COURSE OUTLINE

ICT110 Introduction to Data Science

School: School of Science, Technology and Engineering

2026 | Trimester 2

UniSC Adelaide | BLENDED LEARNING | Most of your course is on campus but you may be able to do some components of this course online.

Please go to unisc.edu.au for up to date information on the teaching sessions and campuses where this course is usually offered.

1. What is this course about?

1.1. Description

Data used to be the new oil, now it is the new soil because it is what businesses use to grow. Data is the underlying driver of the knowledge economy and unlike oil, can be used over and over again to extract value for businesses. This class is an introduction to the practice of data science. You will learn skills in data collection, representation, storage, analysis, and visualisation. In addition, you will learn the impact of business analytics and big data on business performance. The course helps you to combine technical and statistical skills, analytical thinking, and business acumen.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – Pre-recorded concept videos and associated activity	1hr	Week 1	12 times
Seminar – On-campus interactive activity.	1hr	Week 1	Once Only
Tutorial/Workshop 1 – In-class tutorial	2hrs	Week 1	12 times

1.3. Course Topics

Data and data science

Introduction to R

Data collection

Data storage and retrieval

Data quality and pre-processing

Exploratory data analysis

Descriptive data analysis

Predictive data analysis

Data visualisation

Data in business 1

Data in business 2

Cloud computing for data processing

2. What level is this course?

100 Level (Introductory)

Engaging with discipline knowledge and skills at foundational level, broad application of knowledge and skills in familiar contexts and with support. Limited or no prerequisites. Normally, associated with the first full-time study year of an undergraduate program.

3. What is the unit value of this course?

12 units

4. How does this course contribute to my learning?

COURSE LEARNING OUTCOMES On successful completion of this course, you should be able to...		GRADUATE QUALITIES Completing these tasks successfully will contribute to you becoming...
1	Use the foundational concepts related to data science.	Empowered
2	Apply statistical tools and software (R) to perform data analysis.	Knowledgeable Empowered
3	Discuss and demonstrate fundamental data science concepts.	Creative and critical thinker
4	Relate Data Science to solving business problems.	Creative and critical thinker
5	Illustrate knowledge and uses of modern data management and analysis strategies and techniques.	Knowledgeable

5. Am I eligible to enrol in this course?

Refer to the UniSC Glossary of terms for definitions of “pre-requisites, co-requisites and anti-requisites”.

5.1. Pre-requisites

Not applicable

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

Not applicable

5.4. Specific assumed prior knowledge and skills (where applicable)

Not applicable

5.5. Microcredential Information

Not applicable

6. How am I going to be assessed?

6.1. Grading Scale

Standard Grading (GRD)

High Distinction (HD), Distinction (DN), Credit (CR), Pass (PS), Fail (FL).

6.2. Details of early feedback on progress

Early feedback will be formative. Comprehensive H5P learning guides have been developed for online learning. After each module there is a quiz that provides immediate feedback for students to assess their understanding of each module.

6.3. Assessment tasks

DELIVERY MODE	TASK NO.	ASSESSMENT PRODUCT	INDIVIDUAL OR GROUP	WEIGHTING %	WHAT IS THE DURATION / LENGTH?	WHEN SHOULD I SUBMIT?	WHERE SHOULD I SUBMIT IT?
All	1	Examination - not Centrally Scheduled	Individual	25%	1 hour	Week 5	Online Test (Quiz)
All	2	Artefact - Technical and Scientific, and Written Piece	Individual	45%	~1500 words	Week 10	Online Assignment Submission with plagiarism check
All	3	Examination - not Centrally Scheduled	Individual	30%	2 hours	Exam Period	Online Assignment Submission with plagiarism check

All - Assessment Task 1: Exam

GOAL:	The purpose of this assessment is to apply foundation concepts of data storage, retrieval and analysis using hands-on tools.
PRODUCT:	Examination - not Centrally Scheduled
AUTHORSHIP STATEMENT:	
FORMAT:	Individual assessment to be undertaken independently. The exam is based on the content of Week 1 – 4. This task will help to build your knowledge of data formats, and retrieval and analysis techniques. Further details will be available on Canvas.
CRITERIA:	**No.** — **Learning Outcome assessed** 1 analysis and application of data retrieval methods — 1 2 analysis and application of data analysis techniques — 2
GENERIC SKILLS:	Problem solving, Applying technologies

All - Assessment Task 2: Report

GOAL:	The purpose of this report is to apply your data processing skills to solve an abstract business problem and to make recommendations that meet business objectives.
PRODUCT:	Artefact - Technical and Scientific, and Written Piece
AUTHORSHIP STATEMENT:	
FORMAT:	This assessment will require you to write a report that analyses a data set and makes recommendations based on the data analysis. These recommendations should align with business objectives. Further details will be available on Canvas.
CRITERIA:	**No.** — **Learning Outcome assessed** 1 understanding of concepts and theories in data science — 1 2 2 analysis of data — 3 4 3 synthesis of relevant information — 4 5
GENERIC SKILLS:	Communication, Problem solving, Applying technologies, Information literacy

All - Assessment Task 3: Exam

GOAL:	The purpose of this assessment is to apply data processing skills. It engages a deeper understanding of the importance of data and information for business applications.
PRODUCT:	Examination - not Centrally Scheduled
AUTHORSHIP STATEMENT:	
FORMAT:	Individual assessment to be undertaken independently. The exam is based on the content of Weeks 1 – 12. This task will help to demonstrate your knowledge of data analysis techniques. Further details will be available on Canvas.
CRITERIA:	**No.** — **Learning Outcome assessed** 1 understanding of concepts and theories in data science — 3 2 define a business problem and present the data structure to solve the problem — 4 3 apply data processing skills to develop a deeper understanding of the data in a business context — 5
GENERIC SKILLS:	Communication, Problem solving, Applying technologies, Information literacy

7. Directed study hours

A 12-unit course will have total of 150 learning hours which will include directed study hours (including online if required), self-directed learning and completion of assessable tasks. Student workload is calculated at 12.5 learning hours per one unit.

8. What resources do I need to undertake this course?

Please note: Course information, including specific information of recommended readings, learning activities, resources, weekly readings, etc. are available on the course Canvas site– Please log in as soon as possible.

8.1. Prescribed text(s) or course reader

> There are no required/recommended resources for this course.

8.2. Specific requirements

Not applicable

9. How are risks managed in this course?

Health and safety risks for this course have been assessed as low. It is your responsibility to review course material, search online, discuss with lecturers and peers and understand the health and safety risks associated with your specific course of study and to familiarise yourself with the University's general health and safety principles by reviewing the online induction training for students, and following the instructions of the University staff.

10. What administrative information is relevant to this course?

10.1. Assessment: Academic Integrity

Academic integrity is the ethical standard of university participation. It ensures that students graduate as a result of proving they are competent in their discipline. This is integral in maintaining the value of academic qualifications. Each industry has expectations and standards of the skills and knowledge within that discipline and these are reflected in assessment.

Academic integrity means that you do not engage in any activity that is considered to be academic fraud; including plagiarism, collusion or outsourcing any part of any assessment item to any other person. You are expected to be honest and ethical by completing all work yourself and indicating in your work which ideas and information were developed by you and which were taken from others. You cannot provide your assessment work to others. You are also expected to provide evidence of wide and critical reading, usually by using appropriate academic references.

In order to minimise incidents of academic fraud, this course may require that some of its assessment tasks, when submitted to Canvas, are electronically checked through Turnitin. This software allows for text comparisons to be made between your submitted assessment item and all other work to which Turnitin has access.

10.2. Assessment: Additional Requirements

Eligibility for Supplementary Assessment

Your eligibility for supplementary assessment in a course is dependent of the following conditions applying:
(a) The final mark is in the percentage range 47% to 49.4%; and
(b) The course is graded using the Standard Grading scale

10.3. Assessment: Submission penalties

Late submissions may be penalised up to and including the following maximum percentage of the assessment task's identified value, with weekdays and weekends included in the calculation of days late:
(a) One day: deduct 5%;
(b) Two days: deduct 10%;
(c) Three days: deduct 20%;
(d) Four days: deduct 40%;
(e) Five days: deduct 60%;
(f) Six days: deduct 80%;
(g) Seven days: A result of zero is awarded for the assessment task.

The following penalties will apply for a late submission for an online examination:
Less than 15 minutes: No penalty
From 15 minutes to 30 minutes: 20% penalty
More than 30 minutes: 100% penalty

10.4. Links to relevant University policy and procedures

For more information on Academic Learning & Teaching categories including:

- Assessment: Courses and Coursework Programs
- Review of Assessment and Final Grades
- Supplementary Assessment
- Central Examinations
- Deferred Examinations
- Student Conduct
- Students with a Disability

For more information, visit https://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching

10.5. Student Charter

UniSC is committed to excellence in teaching, research and engagement in an environment that is inclusive, inspiring, safe and respectful. The Student Charter sets out what students can expect from the University, and what in turn is expected of students, to achieve these outcomes.

10.6. General Enquiries

For course-specific questions, contact your teaching staff or Course Coordinator.

For other enquiries or to access support, please contact Student Central:

- UniSC Student Central
- UniSC Adelaide Student Central