UNSW Course Outline

ZBUS2333 Data Analytics and Visualisation - 2024

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General Course Information

Course Code : ZBUS2333
Year : 2024
Term : Semester 1
Teaching Period : Z1
Is a multi-term course? : No
Faculty : UNSW Canberra
Academic Unit : UC School of Business
Delivery Mode : In Person
Delivery Format : Standard
Delivery Location : UNSW Canberra at ADFA
Campus : UNSW Canberra
Study Level : Undergraduate
Units of Credit : 6

Useful Links

Handbook Class Timetable

Course Details & Outcomes

Course Description

This course is designed to empower students with the essential skills needed to present data effectively to specific audiences for informed decision-making in business, community, and government organisations. It guides and supports the students to delve into the art of

constructing communication through data visualisation, ensuring that their presentations are focused, accurate, compelling, and thematic (FACT).

The students will understand that, beyond creating pretty pictures, data visualisation can navigate conversations with clarity, target diverse audiences strategically, and make a prominent impact in an evolving environment. In addition, students will work in groups and practice delivering real-world data visualisation tasks, simulating teamwork undertaken in their workplaces.

Delivery of this course is non-technical, highly applied, and based on case studies, with various hands-on activities.

Course Aims

This course aims to empower students with the ability to comprehend a dataset within a given context, analyse it for effective visualisation, and, crucially, develop skills in strategically tailoring and interpreting visualised data for diverse audiences. These skills are essential for decision-making across public, private, non-profit, and international sectors.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Compare the key characteristics inherent in different data types and understand the specific questions each type is best suited to answer.
CLO2 : Identify clutters in diagrams based on data visualisation principles and analyse the effectiveness of a visual in delivering a key message or insights.
CLO3 : Discern the significance of “know your audience” in a data-driven communication and construct an effective data visualisation tailored to a specific audience.
CLO4 : Assess and criticise data visualisation cases, and develop focused, accurate, compelling, and thematic (FACT) visuals from a given dataset to effectively influence a decision-maker.

Course Learning Outcomes	Assessment Item
CLO1 : Compare the key characteristics inherent in different data types and understand the specific questions each type is best suited to answer.	• Quizzes and questions • Examination
CLO2 : Identify clutters in diagrams based on data visualisation principles and analyse the effectiveness of a visual in delivering a key message or insights.	• Group poster representation • Quizzes and questions • Examination
CLO3 : Discern the significance of “know your audience” in a data-driven communication and construct an effective data visualisation tailored to a specific audience.	• Group poster representation • Examination
CLO4 : Assess and criticise data visualisation cases, and develop focused, accurate, compelling, and thematic (FACT) visuals from a given dataset to effectively influence a decision-maker.	• Examination

Learning and Teaching Technologies

Moodle - Learning Management System | Microsoft Excel | Echo 360

Learning and Teaching in this course

This course guides students through the principles of effective communication through data visualisation, presenting key concepts in lectures and practicing applications in tutorials. A structured program is strongly recommended for students to follow, which facilitates the learning necessary for the designed assessments. Students will have access to guided readings

and PowerPoint presentations. Hands-on activities and case studies are designed and used across the weekly teaching activities, ensuring that the students without prior knowledge and techniques of data analysis can fully understand the content.

This course is conducted face to face, and all the lectures will be recorded for later review.

Workload
Students are expected to undertake an average of 10 hours of study per week for this course. This includes attending one 2-hour lecture and one 1-hour tutorial, engagement with course readings and other activities, assessment preparation and research, as well as contact time with the lecturer and fellow students.

Other Professional Outcomes

Developing Program Attributes
Students will be encouraged to develop the following School of Business program attributes by undertaking the course activities and mastering the knowledge content:

1: Business knowledge
Students will acquire essential knowledge, techniques, and skills in data analytics and visualisation, enabling effective communication with diverse audiences through the use of data.

2: Problem solving
Students will gain the ability to extract key insights from selecting and applying suitable data visualisation methods under diverse contexts and effectively deliver these insights to different audiences.

3: Business communication
Students will develop capability of effectively visualising data and presenting significant findings and analytical insights in various business scenarios.

4: Teamwork
Students will collaborate in groups to actively engage in addressing real-world business cases through the application of data analytics and visualization techniques.

5: Responsible business practice
Student will understand the legal and ethical issues in the use of data and analytics.

6: Global and cultural competence

N/A

7: Leadership development

Student activities and assessments are designed to foster students' abilities in critical thinking and hands-on problem-solving, as well as their engagement in collaboration and teamwork.

Developing Graduate Capabilities

Successful completion of this course contributes to the acquisition of UNSW graduate capabilities. UNSW aspires to develop globally focused graduates who are **rigorous scholars**, capable of **leadership** and **professional practice** in an **international** community.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Quizzes and questions Assessment Format: Individual	20%	Start Date: 25/03/2024 03:00 PM Due Date: 25/03/2024 05:00 PM Post Date: 08/04/2024 12:00 AM
Group poster representation Assessment Format: Group	30%	Start Date: Not Applicable Due Date: 26/05/2024 11:59 PM Post Date: 09/06/2024 11:30 PM
Examination Assessment Format: Individual	50%	Start Date: Exam week Due Date: Exam week Post Date: 10/07/2024 03:00 PM

Assessment Details

Quizzes and questions

Assessment Overview

A series of 25-30 quizzes and questions to be tested in class.

Course Learning Outcomes

- CLO1 : Compare the key characteristics inherent in different data types and understand the specific questions each type is best suited to answer.
- CLO2 : Identify clutters in diagrams based on data visualisation principles and analyse the effectiveness of a visual in delivering a key message or insights.

Detailed Assessment Description

Please see the course Moodle site for a detailed description of this assessment. Information will be made available on Week 2 lecture. Test will be conducted during Week 5 lecture.

Permitted use of Generative AI: NO ASSISTANCE - INVIGILATED ASSESSMENT

It is prohibited to use any software or service to search for or generate information or answers. If such use is detected, it will be regarded as serious academic misconduct and subject to the standard penalties, which may include 00FL, suspension and exclusion.

Assessment Length

N/A

Submission notes

Please find detailed submission information on Moodle site.

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

Group poster representation

Assessment Overview

Each group will submit a poster addressing a real-world data visualisation problem. The posters will be presented to others in tutorials.

Course Learning Outcomes

- CLO2 : Identify clutters in diagrams based on data visualisation principles and analyse the effectiveness of a visual in delivering a key message or insights.
- CLO3 : Discern the significance of “know your audience” in a data-driven communication and construct an effective data visualisation tailored to a specific audience.

Detailed Assessment Description

Please see the course Moodle site for a detailed description of this assessment and marking rubrics. Information will be made available on Week 9 lecture. Group self-assessment will be conducted during Week 13 tutorials.

Permitted use of Generative AI: DRAFTING ASSISTANCE

As this assessment task involves some planning or creative processes, you are permitted to use software to generate initial drafts (or ideas, structures, etc). However, you must develop or edit those ideas to such a significant extent that what is submitted is your own work, i.e., what is

generated by the software should not be a part of your final submission. It is a good idea to keep copies of your initial drafts to show your lecturer if there is any uncertainty about the originality of your work.

Please note that your submission will be passed through an AI-text detection tool. If your marker has concerns that your answer contains passages of AI-generated text that have not been sufficiently modified you may be asked to explain your work, but we recognise that you are permitted to use AI generated text as a starting point and some traces may remain. If you are unable to satisfactorily demonstrate your understanding of your submission you may be referred to UNSW Conduct & Integrity Office for investigation for academic misconduct and possible penalties

Assessment Length

One A0 page poster

Submission notes

Please find detailed submission information on the course Moodle site.

Assignment submission Turnitin type

This is not a Turnitin assignment

Examination

Assessment Overview

A combination of 30 quizzes and 2-3 problem solving tasks.

Course Learning Outcomes

- CLO1 : Compare the key characteristics inherent in different data types and understand the specific questions each type is best suited to answer.
- CLO2 : Identify clutters in diagrams based on data visualisation principles and analyse the effectiveness of a visual in delivering a key message or insights.
- CLO3 : Discern the significance of “know your audience” in a data-driven communication and construct an effective data visualisation tailored to a specific audience.
- CLO4 : Assess and criticise data visualisation cases, and develop focused, accurate, compelling, and thematic (FACT) visuals from a given dataset to effectively influence a decision-maker.

Detailed Assessment Description

Please see the course Moodle site for a detailed description of this assessment. Test will be conducted during exam week.

Permitted use of Generative AI: NO ASSISTANCE - INVIGILATED ASSESSMENT

It is prohibited to use any software or service to search for or generate information or answers. If such use is detected, it will be regarded as serious academic misconduct and subject to the standard penalties, which may include 00FL, suspension and exclusion.

Assessment Length

TBA

Submission notes

Please find detailed submission information on the course Moodle site.

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

General Assessment Information

Referencing

APA 7th Edition.

Extensions and Special Consideration (School of Business, Undergraduate)

All extension requests for this course must be submitted as a Special Consideration application.

Applications should be submitted BEFORE the assessment due date.

If extenuating circumstances prevent you from submitting an application before the due date, please notify your course convenor by email and submit the application as soon as possible.

If your application is approved, the outcome may be one of the following:

- A supplementary or alternative assessment,
- An extended deadline for the assessment (note the extension granted is normally equivalent to the period of impact outlined in your supporting documentation),
- An aggregated or averaged mark derived from other comparable completed assessments.

Please note, applying for Special Consideration does not automatically mean that you will be granted additional assessment, or that you will be awarded an amended result.

More information

Special consideration and application process: https://www.student.unsw.edu.au/special-consideration.

Late submission of assessment

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.

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

Grading Basis

Standard

Requirements to pass course

Students must achieve at least 50% overall to pass the course. Students are expected to engage actively in course learning activities and attempt all assessment requirements in the course.

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 26 February - 1 March	Topic	Lecture: Introduction and preamble Tutorial: Team up
Week 2 : 4 March - 8 March	Topic	Lecture: Types of data and visualisation (Assessment 1 introduction) Tutorial: Practice on data types
Week 3 : 11 March - 15 March	Topic	Lecture: Lost Monday (Canberra Day) Tutorial: Practice on data visualisation
Week 4 : 18 March - 22 March	Topic	Lecture: Storytelling with examples Tutorial: Storytelling practice
Week 5 : 25 March - 29 March	Topic	Lecture: In-class test (Assessment 1) Tutorial: Lost Friday (Good Friday)
Week 6 : 1 April - 5 April	Topic	Lecture: Lost Monday (Easter Monday) Tutorial: Assessment 1 reflection
Week 7 : 22 April - 26 April	Topic	Lecture: Where is data from? Tutorial: Data sourcing and collecting
Week 8 : 29 April - 3 May	Topic	Lecture: Who is data for? Tutorial: Audience-oriented visualisation
Week 9 : 6 May - 10 May	Topic	Lecture: Storytelling with a poster (Assessment 2 Introduction) Tutorial: Friday lost (Military Training Day)
Week 10 : 13 May - 17 May	Topic	Lecture: Effective visualisation with context Tutorial: Initialising and developing your poster
Week 11 : 20 May - 24 May	Topic	Lecture: Case studies Tutorial: Finalising your poster (Assessment 2 due)
Week 12 : 27 May - 31 May	Topic	Lecture: Text as data (Tuesday class) Tutorial: Argue with ChatGPT
Week 13 : 3 June - 7 June	Topic	Lecture: Strategic communication with visuals Tutorial: Poster self-assessment

Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

General Schedule Information

Please see the course Moodle site for more information.

Course Resources

Recommended Resources

Allchin, C. (2022). *Communicating with Data*. O'Reilly Media, Inc.

Knaflic, C. N. (2015). *Storytelling with data: a data visualization guide for business professionals*. Wiley.

Course Evaluation and Development

The delivery approaches and materials in this course will regularly solicit voluntary feedback

during classes to ensure students' satisfaction. Immediate attention will be given to feedback on aspects such as the pace, volume, and clarity of classes. Suggestions related to teaching materials will be carefully considered, with adjustments made in the subsequent weeks.

Feedback on the overall course performance throughout the semester will be gathered through university surveys. This feedback will be thoroughly reviewed and taken into account when planning for improvements in the next semester.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Lecturer	Yu Zhang		Building 27, Room 214, School of Business, UNSW Canberra		By appointment	Yes	Yes

Other Useful Information

Academic Information

Course Evaluation and Development

One of the key priorities in the 2025 Strategy for UNSW is a drive for academic excellence in education. One of the ways of determining how well UNSW is progressing towards this goal is by listening to our own students. Students will be asked to complete the myExperience survey towards the end of each course.

Students can also provide feedback during the semester via: direct contact with the lecturer, the “On-going Student Feedback” link in Moodle, Student-Staff Liaison Committee meetings in schools, informal feedback conducted by staff, and focus groups (where applicable). Student opinions really do make a difference. Refer to the Moodle site for your course to see how the feedback from previous students has contributed to the course development.

Important note: Students are reminded that any feedback provided should be constructive and professional and that they are bound by the Student Code of Conduct.

https://www.gs.unsw.edu.au/policy/documents/studentcodepolicy.pdf

Equitable Learning Services (ELS)

Students living with neurodivergent, physical and/or mental health conditions or caring for someone with these conditions may be eligible for support through the Equitible Learning Services team. Equitable Learning Services is a free and confidential service that provides practical support to ensure your mental or physical health conditions do not adversely affect your studies.

Our team of dedicated **Equitable Learning Facilitators** (ELFs) are here to assist you through this process. We offer a number of services to make your education at UNSW easier and more equitable.

Further information about ELS for currently enrolled students can be found at: https://www.student.unsw.edu.au/equitable-learning

Academic Honesty and Plagarism

UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW staff and students have a responsibility to adhere to this principle of academic integrity. All students are expected to adhere to UNSW's Student Code of Conduct. Find relevant information at: Student Code of Conduct (unsw.edu.au)

Plagiarism undermines academic integrity and is not tolerated at UNSW. It is defined as using the words or ideas of others and passing them off as your own, and can take many forms, from deliberate cheating to accidental copying from a source without acknowledgement.

For more information, please refer to the following:

https://student.unsw.edu.au/plagiarism

Submission of Assessment Tasks

Special Consideration

Special Consideration is the process for assessing and addressing the impact on students of short-term events, that are beyond the control of the student, and that affect performance in a specific assessment task or tasks.

Applications for Special Consideration will be accepted in the following circumstances only:

- Where academic work has been hampered to a substantial degree by illness or other cause;

- The circumstances are unexpected and beyond the student's control;
- The circumstances could not have reasonably been anticipated, avoided or guarded against by the student; and either:

(i) they occurred during a critical study period and was 3 consecutive days or more duration, or a total of 5 days within the critical study period; or

(ii) they prevented the ability to complete, attend or submit an assessment task for a specific date (e.g. final exam, in class test/quiz, in class presentation)

Applications for Special Consideration must be made as soon as practicable after the problem occurs and at the latest within three working days of the assessment or the period covered by the supporting documentation.

By sitting or submitting the assessment task the student is declaring that they are fit to do so and cannot later apply for Special Consideration (UNSW 'fit to sit or submit' requirement).

Sitting, accessing or submitting an assessment task on the scheduled assessment date, after applying for special consideration, renders the special consideration application void.

Find more information about special consideration at: https://www.student.unsw.edu.au/special/consideration/guide

Or apply for special consideration through your MyUNSW portal.

Late Submission of assessment tasks (other than examinations)

UNSW has a standard late submission penalty of:

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

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

Electronic submission of assessment

Except where the nature of an assessment task precludes its electronic submission, all assessments must be submitted to an electronic repository, approved by UNSW or the Faculty,

for archiving and subsequent marking and analysis.

Release of final mark

All marks obtained for assessment items during the session are provisional. The final mark as published by the university following the assessment review group meeting is the only official mark.

School Contact Information

Email: Business@adfa.edu.au