



COURSE OUTLINE

ICT704 Cloud Database Systems

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2021 | Semester 2

USC Southbank

ON CAMPUS

Most of your course is on campus but you may be able to do some components of this course online.

Please go to the USC website 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

Modern day computer systems capture, store and manipulate very large amounts of data, which cannot be adequately stored in traditional relational databases. It is to address the need for greater scalability, flexibility, availability and lower costs, that non-relational or NoSQL databases were developed. This course covers the different types of NoSQL databases available, the type of data that is stored and manipulated by them and which database technology is best suited to different real-world data problems including geospatial and data visualisation applications.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
ON CAMPUS			
Tutorial/Workshop 1	1hr	Not applicable	Not Yet Determined
Lecture	2hrs	Not applicable	Not Yet Determined

1.3. Course Topics

NoSQL databases and topics

Key Value Databases

Document Databases

Graph Databases

2. What level is this course?

700 Level (Specialised)

Demonstrating a specialised body of knowledge and set of skills for professional practice or further learning. Advanced application of knowledge and skills in unfamiliar contexts.

3. What is the unit value of this course?

12 units

4. How does this course contribute to my learning?

COURSE LEARNING OUTCOMES		GRADUATE QUALITIES
On successful completion of this course, you should be able to...		Completing these tasks successfully will contribute to you becoming...
1	Design and implement a non-relational database system in a real-world context.	Knowledgeable Creative and critical thinker
2	Reflect critically on the ethical and sustainability impact of appropriate data storage and manipulation.	Ethical Sustainability-focussed
3	Demonstrate mastery of the theory and practice of non-relational database systems.	Knowledgeable Engaged

5. Am I eligible to enrol in this course?

Refer to the [USC Glossary of terms](#) for definitions of “pre-requisites, co-requisites and anti-requisites”.

5.1. Pre-requisites

ICT701

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

Not applicable

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

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

Formative feedback provided on weekly tutorial exercises. Each week's task builds on skills which are used in all assessment pieces.

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	Individual	20%	1 hour	Week 4	Online Test (Quiz)
All	2	Report	Individual	40%	1500 words	Week 8	Online Assignment Submission with plagiarism check
All	3	Artefact - Creative, and Written Piece	Individual	40%	N/A	Week 12	Online Assignment Submission with plagiarism check

All - Assessment Task 1: Mid-semester test

GOAL:	To demonstrate mastery of the theory and practice of NoSQL database systems
PRODUCT:	Examination
FORMAT:	A series of short answer questions

CRITERIA:	No.	Learning Outcome assessed
	1	Application of non-relational database design theory 3
	2	Correct application of NoSQL syntax to given scenarios 3

All - Assessment Task 2: Report

GOAL:	To demonstrate understanding of the theory and practice of non-relational database systems through the analysis of a business' potential use of NoSQL databases.	
PRODUCT:	Report	
FORMAT:	You will report on the potential use, benefits and issues of several NoSQL databases within a given business case.	
CRITERIA:	No.	Learning Outcome assessed
	1	Comprehension, application and communication of definitions and concepts used in non-relational database systems 3
	2	Comparison of potential non-relational databases and selection of alternatives for the given case 3
	3	Critical reflection on the ethical and sustainability of the appropriateness of the selected technology and design 2

All - Assessment Task 3: Non-Relational Database

GOAL:	To develop a NoSQL database to solve a real world data storage and manipulation problem. This task will help to build your knowledge of non-relational database design and implementation techniques	
PRODUCT:	Artefact - Creative, and Written Piece	
FORMAT:	A report and an implemented NoSQL database that together document the analysis of and solution to the prescribed real world situation. Further details will be available on Blackboard in the assignment specification.	
CRITERIA:	No.	Learning Outcome assessed
	1	Insightful analysis of the given problem 1
	2	Completeness and accuracy of the design and implementation of the non-relational system 3
	3	Consistency and ability to apply appropriate translation strategies through the different levels of design/implementation 1

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. Directed study hours may vary by location. 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 Blackboard site– Please log in as soon as possible.

8.1. Prescribed text(s) or course reader

Please note that you need to have regular access to the resource(s) listed below. Resources may be required or recommended.

REQUIRED?	AUTHOR	YEAR	TITLE	PUBLISHER
Required	Daniel Sullivan	2015	NoSQL for mere mortals	Addison-Wesley Professional

8.2. Specific requirements

You must have a computer (Desktop or Laptop) that you can install/access NoSQL software applications on, in order to be able to practice the NoSQL skills outside lecture and workshop times.

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 Blackboard, are electronically checked through SafeAssign. This software allows for text comparisons to be made between your submitted assessment item and all other work that SafeAssign has access to.

10.2. Assessment: Additional Requirements

Eligibility for Supplementary Assessment

Your eligibility for supplementary assessment in a course is dependent of the following conditions applying:

The final mark is in the percentage range 47% to 49.4%

The course is graded using the Standard Grading scale

You have not failed an assessment task in the course due to academic misconduct

10.3. Assessment: Submission penalties

Late submission of assessment tasks may be penalised at the following maximum rate:

- 5% (of the assessment task's identified value) per day for the first two days from the date identified as the due date for the assessment task.

- 10% (of the assessment task's identified value) for the third day - 20% (of the assessment task's identified value) for the fourth day and subsequent days up to and including seven days from the date identified as the due date for the assessment task.

- A result of zero is awarded for an assessment task submitted after seven days from the date identified as the due date for the assessment task. Weekdays and weekends are included in the calculation of days late. To request an extension you must contact your course coordinator to negotiate an outcome.

10.4. Study help

For help with course-specific advice, for example what information to include in your assessment, you should first contact your tutor, then your course coordinator, if needed.

If you require additional assistance, the Learning Advisers are trained professionals who are ready to help you develop a wide range of academic skills. Visit the [Learning Advisers](#) web page for more information, or contact Student Central for further assistance: +61 7 5430 2890 or studentcentral@usc.edu.au.

10.5. Wellbeing Services

Student Wellbeing provide free and confidential counselling on a wide range of personal, academic, social and psychological matters, to foster positive mental health and wellbeing for your academic success.

To book a confidential appointment go to [Student Hub](#), email studentwellbeing@usc.edu.au or call 07 5430 1226.

10.6. AccessAbility Services

Ability Advisers ensure equal access to all aspects of university life. If your studies are affected by a disability, learning disorder mental health issue, , injury or illness, or you are a primary carer for someone with a disability or who is considered frail and aged, [AccessAbility Services](#) can provide access to appropriate reasonable adjustments and practical advice about the support and facilities available to you throughout the University.

To book a confidential appointment go to [Student Hub](#), email AccessAbility@usc.edu.au or call 07 5430 2890.

10.7. 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
- Administration of Central Examinations
- Deferred Examinations
- Student Academic Misconduct
- Students with a Disability

Visit the USC website: <http://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching>

10.8. General Enquiries

In person:

- **USC Sunshine Coast** - Student Central, Ground Floor, Building C, 90 Sippy Downs Drive, Sippy Downs
- **USC Moreton Bay** - Service Centre, Ground Floor, Foundation Building, Gympie Road, Petrie
- **USC SouthBank** - Student Central, Building A4 (SW1), 52 Merivale Street, South Brisbane
- **USC Gympie** - Student Central, 71 Cartwright Road, Gympie
- **USC Fraser Coast** - Student Central, Student Central, Building A, 161 Old Maryborough Rd, Hervey Bay
- **USC Caboolture** - Student Central, Level 1 Building J, Cnr Manley and Tallon Street, Caboolture

Tel: +61 7 5430 2890

Email: studentcentral@usc.edu.au