COMP3760

Enterprise Systems Integration

Session 2, Special circumstances 2021

School of Computing

Contents

Session 2 Learning and Teaching Update

The decision has been made to conduct study online for the remainder of Session 2 for all units WITHOUT mandatory on-campus learning activities. Exams for Session 2 will also be online where possible to do so.

This is due to the extension of the lockdown orders and to provide certainty around arrangements for the remainder of Session 2. We hope to return to campus beyond Session 2 as soon as it is safe and appropriate to do so.

Some classes/teaching activities cannot be moved online and must be taught on campus. You should already know if you are in one of these classes/teaching activities and your unit convenor will provide you with more information via iLearn. If you want to confirm, see the list of units with mandatory on-campus classes/teaching activities.

Visit the MQ COVID-19 information page for more detail.

General Information

Unit convenor and teaching staff
Convenor, Lecturer
Dr. Peter Busch
peter.busch@mq.edu.au
Contact via 9850 9520
4 RPD 284
TBD

Lecturer
Prof. Jian Yang
jian.yang@mq.edu.au
Contact via 9850 9542
4 RPD 206
TBD

Practical Demonstrator
Dr. Adnan Mahmood
adnan.mahmood@mq.edu.au
Contact via Email
3rd floor - 4 RPD
TBD

Practical Demonstrator
Mr. Yang Zhang
yang.zhang@mq.edu.au
Contact via Email
4 RPD 3rd floor
TBD

Credit points
10

Prerequisites
130cp at 1000 level or above including (COMP2350 or ISYS224) or (COMP2750 or ISYS254) or (COMP2050 or COMP255)

Corequisites

Co-badged status
COMP6760

Unit description
This unit aims to provide an understanding of how information systems can be integrated into the overall business layer of an organisation. The unit focuses on methods and techniques to enhance the alignment of information systems with business strategy, objectives and processes. Issues covered include: process modelling, corporate modelling, workflow modelling, business process re-engineering, enterprise resource planning, business-to-business integration and supply chain management. Various technical approaches to tackling integration problems are discussed.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

On successful completion of this unit, you will be able to:

ULO1: utilise knowledge needed to integrate new systems and processes of an organisation

ULO2: comprehend the principles involved in strategic planning. for IT

ULO3: competently use various modelling techniques to describe information flows and processes in an organisation.

ULO4: competently express structures in XML (eXtensible Markup Language) to web enable business applications.

ULO5: appreciate and code with the Web Services Description Language (WSDL) and Business Process Execution Language (BPEL).

General Assessment Information

Late Submission

No extensions will be granted without an approved application for Special Consideration.

There will be a deduction of 10% of the total available marks made from the total awarded mark for each 24 hour period or part thereof that the submission is late. For example, 25 hours late in submission for an assignment worth 10 marks – 20% penalty or 2 marks deducted from the total.

No submission will be accepted after solutions have been posted.

Assessment Tasks

Name	Weighting	Hurdle	Due
Assignment 1	10%	No	18th August

Name	Weighting	Hurdle	Due
Assignment 2	20%	No	15th September
Assignment 3	20%	No	20th October
Exam	50%	Yes	8-26th November

Assignment 1

Assessment Type [1]: Report
Indicative Time on Task [2]: 10 hours
Due: **18th August**
Weighting: **10%**

A report on eBusiness principles

On successful completion you will be able to:

- utilise knowledge needed to integrate new systems and processes of an organisation
- comprehend the principles involved in strategic planning. for IT

Assignment 2

Assessment Type [1]: Design Task
Indicative Time on Task [2]: 20 hours
Due: **15th September**
Weighting: **20%**

Business Process Modelling

On successful completion you will be able to:

- utilise knowledge needed to integrate new systems and processes of an organisation
- comprehend the principles involved in strategic planning. for IT
- competently use various modelling techniques to describe information flows and processes in an organisation.

Assignment 3

Assessment Type [1]: Practice-based task

Indicative Time on Task [2]: 20 hours
Due: **20th October**
Weighting: **20%**

Group assignment implementing an eBusiness solution. These will be peer moderated and marks assigned individually within the group. Groups will be self-selecting. If individuals have not allocated themselves to a group within a set time, people will be allocated to a group by the lecturer.

On successful completion you will be able to:

- utilise knowledge needed to integrate new systems and processes of an organisation
- competently use various modelling techniques to describe information flows and processes in an organisation.
- competently express structures in XML (eXtensible Markup Language) to web enable business applications.
- appreciate and code with the Web Services Description Language (WSDL) and Business Process Execution Language (BPEL).

Exam

Assessment Type [1]: Examination
Indicative Time on Task [2]: 40 hours
Due: **8-26th November**
Weighting: **50%**
This is a hurdle assessment task (see assessment policy for more information on hurdle assessment tasks)

Examination on potentially all material covered in the unit.

On successful completion you will be able to:

- utilise knowledge needed to integrate new systems and processes of an organisation
- comprehend the principles involved in strategic planning. for IT
- competently use various modelling techniques to describe information flows and processes in an organisation.
- competently express structures in XML (eXtensible Markup Language) to web enable business applications.

- appreciate and code with the Web Services Description Language (WSDL) and Business Process Execution Language (BPEL).

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[1] If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the Writing Centre for academic skills support.

[2] Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

CLASSES

Each week you should attend three hours of lectures. The two hours on the Tuesday will be standard lecture format. The third hour of lecture on the Wednesday will act as a tutorial. There will also be a practical class covering the technology - modelling tools, XML etc..

For details of days, times and rooms consult the timetables webpage.

Note that the practical classes commence in week 2.

You should have selected a practical class enrollment. It will not particularly matter if you do not attend the practical you are enrolled in as practical attendance is not compulsory, but should be useful to you. If you do not have a class, or if you wish to change one, you should see the enrollment operators in the E7B courtyard during the first two weeks of the semester. Thereafter you should go to the Student Centre.

REQUIRED AND RECOMMENDED TEXTS AND/OR MATERIALS

Textbook

A recommended textbook for COMP3760/6760 (around which the course is based) is:

- Papazoglou, M., Ribbers, P., (2006) *e-Business: Organizational and Technical Foundations* John Wiley & Sons Ltd. Chichester West Sussex U.K. There is also a companion website by the publisher at www.wiley.com. This site contains links to example material and more.

There are a few more books you may wish to acquire, these are not compulsory but potentially helpful.

- Busch, P., (2008) *Tacit Knowledge in Organizational Learning* IGI Global U.S.A.
- Chaffey, D., (2019) *Digital Business and E-Commerce Management* 7th Ed. Pearson

Harlow U.K.

- Papazoglou, M., (2012) *Web Services & SOA: Principles and Technology* 2nd Ed. Pearson Harlow U.K.

UNIT WEBPAGE AND TECHNOLOGY USED AND REQUIRED

echo360

Digital recordings of lectures are available. We will record with either echo360 or zoom. Read instructions here.

Technology

Technology used will include IBM BP Modeller, Adonis etc. Students are also expected to make use of MS Word, MS Excel and MS Powerpoint and editing software to undertake XML and BPEL.

Discussion Boards

When groups are chosen for the group assignment, you will have the opportunity to discuss issues amongst yourselves on iLearn.

Unit Schedule

Week	Lecture - Tuesday	Text	Practical
1 (Peter)	**World of eBusiness** **eBusiness strategy** - What is eBusiness strategy - Strategic positioning - Level of eBusiness strategy - Strategic alignment	Papazoglou and Ribbers chapters 1, 2	No practical
2 (Peter)	**Business models** - Pressures forcing business changes - Classifications of business models **eBusiness Relationships**	chapters 3, 4	Introduction to modelling
3 (Peter)	**Governance Structures** **Business process modeling** - Business process modelling methodologies - Supply chain operations reference (SCOR) model - Model driven architecture (MDA) - Business process modelling notation (BPMN)	chapters 5, 12	Introduction to modelling cont.

4 (Peter)	**eBusiness Technological Infrastructure**	chapter 6	**Assignment 1 (10%) due 18th August** Modelling exercise
5 (Peter)	**eMarkets**	chapter 8	Modelling exercise
6 (Peter)	**Knowledge Management**	Busch (2008)	Introduction to XML
7 (Jian)	**XML** **EDI and Middleware** - EDI concepts and standards - Middleware concepts, architecture and systems	chapters 7, 14	XML
Mid Semester Break: 11-26th September - **Assignment 2 (20%) due 15th September**			
8 (Jian)	**Loosely coupled eBusiness solutions** - Concept of software as a service - Web services - Web service architecture	chapter 19	XML, Middleware
9 (Jian)	**Workflow systems** - Workflow concepts - Workflow elements - Workflow modeling - Workflow verification	chapter 18	Business solutions, Workflow systems
10 (Jian)	**Enterprise Application Integration (EAI)** - Concepts - Technologies	chapter 17	Assignment work
11 (Jian)	**Leverage legacy applications**	chapter 16	**Group assignment (20%) due 20th October**
12 (Jian)	**Business protocols** **-** Why are business protocols and standards needed - XML technology stack for eBusiness integration - RosettaNet - Electonic business XML	chapter 20	XML
13 (Peter/ Jian)	**Revision for the exam**		

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://policies.mq.edu.au). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy
- Assessment Policy
- Fitness to Practice Procedure
- Grade Appeal Policy
- Complaint Management Procedure for Students and Members of the Public
- Special Consideration Policy

Students seeking more policy resources can visit Student Policies (https://students.mq.edu.au/support/study/policies). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit Policy Central (https://policies.mq.edu.au) and use the search tool.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/admin/other-resources/student-conduct

Results

Results published on platform other than eStudent, (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Late Assignment Submission policy: Late work will be accepted with a penalty of 10% of the marks for the assignment per day submitted late. Hence, an assignment submitted five days late will get at most half the marks. If you cannot submit on time because of illness or other circumstances, please contact the lecturer **before** the due date.

Student Support

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study

strategies to help you improve your marks and take control of your study.

- Getting help with your assignment
- Workshops
- StudyWise
- Academic Integrity Module

The Library provides online and face to face support to help you find and use relevant information resources.

- Subject and Research Guides
- Ask a Librarian

Student Services and Support

Students with a disability are encouraged to contact the Disability Service who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

If you are a Global MBA student contact globalmba.support@mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the Acceptable Use of IT Resources Policy. The policy applies to all who connect to the MQ network including students.

Changes from Previous Offering

The course has Mr. Yang Zhang joining us as a practical demonstrator.

Practicals will take place in the labs and online with Dr. Adnan Mahmood and Mr. Yang Zhang.

Further use will be made of ADONIS as a cloud hosted BPM platform in the practicals this semester.

Grading

Standards

Four standards, namely HD, D, CR, P summarize as many different levels of achievement. Each standard is precisely defined to help students know what kind of performance is expected to deserve a certain mark. The standards corresponding to the learning outcomes of this unit are given below:

	L.O. #1

Criteria for L.O. #2				
undertaking SWOT analysis	a limited understanding of what SWOT is and how it works, perhaps making a few simple mistakes	competent analysis of SWOT for a given organisation listing a few each of S, W, O and T factors	good SWOT analysis, with some recourse to the literature providing similar examples in the case of other organisations	outstanding SWOT analysis with comprehensive recourse to the literature
Criteria for L.O. #3				

using modelling software	limited use of BP Modeller showing some understanding of the tool	competent use of BP Modeller showing understanding of the software and ability to use it effectively, perhaps making some basic mistakes	good understanding of the software, modelling workflows proficiently and using tool appropriately without any significant mistakes	excellent understanding of the software, modelling workflows proficiently and using tool appropriately at an expert level
workflow modelling to improve workflow effeciency	limited understanding of workflow modelling, some obvious mistakes	competent understanding of workflow modelling, some trivial mistakes still in evidence, but generally an understanding of what is taking place and why	some incorporation of the literature beyond just compentent understanding of workflow modelling	an excellent grasp of workflow modelling, also drawing on the literature widely to exemplify in the case of further examples how workflow modelling has aided other organisations as well
Criteria for L.O. #4				
understanding how use of code such as XML will enable ecommerce	limited understanding of what XML actually is and does, however showing some understanding of how XML enables ecommerce	competent understanding of XML, limited recourse to the literature, perhaps just relying on the textbook or lecture notes	good understanding of the role of XML, with some recourse to examples in the literature, beyond just knowledge of XML from the lecture notes	outstanding understanding of the role XML plays, with comprehensive recourse to the literature providing further examples beyond what was asked for in the assignment
competence in XML	basic competence in coding, shows obvious and basic mistakes in coding	proficient but perhaps ineffecient coding in XML, still displaying some mistakes, parameters names obtuse and commenting limited	proficient coding in XML, perhaps a few trivial mistakes still in evidence, but generally codes quite competently	outstanding coding in XML, with code effeciencies clearly displayed, all parameters using meaningful names, code well commented
Criteria for L.O. #5				
understanding how WSDL and BPEL enable ecommerce	limited understanding of what WSDL and BPEL actually is and do, however showing some understanding of how they enables ecommerce	competent understanding of WSDL and BPEL, limited recourse to the literature, perhaps just relying on the textbook or lecture notes	good understanding of the role of WSDL and BPEL, with some recourse to examples in the literature, beyond just knowledge of WSDL and BPEL from the lecture notes	outstanding understanding of the role WSDL and BPEL play, with comprehensive recourse to the literature providing further examples beyond what was asked for in the assignment
competence in WSDL and BPEL	basic competence in coding, shows obvious and basic mistakes in coding	proficient but perhaps ineffecient coding in WSDL and BPEL, still displaying some mistakes, parameters names obtuse and commenting limited	proficient coding in WSDL and BPEL, perhaps a few trivial mistakes still in evidence, but generally codes quite competently	outstanding coding in WSDL and BPEL, with code effeciencies clearly displayed, all parameters using meaningful names, code well commented

For each task, those standards translate into a mark and the different component marks are

added up. You will then be given a grade that reflects your achievement in the unit. The following description of the different grades is still in draft form and therefore not official as yet

- **Fail (F)**: does not provide evidence of attainment of all learning outcomes. There is missing or partial or superficial or faulty understanding and application of the fundamental concepts in the field of study; and incomplete, confusing or lacking communication of ideas in ways that give little attention to the conventions of the discipline.
- **Pass (P)**: provides sufficient evidence of the achievement of learning outcomes. There is demonstration of understanding and application of fundamental concepts of the field of study; and communication of information and ideas adequately in terms of the conventions of the discipline. The learning attainment is considered satisfactory or adequate or competent or capable in relation to the specified outcomes.
- **Credit (Cr)**: provides evidence of learning that goes beyond replication of content knowledge or skills relevant to the learning outcomes. There is demonstration of substantial understanding of fundamental concepts in the field of study and the ability to apply these concepts in a variety of contexts; plus communication of ideas fluently and clearly in terms of the conventions of the discipline.
- **Distinction (D)**: provides evidence of integration and evaluation of critical ideas, principles and theories, distinctive insight and ability in applying relevant skills and concepts in relation to learning outcomes. There is demonstration of frequent originality in defining and analysing issues or problems and providing solutions; and the use of means of communication appropriate to the discipline and the audience.
- **High Distinction (HD)**: provides consistent evidence of deep and critical understanding in relation to the learning outcomes. There is substantial originality and insight in identifying, generating and communicating competing arguments, perspectives or problem solving approaches; critical evaluation of problems, their solutions and their implications; creativity in application.

The final examination in this unit is a hurdle requirement. You must get a mark of at least 40% in the examination to pass the unit. If you get a mark of at least 30% in your first attempt at the final examination you will be given a second and final attempt.

The final mark for the unit will be calculated by combining the marks for all assessment tasks according to the percentage weightings shown in the assessment summary.