UNSW Course Outline

AVIA2610 Quantitative and Qualitative Research Methods in Aviation - 2024

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General Course Information

Course Code : AVIA2610
Year : 2024
Term : Term 2
Teaching Period : T2
Is a multi-term course? : No
Faculty : Faculty of Science
Academic Unit : School of Aviation
Delivery Mode : In Person
Delivery Format : Standard
Delivery Location : Kensington
Campus : Sydney
Study Level : Undergraduate
Units of Credit : 6

Useful Links

Handbook Class Timetable

Course Details & Outcomes

Course Description

Research design, data collection and analysis are imperative for understanding key areas of

aviation such as economic trends, ground operation efficiency, sustainability and environmental impact and passenger satisfaction. Where quantitative data can allow us to measure, assess and predict trends such as levels of safety in an aviation environment, qualitative data can give us insights such as first-hand accounts and non-numerical findings such as passenger perception and customer satisfaction. Both quantitative and qualitative data are necessary to gain business intelligence in aviation, and the combination of the two provides a holistic perspective to address challenges in the aviation industry. In this course, students are taught designing research projects for typical real-world questions, various methods of collecting quantitative and qualitative data and ways to analyse them efficiently and effectively as well as ethical pitfalls and their avoidance.

Course Aims

The aim of this course is to enable participants to lead small applied research projects themselves and empower them to critically evaluate work from external partners and consultants.The course provides students with the opportunity to gain skills in research design, data collection methods, data exploration, and data analysis with commonly used methods. The course aims to also introduce basic statistical methods and techniques, as well as methods for qualitative data analysis in order for students to examine both types of data through hands-on tutorials and assignments.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Identify and appropriately use quantitative and qualitative research methods to achieve reliable research design and data collection approaches for investigating aviation-based challenges.
CLO2 : Apply various data analysis skills and software to perform data analyses on diverse sets of data relating to different scenarios and challenges in aviation.
CLO3 : Identify and evaluate sources of bias and limitation in various quantitative and qualitative research methodologies and project design.
CLO4 : Evaluate quantitative and qualitative aviation-centric data, and effectively communicate findings and recommendations to various stakeholders in the aviation industry.

Course Learning Outcomes	Assessment Item
CLO1 : Identify and appropriately use quantitative and qualitative research methods to achieve reliable research design and data collection approaches for investigating aviation-based challenges.	• In-Class Skills-Based Tasks • Final Assignment
CLO2 : Apply various data analysis skills and software to perform data analyses on diverse sets of data relating to different scenarios and challenges in aviation.	• Final Assignment
CLO3 : Identify and evaluate sources of bias and limitation in various quantitative and qualitative research methodologies and project design.	• In-Class Skills-Based Tasks • Final Assignment
CLO4 : Evaluate quantitative and qualitative aviation-centric data, and effectively communicate findings and recommendations to various stakeholders in the aviation industry.	• Final Assignment

Learning and Teaching Technologies

Moodle - Learning Management System

Additional Course Information

Attendance is mandatory for weeks 2, 4, 5, 7 & 8. For tutorials in weeks 2,4, 5 & 7 you will need a **red and blue or black pen**! For week 8 & 9, you will need a laptop.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
In-Class Skills-Based Tasks Assessment Format: Individual	60%	Start Date: Not Applicable Due Date: Week 2: 03 June - 09 June, Week 4: 17 June - 23 June, Week 5: 24 June - 30 June, Week 7: 08 July - 14 July
Final Assignment Assessment Format: Individual	40%	Start Date: Not Applicable Due Date: 08/08/2024 05:00 PM Post Date: 23/08/2024 10:00 AM

Assessment Details

In-Class Skills-Based Tasks

Assessment Overview

During class in Weeks 2, 4, 5 and 7 (inclusive), you will be required to complete an assigned skills-based task. Each task is worth 15% (total weighting of 60% for the assessment). These tasks are designed to provide you with opportunities for practising various data collection methods and for assessing your ability to appropriately use the various tools introduced in class in response to the specific task.

You will be required to consistently adopt a research methods approach to complete each of the four skills-based tasks, and handwrite your answers in a template provided. The template follows a common format for all tasks. However, each task will involve a different scenario and require you to use a different research method to respond to the scenario. Once you have completed the task, you will then be required to share your completed task with a peer, provide and receive feedback, and add notes to your response, indicating what feedback was implemented and the rationale. You are required to submit each task at the end of the respective class.

Details of the assignment will be provided during each respective class in Weeks 2, 4, 5 and 7. For the task submitted in Week 2, you will be provided with your grade, and comprehensive feedback including annotations on the submitted task and via a rubric at the start of the next class. This feedback will form a foundation for the remainder of the tasks to be submitted. For tasks submitted in Weeks 4, 5 and 7, grades and feedback via a rubric will be provided at the start of the next respective class.

Course Learning Outcomes

- CLO1 : Identify and appropriately use quantitative and qualitative research methods to

achieve reliable research design and data collection approaches for investigating aviation-based challenges.
- CLO3 : Identify and evaluate sources of bias and limitation in various quantitative and qualitative research methodologies and project design.

Assessment Length

no longer than the template provided

Submission notes

Submit to convenor hand-written, filled in template at the end of class.

Assessment information

Make sure you bring a **red and blue or black pen. Attendance is mandatory** and each assignment can only be submitted at the end of each class.

Assignment submission Turnitin type

This is not a Turnitin assignment

Final Assignment

Assessment Overview

You will be required to submit a final assignment during UNSW Official Study Week that assesses all skills and knowledge covered in the course.

The assignment requires you to design a research project based on a given scenario and submit a 2,000 (maximum) word report on your research project design. The report should outline the data collection method and analysis, including critical assessment and justification for your choice. You should also explain how the research would be utilised and the results communicated to various relevant stakeholders.

Written feedback and grades via a marking rubric will be provided via Moodle within 10 working days after the assessment submission deadline.

Course Learning Outcomes

- CLO1 : Identify and appropriately use quantitative and qualitative research methods to achieve reliable research design and data collection approaches for investigating aviation-based challenges.
- CLO2 : Apply various data analysis skills and software to perform data analyses on diverse sets of data relating to different scenarios and challenges in aviation.
- CLO3 : Identify and evaluate sources of bias and limitation in various quantitative and qualitative research methodologies and project design.
- CLO4 : Evaluate quantitative and qualitative aviation-centric data, and effectively

communicate findings and recommendations to various stakeholders in the aviation industry.

Assessment Length

2,000 words

Submission notes

via Moodle

Assessment information

Make sure you read the assessment brief in Moodle! You wiil find all details there.

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students can see Turnitin similarity reports.

General Assessment Information

All information on assessments, you find in Moodle under 'Assessments'. Make sure you read through all material.

Grading Basis

Standard

Requirements to pass course

At least 50 marks out of 100.

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 27 May - 2 June	Module	Introduction & Defining the Research Problem
	Tutorial	Basics of Project Management
Week 2 : 3 June - 9 June	Module	Surveys
	Tutorial	First part of Assessment 1: Mandatory Attendance If you do not attend the whole class, you will need to apply for special considerations.
Week 3 : 10 June - 16 June	Reading	Public holiday! No class! Read a bit more about Project Management (useful information for all parts of life! ;-))
Week 4 : 17 June - 23 June	Module	Experiments
	Tutorial	Second part of Assessment 1: Mandatory Attendance If you do not attend the whole class, you will need to apply for special considerations.
Week 5 : 24 June - 30 June	Module	Case Studies
	Tutorial	Third part of Assessment 1: Mandatory Attendance If you do not attend the whole class, you will need to apply for special considerations.
Week 6 : 1 July - 7 July	Other	No classss, own repetition
Week 7 : 8 July - 14 July	Module	Interviews
	Tutorial	Fourth part of Assessment 1: Mandatory Attendance If you do not attend the whole class, you will need to apply for special considerations.
Week 8 : 15 July - 21 July	Module	Data Analysis
	Tutorial	Bring a computer and have NVIVO and SPSS installed.
Week 9 : 22 July - 28 July	Module	Ethical Issues
	Tutorial	Bring a computer and have NVIVO and SPSS installed.
Week 10 : 29 July - 4 August	Module	Research Utilisation & Communication
	Tutorial	Q+A for course and final assignment.

Attendance Requirements

Mandatory attendance of weeks 2, 4, 5, 7 & 8.

Furthermore, please note that lecture recordings are not available for this course. It is expected that students **attend all classes** and contact their peers to make alternative arrangements for classes missed in case of illness.

General Schedule Information

Week 3 is a public holiday (10th of June): no classes.

Course Resources

Prescribed Resources

On Moodle, you will find a link to the reading list and course resources! Make sure you read all recommended literature BEFORE coming to class.

Course Evaluation and Development

This is a new course and feedback via MyExperience will be considered for improvement of this course. As this is a new course, feedback during the term is also highly encouraged in person, per email or via the Discussion Forum (preferred method).

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Mirjam Wiedemann				Mo-Fr by email	No	Yes

Other Useful Information

Academic Information

Upon your enrolment at UNSW, you share responsibility with us for maintaining a safe, harmonious and tolerant University environment.

You are required to:

- Comply with the University's conditions of enrolment.
- Act responsibly, ethically, safely and with integrity.
- Observe standards of equity and respect in dealing with every member of the UNSW community.
- Engage in lawful behaviour.
- Use and care for University resources in a responsible and appropriate manner.
- Maintain the University's reputation and good standing.

For more information, visit the UNSW Student Code of Conduct Website.

Academic Honesty and Plagarism

Referencing is a way of acknowledging the sources of information that you use to research your assignments. You need to provide a reference whenever you draw on someone else's words, ideas or research. Not referencing other people's work can constitute plagiarism.
Further information about referencing styles can be located at https://student.unsw.edu.au/referencing

Academic integrity is fundamental to success at university. Academic integrity can be defined as

a commitment to six fundamental values in academic pursuits: honesty, trust, fairness, respect, responsibility and courage. At UNSW, this means that your work must be your own, and others' ideas should be appropriately acknowledged. If you don't follow these rules, plagiarism may be detected in your work.
Further information about academic integrity, plagiarism and the use of AI in assessments can be located at:

- The Current Students site,
- The ELISE training site, and
- The Use of AI for assessments site.

The Student Conduct and Integrity Unit provides further resources to assist you to understand your conduct obligations as a student: https://student.unsw.edu.au/conduct

Submission of Assessment Tasks

Penalty for Late Submissions

UNSW has a standard late submission penalty of:

- 5% per day,
- for all assessments where a penalty applies,
- capped at five days (120 hours) from the assessment deadline, after which a student cannot submit an assessment, and
- no permitted variation.

Any variations to the above will be explicitly stated in the Course Outline for a given course or assessment task.

Students are expected to manage their time to meet deadlines and to request extensions as early as possible before the deadline.

Special Consideration

If circumstances prevent you from attending/completing an assessment task, you must officially apply for special consideration, usually within 3 days of the sitting date/due date. You can apply by logging onto myUNSW and following the link in the My Student Profile Tab. Medical documentation or other documentation explaining your absence must be submitted with your application. Once your application has been assessed, you will be contacted via your student email address to be advised of the official outcome and any actions that need to be taken from there. For more information about special consideration, please visit: https://student.unsw.edu.au/special-consideration

Important note: UNSW has a “fit to sit/submit” rule, which means that if you sit an exam or submit a piece of assessment, you are declaring yourself fit to do so and cannot later apply for Special Consideration. This is to ensure that if you feel unwell or are faced with significant circumstances beyond your control that affect your ability to study, you do not sit an examination or submit an assessment that does not reflect your best performance. Instead, you should apply for Special Consideration as soon as you realise you are not well enough or are otherwise unable to sit or submit an assessment.

Faculty-specific Information

Additional support for students

- The Current Students Gateway
- Student Support
- Academic Skills and Support
- Student Wellbeing, Health and Safety
- Equitable Learning Services
- UNSW IT Service Centre
- Science EDI Student Initiatives, Offerings and Guidelines

School Contact Information

Email:

aviation@unsw.edu.au

Telephone:

Undergraduate Courses - +61 2 9385 5756 (Katie Wang)

Postgraduate Courses - +61 2 9385 5787 (Michelle Lee)