



# AVAT11011 Human Factors in Airline and Airport Operations

## Term 3 - 2022

Profile information current as at 20/04/2024 01:57 am

All details in this unit profile for AVAT11011 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 assist you to develop an understanding of the relationship between human physiology/psychology and the aviation environment by focusing on the function and limitations of the human body. You will examine problems of perception, cognition and behaviour related to airline operations and the errors and consequences that are caused by human limitations. You will recognise and appropriately apply the principles of human factors to situations in which the relationship between the operator and the task are incompatible. You will learn several important factors including past experiences, a variety of cognitive biases, an escalation of commitment and sunk outcomes, individual differences, and a belief in personal relevance that influence decision making. You will consider management strategies for scenarios unique to airport and airline management such as the check-in process and boarding process.

### Details

Career Level: *Undergraduate*

Unit Level: *Level 1*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

### Pre-requisites or Co-requisites

There are no requisites for this unit.

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 3 - 2022

- 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. **Online Quiz(zes)**

Weighting: 30%

#### 2. **Essay**

Weighting: 30%

#### 3. **Group Work**

Weighting: 40%

### 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. Discuss the special restrictions which apply to human physiology and psychology in the aviation context
2. Describe how the human body is affected by the flight environment
3. Apply the principles of human factors in aviation operations and management
4. Examine how human behaviour affects the work culture, leadership and human resource management within the aviation context
5. Work in teams with a focus on safety, quality, legality, and profitability applying ethical standards with professional accountability
6. Communicate effectively in oral and written form in a professional aviation context.

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	6
1 - Online Quiz(zes) - 30%	•	•	•			
2 - Essay - 30%	•	•	•	•		•
3 - Group Work - 40%				•	•	•

### Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
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			•	•	•	

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
<b>9 - Social Innovation</b>				•		
<b>10 - Aboriginal and Torres Strait Islander Cultures</b>						

## Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
<b>1 - Online Quiz(zes) - 30%</b>		•				•				
<b>2 - Essay - 30%</b>	•		•	•		•		•	•	
<b>3 - Group Work - 40%</b>	•		•		•		•	•	•	

## 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: [American Psychological Association 7th Edition \(APA 7th edition\)](#)

For further information, see the Assessment Tasks.

## Teaching Contacts

**Steve Leib** Unit Coordinator  
[s.leib@cqu.edu.au](mailto:s.leib@cqu.edu.au)

## Schedule

### Week 1 - 07 Nov 2022

Module/Topic	Chapter	Events and Submissions/Topic
Historical Overview of Human Factors in Aviation	JW1	

<b>Week 2 - 14 Nov 2022</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Measurement in Aviation Systems	JW2	
<b>Week 3 - 21 Nov 2022</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Processes Underlying Human Performance	JW7	
<b>Week 4 - 28 Nov 2022</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Automation in Aviation Systems: Issues and Considerations	JW8	
<b>Vacation Week - 05 Dec 2022</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
<b>Week 5 - 12 Dec 2022</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Team Process	JW9	
<b>Week 6 - 19 Dec 2022</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Crew Resource Management	JW10	
<b>Vacation Week - 26 Dec 2022</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
<b>Week 7 - 02 Jan 2023</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Fatigue and Biological Rhythms	JW11	
<b>Week 8 - 09 Jan 2023</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Situation Awareness in Aviation Systems 1	JW12	
<b>Week 9 - 16 Jan 2023</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Situation Awareness in Aviation Systems 2	JW12	
<b>Week 10 - 23 Jan 2023</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Pilot Performance	JW14	
<b>Week 11 - 30 Jan 2023</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Organizational Factors Associated with Safety and Mission Success	JW5	
<b>Week 12 - 06 Feb 2023</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Group Presentations	N/A	<b>Group Presentation - Case study</b> Due: Week 12 Monday (6 Feb 2023) 11:45 pm AEST
<b>Exam Week - 13 Feb 2023</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>

## Assessment Tasks

### 1 Quizzes

**Assessment Type**

Online Quiz(zes)

**Task Description**

There are 3 quizzes throughout this unit:

- Quiz 1 at the end of Week 2, covering the overview of human factors and measurement in aviation systems
- Quiz 2 at the end of Week 5, covering human performance, automation, and team process
- Quiz 3 at the end of Week 8, covering JW chapters 10, 11, 12, and 14

You have 30 minutes to complete each quiz, and only one attempt is permitted. Quizzes will open on Monday evenings in the week they are due and must be submitted by Friday at 5PM via the relevant portal in Moodle.

**Number of Quizzes****Frequency of Quizzes****Assessment Due Date****Return Date to Students****Weighting**

30%

**Assessment Criteria**

No Assessment Criteria

**Referencing Style**

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

**Submission**

Online

**Learning Outcomes Assessed**

- Discuss the special restrictions which apply to human physiology and psychology in the aviation context
- Describe how the human body is affected by the flight environment
- Apply the principles of human factors in aviation operations and management

**Graduate Attributes**

- Problem Solving
- Information Technology Competence

### 2 Research Analysis

**Assessment Type**

Essay

**Task Description**

This assessment requires you to use the library to find scholarly article (journal publication) on the subject of human factors in aviation. Your chosen research study must be:

- From a peer-reviewed journal
- Related to any of the concepts of human factors from the unit
- Published after 2015

You will write a 1000 word research report describing the piece of research, including:

- The purpose of the research and research question(s)

- The background of the human factors issue that inspired the research
- The methodology of the study and how the research question(s) was/were answered
- What the study concluded and what additional work needs to be done in this area

#### **Assessment Due Date**

Exam Week Friday (17 Feb 2023) 5:00 pm AEST

Submitted via the appropriate portal in Moodle

#### **Return Date to Students**

#### **Weighting**

30%

#### **Assessment Criteria**

This assignment is worth a maximum of 20 points:

Discussion of the background of the issue and purpose of the study - 5 points

Discussion of the research questions and methodology - 5 points

Discussion of the conclusions of the research and suggestions for future study - 5 points

Spelling, grammar, and formatting - 5 points

#### **Referencing Style**

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

#### **Submission**

Online

#### **Submission Instructions**

Submitted via the appropriate portal in Moodle

#### **Learning Outcomes Assessed**

- Discuss the special restrictions which apply to human physiology and psychology in the aviation context
- Describe how the human body is affected by the flight environment
- Apply the principles of human factors in aviation operations and management
- Examine how human behaviour affects the work culture, leadership and human resource management within the aviation context
- Communicate effectively in oral and written form in a professional aviation context.

#### **Graduate Attributes**

- Communication
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Ethical practice
- Social Innovation

## 3 Group Presentation - Case study

#### **Assessment Type**

Group Work

#### **Task Description**

You and a group of up to 3 students will develop a presentation on an accident case study related to human factors. You will choose an aviation accident and develop a powerpoint presentation to share with the class during Week 12. Your accident selection should ensure that you can engage in rich discussion on various human factors issues we have discussed in the unit. Your instructor can liaise with you if you need assistance finding a suitable case study. The presentation should be organized as follows:

- Introduction
- Background of the flight
- A timeline of events
- Identification of relevant human factors considerations and how they broke down
- Recommendations leading from the accident investigation

#### **Assessment Due Date**

Week 12 Monday (6 Feb 2023) 11:45 pm AEST

Delivered in-class on Week 12 either online or in person

**Return Date to Students**

**Weighting**

40%

**Assessment Criteria**

This assignment is worth up to 30 points:

Accurate and thorough discussion of the accident background and timeline: 10 points

Accurate identification of human factors concerns and breakdowns: 10 points

Quality of discussion about accident outcomes and impact on human factors understanding: 5 points

Professionally organized presentation that is easy to follow, clear, and balanced across all group members: 5 points

**Referencing Style**

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

**Submission**

Offline Online Group

**Submission Instructions**

Delivered in class during Week 12

**Learning Outcomes Assessed**

- Examine how human behaviour affects the work culture, leadership and human resource management within the aviation context
- Work in teams with a focus on safety, quality, legality, and profitability applying ethical standards with professional accountability
- Communicate effectively in oral and written form in a professional aviation context.

**Graduate Attributes**

- Communication
- Critical Thinking
- Team Work
- Cross Cultural Competence
- Ethical practice
- Social Innovation



## 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