



# AVAT13011 *Advanced Human Factors*

## Term 1 - 2024

Profile information current as at 19/05/2024 02:40 am

All details in this unit profile for AVAT13011 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

Advanced Human Factors will provide you with advanced knowledge of human performance and human limitations associated with high speed, high altitude, multi-crew flight in heavy air transport aircraft. You will also learn about the importance of organisational culture and national culture when operating in the global aviation industry. You will cover the aeronautical knowledge requirements of the Civil Aviation Safety Authority Air Transport Pilot Licence Human Factors syllabus. You will be presented with some of the medical challenges of high speed, high altitude flight. You will examine problems of perception, cognition and behaviour related to flight and the errors that are caused by human limitations. You will reflect on the success of crew resource management strategies to improve pilot judgement and decision making and analyse the principles of threat and error management.

### Details

Career Level: *Undergraduate*

Unit Level: *Level 3*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

### Pre-requisites or Co-requisites

Pre-requisites: AVAT11013 Introduction to Aviation or AVAT11002 Basic Aeronautical Knowledge and AVAT11010 Aviation Safety Fundamentals.

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

- 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 Students

**Feedback**

Students enjoyed engagement with guests.

**Recommendation**

Endeavor to invite more guests for the next delivery of this unit.

## Unit Learning Outcomes

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

1. Classify the physiological conditions related to high altitude flight
2. Investigate human limitations of perception, cognition and information processing related to multi-crew
3. Interpret human behaviour limitations and errors applicable to multi-crew flight
4. Reflect on the crew resource management, judgement and decision making required of a professional pilot
5. Analyse critically the principles of threat and error management.

N/A

## Alignment of Learning Outcomes, Assessment and Graduate Attributes



### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
1 - Written Assessment - 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

All submissions for this unit must use the referencing style: [Harvard \(author-date\)](#)  
For further information, see the Assessment Tasks.

## Teaching Contacts

**Craig Needham** Unit Coordinator

[c.needham@cqu.edu.au](mailto:c.needham@cqu.edu.au)

**Doug Drury** Unit Coordinator

[d.drury@cqu.edu.au](mailto:d.drury@cqu.edu.au)

**Steve Leib** Unit Coordinator

[s.leib@cqu.edu.au](mailto:s.leib@cqu.edu.au)

## Schedule

### Week 1 - 04 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
ATPL HUF Introduction & Fundamentals		

### Week 2 - 11 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Human Body & Human Being		

### Week 3 - 18 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Leadership, Followership & Teamwork		

### Week 4 - 25 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Crew Resource Management		

### Week 5 - 01 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Threat & Error Management (TEM)		

### Vacation Week - 08 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
--------------	---------	------------------------------

### Week 6 - 15 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Advanced Flight Deck Design		
<b>Week 7 - 22 Apr 2024</b>		
Module/Topic	Chapter	Events and Submissions/Topic
Communication		
<b>Week 8 - 29 Apr 2024</b>		
Module/Topic	Chapter	Events and Submissions/Topic
Automation		<b>Video Recorded Assessment on JAL516 Contributing Human Factors</b> Due: Week 8 Monday (29 Apr 2024) 11:45 pm AEST
<b>Week 9 - 06 May 2024</b>		
Module/Topic	Chapter	Events and Submissions/Topic
Workload		
<b>Week 10 - 13 May 2024</b>		
Module/Topic	Chapter	Events and Submissions/Topic
Fatigue		
<b>Week 11 - 20 May 2024</b>		
Module/Topic	Chapter	Events and Submissions/Topic
Course Review		
<b>Week 12 - Revision - 27 May 2024</b>		
Module/Topic	Chapter	Events and Submissions/Topic
US Bangla 211 Debate & Emotional Resilience		
<b>Review/Exam Week - 03 Jun 2024</b>		
Module/Topic	Chapter	Events and Submissions/Topic
<b>Exam Week - 10 Jun 2024</b>		
Module/Topic	Chapter	Events and Submissions/Topic

## Term Specific Information

Discussion with Capt. Kevin Sullivan on Automation in modern flight decks. Contrasting lecture from Toulouse with Prof. Doug Drury and Airbus on the same topic. Several industry guests invited including representative of the ADF to discuss modern leadership.

## Assessment Tasks

### 1 Video Recorded Assessment on JAL516 Contributing Human Factors

#### Assessment Type

Written Assessment

#### Task Description

Students will be required to analyse a recent Incident and Accident in terms of its Human Factors and present a short video (under 10 mins) on how they feel those Human Factors contributed to the outcome. Students will be required to upload their presentation to the learning website in video format for grading. This will contribute to 40% of final grade.

#### Assessment Due Date

Week 8 Monday (29 Apr 2024) 11:45 pm AEST

## Return Date to Students

Week 10 Monday (13 May 2024)

### Weighting

40%

### Assessment Criteria

Students will be assessed of their knowledge of the incident, application of their knowledge of Human Factor principles and presentation clarity in the following manner.

#### Content Knowledge (5 marks):

Accuracy: Does the presentation demonstrate a comprehensive understanding of the human factors involved in the aircraft accident or incident?

Depth: Is the analysis sufficiently detailed, showing a deep understanding of relevant concepts and theories?

#### Clarity of Presentation (5 marks):

Organization: Is the presentation well-structured, with a clear introduction, body, and conclusion?

Clarity of Expression: Are ideas communicated clearly, using appropriate terminology and language?

#### Critical Thinking (5 marks):

Analysis: Does the presentation go beyond a surface-level description, providing a thoughtful and critical analysis of the human factors involved?

#### Application of Human Factors Principles (10 marks):

Application: Does the presentation apply human factors principles effectively to explain how and why the identified factors contributed to the accident or incident?

Relevance: Are the human factors chosen directly relevant to the incident, and is their impact on safety clearly articulated?

#### Visual Aids and Multimedia Usage (5 marks):

Visual Appeal: Are the visuals clear, engaging, and relevant to the content of the presentation?

Integration: Do visual aids enhance the understanding of the human factors discussed in the presentation?

#### Delivery and Engagement (5 marks):

Presentation Skills: How effective is the student's verbal delivery, including tone, pace, and clarity of speech?

#### References (5 marks):

Accuracy: Are all sources accurately referenced?

Variety: Does the presentation draw on a diverse range of reputable sources to support the analysis?

#### Referencing Style

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

#### Submission

Online

#### Submission Instructions

Submit via Moodle Assessment Tab

#### Learning Outcomes Assessed

- Classify the physiological conditions related to high altitude flight
- Investigate human limitations of perception, cognition and information processing related to multi-crew
- Interpret human behaviour limitations and errors applicable to multi-crew flight
- Reflect on the crew resource management, judgement and decision making required of a professional pilot
- Analyse critically the principles of threat and error management.

## 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**

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