



## COURSE OUTLINE

# ICT211 Database Design

**Course Coordinator:** Judith Watson (jwatson@usc.edu.au) **School:** School of Science, Technology and Engineering

2022 | Semester 1

USC Sunshine Coast  
USC Moreton Bay

**BLENDED  
LEARNING**

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

Online

**ONLINE**

You can do this course without coming onto campus.

*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

This course introduces you to the major concepts, methodologies, tools and techniques that are required to analyse, design, and develop well-structured databases for modern organisations. Data modelling using entity-relationship diagrams is taught and applied. You will then use a DBMS to gain an appreciation of the concepts and practical application of database management systems. SQL is covered to complete the cycle of professional practice.

### 1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
<b>BLENDED LEARNING</b>			
<b>Learning materials</b> – Pre-recorded concept videos and associated activity	1hr	Week 1	13 times
<b>Tutorial/Workshop 1</b> – In-class tutorial	2hrs	Week 1	13 times
<b>ONLINE</b>			
<b>Learning materials</b> – Pre-recorded concept videos and associated activity	1hr	Week 1	13 times
<b>Tutorial/Workshop 1</b> – Interactive zoom tutorial	2hrs	Week 1	12 times

### 1.3. Course Topics

Introduction to databases and database modelling  
Entity Relationship Modelling - concepts and application  
Relational Schema methodology  
Normalisation  
Introduction to SQL and translating Relational Schema to SQL  
SQL – DDL  
SQL – DML  
SQL – Joins, Views & Transactions  
SQL Stored Procedures – Procedures and functions  
SQL Stored Procedures – Triggers & Cursors  
Distributed databases  
Client/server systems

## 2. What level is this course?

200 Level (Developing)

Building on and expanding the scope of introductory knowledge and skills, developing breadth or depth and applying knowledge and skills in a new context. May require pre-requisites where discipline specific introductory knowledge or skills is necessary. Normally, undertaken in the second or third full-time year of an undergraduate programs.

## 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 Creation of systems.	Creative and critical thinker
2 Apply initiative to solving problems competently in the discipline.	Empowered
3 Apply communication skills to specific problems.	Engaged
4 Apply discipline specific knowledge and skills to problems.	Knowledgeable
5 Understand sustainability issues within the discipline.	Sustainability-focussed

## 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

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

## 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

Task 1 is an examination involving entity relationship modelling, the principles for which will be the basis for good database design and programming in Task 2.

### 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 5	Online Test (Quiz)
All	2	Artefact - Technical and Scientific	Individual	30%	Code plus Documentation (approx 1000 words)	Week 11	Online Assignment Submission with plagiarism check
All	3	Examination	Individual	50%	2 hours	Exam Period	Online Test (Quiz)

#### All - Assessment Task 1: Mid Semester Exam

<b>GOAL:</b>	Demonstrate course content understanding.	
<b>PRODUCT:</b>	Examination	
<b>FORMAT:</b>	This is an individual assessment, focusing on Entity Relationship diagrams and associated business rules. See Canvas for more detailed information about this assessment.	
<b>CRITERIA:</b>	<b>No.</b>	<b>Learning Outcome assessed</b>
	1	Application of Entity-Relationship Diagram knowledge and understanding <span style="float: right;">2</span>
	2	Correctness of output in relation to the provided case study <span style="float: right;">4</span>

#### All - Assessment Task 2: Database Assignment

<b>GOAL:</b>	Demonstrate ability to create and manipulate a database using SQL.	
<b>PRODUCT:</b>	Artefact - Technical and Scientific	
<b>FORMAT:</b>	This is an individual assessment. You will be required to create and interact with a working database using SQL commands and queries. See Canvas for more detailed information about this assessment.	
<b>CRITERIA:</b>	<b>No.</b>	<b>Learning Outcome assessed</b>
	1	Design and development of a functional relational database <span style="float: right;">1 2</span>
	2	Correct application and use of syntax in relation to the provided case study <span style="float: right;">4 5</span>
	3	Appropriate documentation and comments within code and other relevant requirements <span style="float: right;">3</span>

### All - Assessment Task 3: Final Exam

<b>GOAL:</b>	Demonstrate course content understanding.						
<b>PRODUCT:</b>	Examination						
<b>FORMAT:</b>	This is an individual assessment. A two-hour exam will be held during the examination period. The date and time of the exam will be advised closer to the time.						
<b>CRITERIA:</b>	<table border="1"><thead><tr><th>No.</th><th></th><th>Learning Outcome assessed</th></tr></thead><tbody><tr><td>1</td><td>Understanding and application of relational database system design and problem solving</td><td>4</td></tr></tbody></table>	No.		Learning Outcome assessed	1	Understanding and application of relational database system design and problem solving	4
No.		Learning Outcome assessed					
1	Understanding and application of relational database system design and problem solving	4					

## 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 Canvas 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	EDITION	PUBLISHER
Required	Carlos Coronel, Steven Morris	2018	Database Systems: Design, Implementation, & Management	13th ed	Cengage Learning

### 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:

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. SafeUSC

USC is committed to a culture of respect and providing a safe and supportive environment for all members of our community. For immediate assistance on campus contact SafeUSC by phone: [07 5430 1168](tel:0754301168) or using the [SafeZone](#) app. For general enquires contact the SafeUSC team by phone [07 5456 3864](tel:0754563864) or email [safe@usc.edu.au](mailto:safe@usc.edu.au).

The SafeUSC Specialist Service is a Student Wellbeing service that provides free and confidential support to students who may have experienced or observed behaviour that could cause fear, offence or trauma. To contact the service call [07 5430 1226](tel:0754301226) or email [studentwellbeing@usc.edu.au](mailto:studentwellbeing@usc.edu.au).

## 10.5. 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](mailto:studentcentral@usc.edu.au).

## 10.6. 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](mailto:studentwellbeing@usc.edu.au) or call 07 5430 1226.

## 10.7. 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](mailto:AccessAbility@usc.edu.au) or call 07 5430 2890.

## 10.8. 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: <https://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching>

## 10.9. Student Charter

USC 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.

## 10.10.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](mailto:studentcentral@usc.edu.au)