COURSE OUTLINE

ICT705 Data and System Integration

School: School of Science, Technology and Engineering

2021 | ATMC Semester 1

USC Sydney
USC Melbourne

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

Enterprises generally own various operational systems and data storage across departments and locations. The integration of their processes and data becomes vital to achieve the goal of "Intelligent Enterprise" and gaining competitive advantage. This course helps you to learn the foundational knowledge and best practices in enterprise application and data integration. You will gain experience in creating strategic business solutions using Web services and integrators to integrate the functionality and data of an organisation's existing applications and future plans.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Lecture	1hr	Not applicable	Not Yet Determined
Laboratory 1	2hrs	Not applicable	Not Yet Determined

1.3. Course Topics

Week	Topic
1	Introduction
2	Enterprise information architecture
3	Service oriented computing
4	Web services & SOAP
5	In class Exam
6	RESTful services & mashups
7	Cloud computing
8	Application integration
9	Data warehousing
10	Extract Transform and Load
11	Schema manipulation
12	Wrappers and query processing

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 On successful completion of this course, you should be able to...		GRADUATE QUALITIES Completing these tasks successfully will contribute to you becoming...
1	Discuss the recent developments in theory, issues and practice relating to application and data integration.	Knowledgeable
2	Investigate, evaluate, and plan the lifecycle of data through an organisation	Creative and critical thinker Engaged
3	Use scripting languages and tools to manipulate, analyse and transform big data, including cloud-based solutions.	Creative and critical thinker Empowered
4	Apply discipline specific knowledge and skills to problems.	Knowledgeable Empowered
5	Demonstrate advanced written communication skills in a business context.	Engaged

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

Enrolled in a Postgraduate Program

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

Task 1 will be an opportunity to give students feedback on their understanding of their knowledge of enterprise information architecture at a business level.

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	20%	1hr	Week 5	Online Test (Quiz)
All	2	Examination - not Centrally Scheduled	Individual	40%	2 hours	Week 9	Online Test (Quiz)
All	3	Artefact - Technical and Scientific, and Written Piece	Individual	40%	Working code and application plus 750 word report	Week 12	Online Assignment Submission with plagiarism check

All - Assessment Task 1: Mid Sem Exam

GOAL:	This assessment task will demonstrate your knowledge of Enterprise Information Architecture and Service Computing covering material from weeks 1 to 4 inclusive.
PRODUCT:	Examination - not Centrally Scheduled
AUTHORSHIP STATEMENT:	
FORMAT:	This one-hour examination consists of a set of multiple-choice questions and short answer questions to test the understanding and application of concepts. This is an individual assessment.
CRITERIA:	**No.** — **Learning Outcome assessed** 1 Relevancy and synthesis of theory and practice relating EIA and Service Computing — 4 2 Application of specific knowledge and skills to business enterprise problems — 4
GENERIC SKILLS:	

All - Assessment Task 2: Week 9 Exam

GOAL:	This assessment task will demonstrate your knowledge of all material covered in this course
PRODUCT:	Examination - not Centrally Scheduled
AUTHORSHIP STATEMENT:	
FORMAT:	This two-hour examination will consist of a set of multiple choice questions and short answer questions to test understanding and application of concepts. This is an individual assessment.
CRITERIA:	**No.** — **Learning Outcome assessed** 1 Your responses on the exam questions will be assessed on the basis of your demonstration of knowledge from the workshop activities, lectures and readings specified during the lecture series. — 1 4
GENERIC SKILLS:	

All - Assessment Task 3: Systems Integration in Practice

GOAL:	You will demonstrate your ability to integrate heterogeneous systems into a cohesive application.
PRODUCT:	Artefact - Technical and Scientific, and Written Piece
AUTHORSHIP STATEMENT:	
FORMAT:	You will be given a case study and will develop an application to suit the case study's functionality needs. You will use tools developed in computer workshops to achieve the application and data integration requirements. Beside the runnable application, you also need to present your design and analysis in the form of a written report. A guideline structure will be provided on Blackboard.
CRITERIA:	

No.		Learning Outcome assessed
1	Presentation of a cohesive application - including user interface, code structure and readability	3
2	Design and analysis to suit the case study	2 4
3	Demonstrate advanced written communication skills in a business context	5

GENERIC SKILLS:	

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

You need regular access to the resource(s) below. Many texts are available as ebooks through the Library at no additional cost.

REQUIRED?	AUTHOR	YEAR	TITLE	EDITION	PUBLISHER
Required	AnHai Doan, Alon Halevy, and Zachary Ives	2012	Principles of Data Integration		Morgan Kaufmann
Required	Mario Godinez, Eberhard Hechler, Klaus Koenig, Steve Lockwood, Martin Oberhofer, Michael Schroeck	2010	The Art of Enterprise Information Architecture: A Systems-Based Approach for Unlocking Business Insight	n/a	IBM Press

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. 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

In person:

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

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