General Information

Unit convenor and teaching staff
Unit Convenor
Peter Busch
peter.busch@mq.edu.au
Contact via peter.busch@mq.edu.au
E6A 320

Practical Demonstrator
Mahbub Hassan
mahbub.hassan@mq.edu.au
Contact via mahbub.hassan@mq.edu.au

Lecturer
Jian Yang
jian.yang@mq.edu.au
Contact via jian.yang@mq.edu.au
E6A 384

Credit points
3

Prerequisites
39cp and (ISYS254(P) or COMP255(P) or ISYS227(P) or COMP227(P)) and (6cp(P) from 200-level COMP or ISYS or ACCG or STAT or BUS or BBA units)

Corequisites

Co-badged status

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
Learning Outcomes

Understanding how to integrate new systems and processes of an organisation
Understanding IT strategic planning.
Ability to use various modelling techniques to describe information flows and processes in an organisation.
Competence in XML (eXtensible Markup Language) to web enable business applications.
Competence in Web Services Description Language (WSDL) and Business Process Execution Language (BPEL).

Assessment Tasks

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnostic assignment</td>
<td>5%</td>
<td>23 August 2012</td>
</tr>
<tr>
<td>Individual assignment</td>
<td>15%</td>
<td>20 September 2012</td>
</tr>
<tr>
<td>Group assignment</td>
<td>20%</td>
<td>25 October 2012</td>
</tr>
<tr>
<td>Group presentation</td>
<td>10%</td>
<td>Week 12</td>
</tr>
<tr>
<td>Exam</td>
<td>50%</td>
<td>12-30 November 2012</td>
</tr>
</tbody>
</table>

Diagnostic assignment
Due: 23 August 2012
Weighting: 5%
A report on eBusiness principles

On successful completion you will be able to:
- Understanding how to integrate new systems and processes of an organisation
- Understanding IT strategic planning.

Individual assignment
Due: 20 September 2012
Weighting: 15%
Business Process Modelling
On successful completion you will be able to:

- Understanding how to integrate new systems and processes of an organisation
- Understanding IT strategic planning.
- Ability to use various modelling techniques to describe information flows and processes in an organisation.

**Group assignment**

**Due:** 25 October 2012
**Weighting:** 20%

Group assignment implementing eBusiness solution

On successful completion you will be able to:

- Understanding how to integrate new systems and processes of an organisation
- Ability to use various modelling techniques to describe information flows and processes in an organisation.
- Competence in XML (eXtensible Markup Language) to web enable business applications.
- Competence in Web Services Description Language (WSDL) and Business Process Execution Language (BPEL).

**Group presentation**

**Due:** Week 12
**Weighting:** 10%

Group presentation

On successful completion you will be able to:

- Understanding how to integrate new systems and processes of an organisation
- Ability to use various modelling techniques to describe information flows and processes in an organisation.
- Competence in XML (eXtensible Markup Language) to web enable business applications.
- Competence in Web Services Description Language (WSDL) and Business Process Execution Language (BPEL).

**Exam**

**Due:** 12-30 November 2012
**Weighting:** 50%
Closed book exam

On successful completion you will be able to:

- Understanding how to integrate new systems and processes of an organisation
- Understanding IT strategic planning.
- Ability to use various modelling techniques to describe information flows and processes in an organisation.
- Competence in XML (eXtensible Markup Language) to web enable business applications.
- Competence in Web Services Description Language (WSDL) and Business Process Execution Language (BPEL).

Delivery and Resources

CLASSES

Each week you should attend three hours of lectures, a two-hour mixed class (a tutorial and a practical combined in a single session). For details of days, times and rooms consult the timetables webpage.

Note that the mixed classed commence in week 2.

You should have selected a mixed classed enrolment. You should attend the mixed class you are enrolled in. If you do not have a class, or if you wish to change one, you should see the enrolment 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

The textbook for ISYS301 used this semester is:

- There is also a companion website by the publisher at www.wiley.com. This site contains links to example material and more.

The following are supportive (i.e. recommended) readings for the course (across the 13 weeks).

• Brown, W., (2004) "Enterprise resource planning (ERP) implementation planning and structure: a recipe for ERP success" Proceedings of the 32nd annual ACM SIGUCCS conference on User services Baltimore, MD, USA pp. 82-86.
• Jackson, P., Harris, L., (2003) "E-business and organisational change: Reconciling traditional values with business transformation" Journal of Organizational Change

• Pennington, D., (2007) "Supporting large-scale science with workflows" Proceedings of the 2nd workshop on Workflows in support of large-scale science Monterey, California, USA Pages: 45 - 52.


• Wendt, T., Brigl, B., Winter, A., (2005) "Interoperability Of Heterogeneous Information Systems" Proceedings of the first international workshop on Interoperability of
heterogeneous information systems Bremen, Germany pp. 55 - 62.


UNIT WEBPAGE AND TECHNOLOGY USED AND REQUIRED

echo360

Digital recordings of lectures are available. Read instructions here.

Technology

Technology used will include IBM BP Modeller. 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 allocated for assignment 2, students will have the opportunity to discuss issues amongst their groups on iLearn.

Unit Schedule
<table>
<thead>
<tr>
<th>Unit</th>
<th>Topic</th>
<th>Course Materials</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>World of eBusiness eBusiness strategy - What is eBusiness strategy - Strategic positioning - Level of eBusiness strategy - Strategic alignment</td>
<td>No tutorial</td>
<td>Papazoglou and Ribbers chapters 1, 2, 18</td>
</tr>
<tr>
<td>2</td>
<td>Business models - Pressures forcing business changes - Classifications of business models Governance structures</td>
<td>Background to eBusiness Introduction to modelling</td>
<td>Papazoglou and Ribbers chapter 3, 5</td>
</tr>
<tr>
<td>3</td>
<td>Business process modeling - Business modelling - Business processes and collaboration - Business modelling with UML</td>
<td>Modelling</td>
<td>Papazoglou and Ribbers chapter 12</td>
</tr>
<tr>
<td>Day</td>
<td>Time</td>
<td>Topic</td>
<td>Assignments</td>
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</tbody>
</table>
| 4   | 23/8 | Business process modeling  
- Business process modelling methodologies  
- Supply chain operations reference (SCOR) model  
- Model driven architecture (MDA)  
- Business process modelling notation (BPMN) | Modelling  
Assignment preparation  
Assignment 1 Part I (5%)  
due 24th August | Papazoglou and Ribbers chapter 18 | |
| 5   | 30/8 | Enterprise Resource Planning (ERP)  
Supply Chain Logistics | Modelling  
Assignment preparation | Sumner  
Bowersox, Closs and Cooper | |
| 6   | 6/9  | eBusiness  
Technological Infrastructure | ERP, SCL  
ERP, SCL practical | Papazoglou and Ribbers chapter 6 | |
| 7   | 13/9 | XML  
EDI and Middleware  
- EDI concepts and standards  
- Middleware concepts, architecture and systems | Technological infrastructure  
Technological aspects of integration | Papazoglou and Ribbers chapters 7, 14 | |

- Alsène (2007)  
- Ifinedo (2007)  
- Laukkanen, Sarpola & Hallikainen (2007)  
- Liang et al. (2004)  
- Ballou (2007)  
- Liu & Hsieh (2005)  
- Sahay & Mohan (2003)  
### Mid Semester Break:
18th September to 4th October inclusive

### Assignment 1 part II (15%) due 20th September

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Resource Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/10</td>
<td>Loosely coupled eBusiness solutions</td>
<td>Papazoglou and Ribbers chapter 19</td>
</tr>
<tr>
<td></td>
<td>- Concept of software as a service</td>
<td>- Nickerson (2005)</td>
</tr>
<tr>
<td></td>
<td>- Web services</td>
<td>- Yu &amp; Chen (2003)</td>
</tr>
<tr>
<td></td>
<td>- Web service architecture</td>
<td>- Zhang, Song &amp; Zhang (2006)</td>
</tr>
<tr>
<td>8/10</td>
<td>Workflow systems</td>
<td>Papazoglou and Ribbers chapters 6, 18</td>
</tr>
<tr>
<td></td>
<td>- Workflow elements</td>
<td>- Ferreira &amp; Ferreira (2005)</td>
</tr>
<tr>
<td></td>
<td>- Workflow modeling</td>
<td>- Pennington (2007)</td>
</tr>
<tr>
<td>9/10</td>
<td>Enterprise Application Integration (EAI)</td>
<td>Papazoglou and Ribbers chapter 17</td>
</tr>
<tr>
<td></td>
<td>- Technologies</td>
<td>- Sharif et al. (2004)</td>
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<tr>
<td></td>
<td></td>
<td>- Themistocleous (2004)</td>
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<tr>
<td>10/10</td>
<td>Legacy systems</td>
<td>Papazoglou and Ribbers chapter 16</td>
</tr>
<tr>
<td></td>
<td>Assignment work Assignment 2 (20%) due 21st October</td>
<td>- Mookerjee (2005)</td>
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<td></td>
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<td>- Muller et al. (2004)</td>
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<td></td>
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<td>- Smith (2007)</td>
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<td></td>
<td></td>
<td>- Thiran et al. (2006)</td>
</tr>
<tr>
<td>11/10</td>
<td>Leverage legacy applications</td>
<td>Papazoglou and Ribbers chapter 19</td>
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<td></td>
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<td>- Nickerson (2005)</td>
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<tr>
<td></td>
<td></td>
<td>- Yu &amp; Chen (2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Zhang, Song &amp; Zhang (2006)</td>
</tr>
</tbody>
</table>
Learning and Teaching Activities

Lectures 1 and 2
Covers lecture material every week

Lecture 3
Covers tutorial material every week

Practical
Covers practical components of the course in the computer labs

Policies and Procedures
Macquarie University policies and procedures are accessible from Policy Central. Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy  http://www.mq.edu.au/policy/docs/academic_honesty/policy.html
Special Consideration Policy  http://www.mq.edu.au/policy/docs/special_consideration/policy.html

In addition, a number of other policies can be found in the Learning and Teaching Category of Policy Central.

Student Support
Macquarie University provides a range of Academic Student Support Services. Details of these services can be accessed at: http://students.mq.edu.au/support/.
UniWISE provides:

- Online learning resources and academic skills workshops [http://www.mq.edu.au/learning_skills/](http://www.mq.edu.au/learning_skills/)
- Personal assistance with your learning & study related questions.
- The Learning Help Desk is located in the Library foyer (level 2).
- Online and on-campus orientation events run by Mentors@Macquarie.

Student Enquiry Service

Details of these services can be accessed at [http://www.student.mq.edu.au/ses/](http://www.student.mq.edu.au/ses/).

Equity Support

Students with a disability are encouraged to contact the [Disability Support Unit](http://www.student.mq.edu.au/ses/) who can provide appropriate help with any issues that arise during their studies.

IT Help

If you wish to receive IT help, we would be glad to assist you at [http://informatics.mq.edu.au/help/](http://informatics.mq.edu.au/help/).

When using the university's IT, you must adhere to the [Acceptable Use Policy](http://informatics.mq.edu.au/help/). The policy applies to all who connect to the MQ network including students and it outlines what can be done.

Graduate Capabilities

Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

Learning outcomes

- Understanding IT strategic planning.
- Ability to use various modelling techniques to describe information flows and processes in an organisation.
- Competence in XML (eXtensible Markup Language) to web enable business applications.
- Competence in Web Services Description Language (WSDL) and Business Process
Execution Language (BPEL).

**Assessment tasks**

- Individual assignment
- Group assignment
- Group presentation
- Exam

**Learning and teaching activities**

- Covers lecture material every week
- Covers tutorial material every week
- Covers practical components of the course in the computer labs

**Critical, Analytical and Integrative Thinking**

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

**Learning outcomes**

- Understanding how to integrate new systems and processes of an organisation
- Understanding IT strategic planning.
- Competence in Web Services Description Language (WSDL) and Business Process Execution Language (BPEL).

**Assessment tasks**

- Individual assignment
- Group assignment
- Exam

**Learning and teaching activities**

- Covers lecture material every week
- Covers tutorial material every week
- Covers practical components of the course in the computer labs

**Problem Solving and Research Capability**

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and
they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

**Learning outcomes**

- Understanding IT strategic planning.
- Ability to use various modelling techniques to describe information flows and processes in an organisation.
- Competence in XML (eXtensible Markup Language) to web enable business applications.

**Assessment tasks**

- Individual assignment
- Group assignment
- Exam

**Learning and teaching activities**

- Covers tutorial material every week
- Covers practical components of the course in the computer labs

**Creative and Innovative**

Our graduates will also be capable of creative thinking and of creating knowledge. They will be imaginative and open to experience and capable of innovation at work and in the community. We want them to be engaged in applying their critical, creative thinking.

This graduate capability is supported by:

**Learning outcome**

- Understanding IT strategic planning.

**Assessment tasks**

- Diagnostic assignment
- Individual assignment
- Group assignment
- Exam

**Effective Communication**

We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess,
write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

This graduate capability is supported by:

**Learning outcome**
- Understanding IT strategic planning.

**Assessment tasks**
- Individual assignment
- Group assignment
- Group presentation
- Exam

Engaged and Ethical Local and Global citizens
As local citizens our graduates will be aware of indigenous perspectives and of the nation's historical context. They will be engaged with the challenges of contemporary society and with knowledge and ideas. We want our graduates to have respect for diversity, to be open-minded, sensitive to others and inclusive, and to be open to other cultures and perspectives: they should have a level of cultural literacy. Our graduates should be aware of disadvantage and social justice, and be willing to participate to help create a wiser and better society.

This graduate capability is supported by:

**Learning outcome**
- Understanding how to integrate new systems and processes of an organisation

**Learning and teaching activities**
- Covers lecture material every week

Socially and Environmentally Active and Responsible
We want our graduates to be aware of and have respect for self and others; to be able to work with others as a leader and a team player; to have a sense of connectedness with others and country; and to have a sense of mutual obligation. Our graduates should be informed and active participants in moving society towards sustainability.

This graduate capability is supported by:

**Learning outcome**
- Understanding how to integrate new systems and processes of an organisation

**Learning and teaching activities**
- Covers lecture material every week
Capable of Professional and Personal Judgement and Initiative

We want our graduates to have emotional intelligence and sound interpersonal skills and to demonstrate discernment and common sense in their professional and personal judgement. They will exercise initiative as needed. They will be capable of risk assessment, and be able to handle ambiguity and complexity, enabling them to be adaptable in diverse and changing environments.

This graduate capability is supported by:

**Learning outcomes**

- Understanding how to integrate new systems and processes of an organisation
- Understanding IT strategic planning.

**Assessment tasks**

- Diagnostic assignment
- Group assignment
- Group presentation
- Exam

**Learning and teaching activities**

- Covers tutorial material every week

Commitment to Continuous Learning

Our graduates will have enquiring minds and a literate curiosity which will lead them to pursue knowledge for its own sake. They will continue to pursue learning in their careers and as they participate in the world. They will be capable of reflecting on their experiences and relationships with others and the environment, learning from them, and growing - personally, professionally and socially.

This graduate capability is supported by:

**Learning outcomes**

- Understanding how to integrate new systems and processes of an organisation
- Understanding IT strategic planning.
- Ability to use various modelling techniques to describe information flows and processes in an organisation.
- Competence in XML (eXtensible Markup Language) to web enable business applications.
- Competence in Web Services Description Language (WSDL) and Business Process Execution Language (BPEL).
Assessment task

- Group presentation

Learning and teaching activity

- Covers lecture material every week

Grading

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.

You will pass the unit if you...
• perform satisfactorily in the assignments. A pass will mean you have satisfied the requirements stated in the assignment specification. Higher grades will mean you have shown evidence of using the set literature, particularly at grades Distinction and High Distinction.

• will be present and deliver some slides for your group presentation. Groups are only allocated after the census date (31/8), therefore if you are allocated to a group, you are still considered formally enrolled in the course.

• perform satisfactorily in the exam.

You stand a chance of failing if you do not submit satisfactory attempts at the assignments on time, you do not turn up at the group presentation without good reason and you do not perform satisfactorily in the exam.

**Special consideration**

Special Consideration ([http://www.mq.edu.au/policy/docs/special_consideration/policy.html](http://www.mq.edu.au/policy/docs/special_consideration/policy.html)) is intended for a student who is prevented by serious and unavoidable disruption from completing any unit requirements in accordance with their ability.

To apply for special consideration you need to use the online submission system ([http://ask.mq.edu.au](http://ask.mq.edu.au)) along with some evidence to support your case. Depending on the circumstances presented, the convenor may choose to give you an alternate assessment, additional time for an assessment, make-up exam, etc.

If a Supplementary Examination is granted as a result of the Special Consideration process the examination will be scheduled after the conclusion of the official examination period.

For details of the Special Consideration policy specific to the Department of Computing, see the Department's policy page ([http://comp.mq.edu.au/undergrad/policies/special_consideration_policy.htm](http://comp.mq.edu.au/undergrad/policies/special_consideration_policy.htm)).