

## Course Outline

**Code: ICT321**

**Title: Architecture and Systems Integration**

<b>School:</b>	Business
<b>Teaching Session:</b>	Semester 2
<b>Year:</b>	2020
<b>Course Coordinator:</b>	Dr Mingzhong Wang
<b>Course Moderator:</b>	Dr Keyvan Ansari

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**

In this capstone course you will build upon the ICT knowledge gained throughout the degree program by developing skills in enterprise architecture planning (EAP) and in enterprise application integration (EAI). Using EAP, you will learn to create architectures that define and describe the data, applications, and technology needed to support organisations. In applying EAI, you will gain experience in creating strategic business solutions using Web services and middleware to integrate the functionality of an organisation's existing applications, commercial packaged applications, and new code.

#### **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?

<b>Specific Learning Outcomes</b> On successful completion of this course, you should be able to:	<b>Assessment tasks</b> You will be assessed on the learning outcomes in task/s:	<b>Graduate Qualities or Professional Standards mapping</b> Completing these tasks successfully will contribute to:
Assess different techniques in enterprise architecture and system integration.	1 and 2	Knowledgeable.
Evaluate and apply different system integration solutions to given cases.	2 and 3	Empowered
Create a working system with the knowledge of system integration for given requirements.	3	Problem solving

#### 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

ICT112 and (ICT211 or ICT220 or ICT221)

##### 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

Task 1 is a test involving basic concepts, principles, and skills of enterprise architecture, which will be the basis for the understanding of EAP and EAI.

### 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	Written Piece	Individual	30%	1 hour	Week 5	Online Assignment Submission with Plagiarism check
2	Written Piece	Individual	30%	900 words	Week 9	Online Assignment Submission with Plagiarism check
3	Artefact - Technical and Scientific, and Written Piece	Individual	40%	Python code and 1000-word report	Week 13	Online Assignment Submission with Plagiarism check
			100%			

#### Assessment Task 1: Enterprise Architecture Test

<b>Goal:</b>	To demonstrate your knowledge of Analysis and Design at an enterprise level.
<b>Product:</b>	Written Piece
<b>Format:</b>	This is an individual assessment. Answer a set of questions about enterprise architectural analysis and design.
<b>Criteria:</b>	<ul style="list-style-type: none"> <li>Assessment of various solutions and techniques in enterprise architecture</li> </ul>

#### Assessment Task 2: Service-oriented architecture Test

<b>Goal:</b>	To demonstrate your knowledge of Service-oriented architecture and its role in enterprise architecture.
<b>Product:</b>	Written Piece
<b>Format:</b>	This is an individual assessment. Answer a set of questions about design and application of Service-oriented architecture.
<b>Criteria:</b>	<ul style="list-style-type: none"> <li>Assessment of various solutions and techniques in service-oriented architecture</li> <li>Evaluation and application of different service-oriented solutions to given cases</li> </ul>

#### Assessment Task 3: Systems Integration in Practice

<b>Goal:</b>	To demonstrate ability to integrate heterogeneous systems into a cohesive application.
<b>Product:</b>	Artefact - Technical and Scientific, and Written Piece
<b>Format:</b>	This is an individual assessment. You will be given a case study and will develop an application in Python to suit the case study's functionality needs. In addition, you need to write a brief report to explain your implementation.
<b>Criteria:</b>	<ul style="list-style-type: none"> <li>Evaluation and application of different system integration solutions to given cases</li> <li>Creation of the app to support all required functionalities</li> <li>Comprehensive and accurate explanation to the implementation and output</li> </ul>

## 7. Directed study hours

This course will be delivered via technology-enabled learning and teaching. All lectures will remain in this mode for Semester 2 2020.

When government guidelines allow, students that elected on-campus study via the class selection process will be advised when on campus tutorials and practical sessions will resume.

Student workload is calculated at 12.5 learning hours per one unit.

Each week:

- 1-hour on-line lecture
- 2-hour workshop
- 9.5 hours independent study (including assessment work)

## **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: Weekly readings as prescribed in Learning Materials on the course Blackboard site.

Note: There is no specific text prescribed for this course.

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

### 10.5 Wellbeing Services

Student Wellbeing Support Staff are available to assist on a wide range of personal, academic, social and psychological matters to foster positive mental health and wellbeing for your success. Student Wellbeing is comprised of professionally qualified staff in counselling, health and disability Services.

Ability Advisers ensure equal access to all aspects of university life. If your studies are affected by a disability, mental health issue, learning disorder, injury or illness, or you are a primary carer for someone with a disability, [AccessAbility Services](#) can provide assistance, advocacy and reasonable academic adjustments.

To book an appointment with either service go to [Student Hub](#), email [studentwellbeing@usc.edu.au](mailto:studentwellbeing@usc.edu.au) or [accessability@usc.edu.au](mailto:accessability@usc.edu.au) or call 07 5430 1226

### 10.6 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>

## 10.7 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

## Appendix 1 Course content

Week # / Module #	What key concepts/content will I learn?	Directed Study Activities: teaching components
1	Introduction to enterprise information architecture	Please refer to Section 7 for details.
2	IT Governance and EIA	Please refer to Section 7 for details.
3	EIA Modelling	Please refer to Section 7 for details.
4	EIA Modelling – Component and Operational models	Please refer to Section 7 for details.
5	Service Oriented and Microservice Architecture	Please refer to Section 7 for details.
6	Data Representation: XML and JSON	Please refer to Section 7 for details.
7	Web service and SOAP	Please refer to Section 7 for details.
8	RESTful services and Mashups	Please refer to Section 7 for details.
9	Enterprise Application Integration	Please refer to Section 7 for details.
10	Cloud Computing	Please refer to Section 7 for details.
11	Business Intelligence and Analytics	Please refer to Section 7 for details.
12	Assignment review	Please refer to Section 7 for details.
13	Course Review	Self-directed study

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

### **Mid Semester Break:**

28<sup>th</sup> September 2020-4<sup>th</sup> October 2020 (Between Week 10 and Week 11)

### **Public Holidays**

Queen's Birthday - Monday 5<sup>th</sup> Oct 2020 (Week 11)