saved in a pdf format, or (c) as a single PowerPoint 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; that all submissions are processed through the similarity detection software (called Turnitin), hence the requirement to submit the Publisher or Powerpoint documents as pdf files. You must ensure that all of the work is your own, in line with University requirements.

Assessment Due Date
Week 9 Monday (7 May 2018) 9:00 am AEST
Must be uploaded through Moodle and submitted individually

Return Date to Students
Week 12 Monday (28 May 2018)

Weighting
40%

Assessment Criteria
Successfully plan flight according to requirements in Tutorial 9 (See Moodle for exact one) exercise. Using information from the slides you will plan the proposed flight from point A to B to C and back to point A. The map is also in Week 7 Tutorial. This exercise will give you practice in flight planning navigation using the flight computer and maps. You will be assessed on a Pass/Fail grading. The main purpose of this assessment is to assess your ability to do the tutorial. Each heading, airspeed, and minute off will result in a a percent taken off. A minimum of 50% correct on all headings, airspeed, and minutes combines. Example: Correct heading from point A to B is 357.5. If your answer is 355.5 two points are detracted. Answers will be rounded to the half degree, whole knots, and half NM.

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- Plan a flight by reference to a navigation chart
- Describe the various global navigation chart projections and their use on national flights
- Convert time zones to Coordinated Universal Time (UTC), Local Mean Time (LMT) and Local Sidereal Time (LST)
- Discuss the altimetry procedures used on national flights
- Convert between various airspeeds and groundspeeds
- Calculate critical points for normal and asymmetric operations.

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
90 minutes

Exam Conditions
Open Book.

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