USC

Course Outline

Code: ICT320
Title: Database Programming

School: Business
Teaching Session: Semester 2
Year: 2019
Course Coordinator: Adriano Da Silva Marinho
Course Moderator: Dr Rania Shibl

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 provides you with advanced database concepts including advanced SQL and industrial database application domains. The course expands on topics in ICT211, adds advanced SQL concepts and develops practical database programming skills. It begins with a review of the database environment, adding indexes and optimisation. The second part of the course focuses on applying the skills to real world applications including integrating databases with applications, big data, and graphing and geo-spatial databases.

1.2 Field trips, WIL placements or activities required by professional accreditation

N/A

2. What level is this course?

300 level Graduate - Independent application of graduate knowledge and skills. Meets AQF and professional requirements. May require pre-requisites and developing level knowledge/skills. Normally taken in the 3rd or 4th 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?

Specific Learning Outcomes On successful completion of this course, you should be able to:	**Assessment tasks** You will be assessed on the learning outcomes in task/s:	**Graduate Qualities or Professional Standards mapping** Completing these tasks successfully will contribute to:
Creation of systems.	1 and 2	Creative and Critical Thinking Career-ready (Creative and critical thinkers)
Apply initiative to solving problems competently in the discipline.	1, 2 and 3	Creative and Critical Thinking, Career-ready (Empowered)
Apply written communication skills to specific problems.	2 and 3	Communication (Engaged)
Apply discipline specific knowledge and skills to problems.	1, 2 and 3	Career-ready (Knowledgeable)
Understand sustainability issues within the discipline.	2 and 3	Community conscious (Sustainability-focused)

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 Enrolment restrictions

Nil

5.2 Pre-requisites

ICT211, ICT112

5.3 Co-requisites

Nil

5.4 Anti-requisites

Nil

5.5 Specific assumed prior knowledge and skills (where applicable)

N/A

6. How am I going to be assessed?

6.1 Grading scale

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

6.2 Details of early feedback on progress

Early feedback will be provided in the weekly workshops, and in online rubrics and comments for the weekly submissions for Task 1.

6.3 Assessment tasks

Task No.	Assessment Product	Individual or Group	Weighting %	What is the duration / length?	When should I submit?	Where should I submit it?
1	Quiz/zes	Individual	20%	N/A	Weeks 3 to 10 at the advertised date and time	Online Assignment Submission with Plagiarism check
2	Artefact - Technical and Scientific, and Written Piece	Individual	30%	N/A	Friday 11:59pm Week 13	Online Assignment Submission with Plagiarism check
3	Examination	Individual	50%	2 hours	Central examination period	Exam Venue
			100%			

Assessment Task 1: Tutorial exercises

Goal:	Demonstrate understanding of database programming
Product:	Quiz/zes
Format:	This is an individual assessment. The exercises will be related to the relevant week's lecture (Weeks 3 to 10). The maximum marks one can receive from tutorials is 20%. You will be required to complete tutorial exercises which will be graded as follows: ▪ If the result is 75% or higher, 4.00 marks will be allocated ▪ If the result is between 65% and 74.99%, 3.00 marks will be allocated ▪ If the result is between 50% and 64.99%, 2.00 mark will be allocated ▪ If the result is between 25% and 49.99%, 1.00 marks will be allocated ▪ If the result is below 25%, 0.00 marks will be allocated The 5 best results for the semester will be totaled to form the final tutorial exercise mark for the course.
Criteria:	Demonstrated understanding of database programming relevant to the weekly content covered.

Assessment Task 2: Assignment – Database Creation

Goal:	To apply SQL skills through improving the implementation of an existing real-world database system.
Product:	Artefact - Technical and Scientific, and Written Piece
Format:	Individual assessment. A database related project covering material in lectures from weeks 1 to 12 inclusive. You are to comprehend, propose optimisations and add procedures that connect to an application program/s to the supplied database. A detailed description of the assignment will be handed out in week 3.
Criteria:	Demonstrate knowledge and application of SQL skills in improving an existing real-world data base system

Assessment Task 3: Final examination

Goal:	To demonstrate knowledge of database programming
Product:	Examination
Format:	A two-hour closed book exam to be held during the scheduled examination period. The examination will cover all lecture and tutorial material from weeks 1 to 12.
Criteria:	Demonstrated knowledge of database programming concepts and methods.

7. Directed study hours

The directed study hours listed here are a portion of the workload for this course. 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.

Location:	Directed study hours for location:
On campus	Lecture (1 hour) Computer practical (2 hours)

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

Please note that 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 as they are required:

Author	Year	Title	Publisher
Coronel, C. & Morris, S	2018, 13 edn	*Database Systems: Design Implementation, and Management*	Cengage Learning

8.2 Specific requirements

N/A

9. How are risks managed in this course?

Health and safety risks for this course have been assessed as low.
It is your responsibility as a student 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. It is also your responsibility to familiarise yourself with the University's general health and safety principles by reviewing the online Health Safety and Wellbeing training module 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:

a) The final mark is in the percentage range 47% to 49.4%
b) The course is graded using the Standard Grading scale
c) You have not failed an assessment task in the course due to academic misconduct

10.3 Assessment: Submission penalties

Late submission of assessment tasks will 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 and supply the required documentation to negotiate an outcome.

10.4 Study help

In the first instance, you should contact your tutor, then the Course Coordinator. Additional assistance is provided to all students through Academic Skills Advisers. To book an appointment or find a drop-in session go to Student Hub.

Contact Student Central for further assistance: +61 7 5430 2890 or studentcentral@usc.edu.au

10.5 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

10.6 General Enquiries

In person:

- **USC Sunshine Coast** - Student Central, Ground Floor, Building C, 90 Sippy Downs Drive, Sippy Downs
- **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

Appendix 1 Course content

Week # / Module #	What key concepts/content will I learn?	Directed Study Activities: teaching components
1	Course overview SQL Review	Lecture Workshop
2	Advanced SQL Review– Procedures, Functions, Triggers	Lecture Workshop
3	Advanced SQL – Indexing I	Lecture Workshop
4	Advanced SQL – Indexing II	Lecture Workshop
5	Advanced SQL – Query processing & Optimisation	Lecture Workshop
6	ODBC and Python – Database programming in context	Lecture Workshop
7	ODBC and Python – Database programming II	Lecture Workshop
8	Intro to Big Data and Semantic web	Lecture Workshop
9	NoSQL and Non-SQL databases and applications	Lecture Workshop
10	Document databases – MongoDB	Lecture Workshop
11	RDF and Graphing databases	Lecture
12	Geo-Spatial Databases	Lecture
13	Course Summary	Lecture

Please note that the course activities may be subject to variation.

Mid Semester Break:
30th September 2019-6st October 2019 (Between Week 10 and Week 11)

Public Holidays
Queen's Birthday- Monday 7th October (Week11)