ISYS301
Enterprise Systems Integration
S2 Day 2015
Dept of Computing

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## General Information

Unit convenor and teaching staff

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E6A 347  
TBD

### practical demonstrator

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E6A 349  
TBD

### Convenor, Lecturer

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E6A 320  
TBD

### Lecturer

Dr. Oldooz Dianat  
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Contact via x 5398  
E6A 308  
TBD

Oldooz Dianat  
<oldooz.dianat@mq.edu.au>

### Credit points

3

### Prerequisites

39cp including [(ISYS254(P) or COMP255(P) or ISYS227(P) or COMP227(P)) and (6cp(P) in COMP or ISYS or ACCG or STAT or BUS or BBA units at 200 level)]

### Corequisites

Co-badged status

ITEC601
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://students.mq.edu.au/important-dates

Learning Outcomes
1. Ability to acquire knowledge needed to integrate new systems and processes of an organisation.
2. Competence in IT strategic planning.
3. Ability to use various modelling techniques to describe information flows and processes in an organisation.
4. Competence in XML (eXtensible Markup Language) to web enable business applications.
5. 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>Assignment 1</td>
<td>5%</td>
<td>24 August 2015</td>
</tr>
<tr>
<td>Assignment 2</td>
<td>20%</td>
<td>11 September 2015</td>
</tr>
<tr>
<td>Group Project Brief</td>
<td>5%</td>
<td>2nd October 2015</td>
</tr>
<tr>
<td>Assignment 3</td>
<td>15%</td>
<td>23rd October 2015</td>
</tr>
<tr>
<td>Group presentation</td>
<td>5%</td>
<td>Week 12</td>
</tr>
<tr>
<td>Exam</td>
<td>50%</td>
<td>9-27th November 2015</td>
</tr>
</tbody>
</table>
Assignment 1
Due: 24 August 2015
Weighting: 5%
A report on eBusiness principles

This Assessment Task relates to the following Learning Outcomes:
- Ability to acquire knowledge needed integrate new systems and processes of an organisation
- Competence in IT strategic planning.

Assignment 2
Due: 11 September 2015
Weighting: 20%
Business Process Modelling

This Assessment Task relates to the following Learning Outcomes:
- Ability to acquire knowledge needed integrate new systems and processes of an organisation
- Competence in IT strategic planning.
- Ability to use various modelling techniques to describe information flows and processes in an organisation.

Group Project Brief
Due: 2nd October 2015
Weighting: 5%
Provide a description of the project and the role of each team member with some explanation. This will be marked individually.

This Assessment Task relates to the following Learning Outcomes:
- Ability to use various modelling techniques to describe information flows and processes in an organisation.

Assignment 3
Due: 23rd October 2015
Weighting: 15%
Group assignment implementing 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.

This Assessment Task relates to the following Learning Outcomes:

- Ability to acquire knowledge needed 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: **5%**

Group presentation, but each team member will be marked *individually*.

This Assessment Task relates to the following Learning Outcomes:

- Ability to acquire knowledge needed 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: **9-27th November 2015**  
Weighting: **50%**

Closed book exam

This Assessment Task relates to the following Learning Outcomes:

- Ability to acquire knowledge needed to integrate new systems and processes of an organisation
• Competence in 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. The third hour of lecture on the Wednesday will be a tutorial. There will also be a one-hour practical class, although not every week and some practical times more in the second half of semester will be free for you to undertake your group assignment.

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
The textbook for ISYS301 used this semester 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 another couple of books you may wish to acquire, these are not compulsory but helpful.

The following are 'weekly readings' which simply support your learning, should you be interested in the topic and wish to read further. Of course they help with assignments as well!

- Eckhardt, A., Rosenkranz, C., (2010) "Lost in translation?!: the need for a boundary spanner between business and it" SIGMIS-CPR ’10 May pp: 75-82.
- Heart, T., (2010) "Who is out there?: exploring the effects of trust and perceived risk on saas adoption intentions" SIGMIS Database 41(3) August pp: 49-68.
• Rech, J., Schwach, W., Dietrich, M., Stuhec, G., (2010) "Intelligent assistance for
collaborative schema governance in the German agricultural eBusiness sector" *iiWAS* ‘10 November pp: 867-870.


### 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, 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 allocated for the group assignment. Students will have the opportunity to discuss issues amongst their groups on iLearn.

### Unit Schedule
<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Lecture</th>
<th>Reading References</th>
</tr>
</thead>
</table>
| 1 | World of eBusiness  
eBusiness strategy  
- What is eBusiness strategy  
- Strategic positioning  
- Level of eBusiness strategy  
- Strategic alignment | No tutorial | No practical  
Papazoglou and Ribbers chapters 1, 2  
Australian Government (2015)  
Janita and Chong (2013)  
Lai, Kan and Ulhas (2013)  
Pihir (2013)  
Kabak and Dogac (2010)  
Eckhardt and Rosenkranz (2010)  
Jacobs and Nakata (2010) |
| 2 | Business models  
- Pressures forcing business changes  
- Classifications of business models  
eBusiness Relationships | Background to eBusiness  
eBusiness strategy  
Introduction to modelling | Papazoglou and Ribbers chapter 3, 4  
Cherif and Grant (2014)  
Hermida et al., (2013)  
Iizuka, Iizuka and Suematsu (2013)  
Pryss et al., (2015)  
Veit et al., (2014)  
Sindhgatta and Sengupta (2009)  
Zarvić, Wieringa and van Eck (2008)  
Rech et al., (2010) |
| 3 | Governance Structures  
Business process modeling  
- Business process modelling methodologies  
- Supply chain operations reference (SCOR) model  
- Model driven architecture (MDA)  
- Business process modelling notation (BPMN)  
eBusiness models  
eBusiness relationships | Assignment preparation | Papazoglou and Ribbers chapter 5, 12  
Ko (2009)  
Iontita et al., (2008)  
Shahzad and Johannesson (2009) |
| 4 | Guest lecture by Professionals Australia (http://www.professionalsaustralia.org.au/) on Tuesday 9-10am | No third lecture this week on Wednesday | Modelling exercise  
Mili et al., (2010)  
Kalbande, Thampi and Deotale (2011) |
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Recorded lecture on Knowledge Management</td>
<td>Governance models and Business process modelling</td>
<td>Assignment preparation</td>
<td>KM Slides (Busch)</td>
<td></td>
<td></td>
<td></td>
<td>Zhou et al., (2008)</td>
</tr>
<tr>
<td>6</td>
<td>eBusiness Technological Infrastructure</td>
<td>KM</td>
<td>Assignment 1 (5%) due 24/8</td>
<td>Busch</td>
<td></td>
<td></td>
<td></td>
<td>Papazoglou and Ribbers (2011)</td>
</tr>
<tr>
<td>7</td>
<td>XML</td>
<td>Technological infrastructure</td>
<td>Assignment 2 (20%) due 11th September</td>
<td>Busch</td>
<td></td>
<td></td>
<td></td>
<td>Papazoglou and Ribbers (2011)</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](http://mq.edu.au/policy/docs/). Students should be aware of the following policies in particular with regard to Learning and Teaching:


In addition, a number of other policies can be found in the [Learning and Teaching Category](http://mq.edu.au/policy/docs/) of Policy Central.

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: [https://students.mq.edu.au/support/student_conduct/](https://students.mq.edu.au/support/student_conduct/)

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<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Business protocols</th>
<th>eBusiness solutions</th>
<th>Group Presentations</th>
<th>Papazoglou and Ribbers chapter 20</th>
<th>Practical</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>(Oldooz)</td>
<td>- Why are business protocols and standards needed</td>
<td>- XML technology stack for eBusiness integration</td>
<td>- RosettaNet</td>
<td>- Electronic business XML</td>
<td>No practical</td>
</tr>
<tr>
<td>26/10</td>
<td>(Peter/Oldooz)</td>
<td>Revision for the exam</td>
<td>Business protocols</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>(Peter/Oldooz)</td>
<td>Revision for the exam</td>
<td>Business protocols</td>
<td></td>
<td></td>
<td>No practical</td>
</tr>
</tbody>
</table>
Results

Results shown in iLearn, 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.

**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 improve your marks and take control of your study.

- Workshops
- StudyWise
- Academic Integrity Module for Students
- Ask a Learning Adviser

Student Enquiry Service

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

Equity 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.

IT Help

For help with University computer systems and technology, visit http://informatics.mq.edu.au/help/.

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

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

- Competence in 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

- Assignment 2
- Assignment 3
- 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

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

- Competence in 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
Unit guide ISYS301 Enterprise Systems Integration

applications.

Assessment tasks

• Assignment 2
• Assignment 3
• 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

• Competence in IT strategic planning.

Assessment tasks

• Assignment 1
• Assignment 2
• Assignment 3
• 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

• Competence in IT strategic planning.

Assessment tasks

• Assignment 2
• Group Project Brief
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**

- Ability to acquire knowledge needed 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**

- Ability to acquire knowledge needed 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

• Ability to acquire knowledge needed integrate new systems and processes of an organisation
• Competence in IT strategic planning.

Assessment tasks

• Assignment 1
• Group Project Brief
• Assignment 3
• Group presentation
• Exam

Learning and teaching activities

• Covers tutorial material every week

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

• Ability to acquire knowledge needed integrate new systems and processes of an organisation
• Competence in IT strategic planning.
• Competence in Web Services Description Language (WSDL) and Business Process Execution Language (BPEL).

Assessment tasks

• Assignment 2
• Group Project Brief
• Assignment 3
• Exam

Learning and teaching activities

• Covers lecture material every week
• 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

• Ability to acquire knowledge needed integrate new systems and processes of an organisation
• Competence in 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

• Group Project Brief
• Group presentation

Learning and teaching activities

• Covers lecture material every week

Changes from Previous Offering

Peter is lecturing for 60% (weeks 1-7) and Oldooz for 40% (weeks 8-12) of the course.

Assignment 2 (the key individual assignment) is now worth 20% up from 15%. However the group presentation (where members are nonetheless individually marked) is now only worth 5%. The logic for the decrease to 5% is because in fact each individual presents material for only 2-3 minutes within their group and so 10% is excessive for such a short period of time.

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:

<table>
<thead>
<tr>
<th>Criteria for L.O. #1</th>
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<table>
<thead>
<tr>
<th>L.O. #1</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Undertaking SWOT analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>a limited understanding of what SWOT is and how it works, perhaps making a few simple mistakes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Competent analysis of SWOT for a given organisation listing a few each of S, W, O and T factors</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Good SWOT analysis, with some recourse to the literature providing similar examples in the case of other organisations</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Outstanding SWOT analysis with comprehensive recourse to the literature</th>
</tr>
</thead>
</table>

Criteria for L.O. #2

Criteria for L.O. #3
<table>
<thead>
<tr>
<th>Criteria for L.O. #4</th>
<th>understanding how use of code such as XML will enable ecommerce</th>
<th>limited understanding of what XML actually is and does, however showing some understanding of how XML enables ecommerce</th>
<th>competent understanding of XML, limited recourse to the literature, perhaps just relying on the textbook or lecture notes</th>
<th>good understanding of the role of XML, with some recourse to examples in the literature, beyond just knowledge of XML from the lecture notes</th>
<th>outstanding understanding of the role XML plays, with comprehensive recourse to the literature providing further examples beyond what was asked for in the assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competence in XML</td>
<td>basic competence in coding, shows obvious and basic mistakes in coding</td>
<td>proficient but perhaps inefficient coding in XML, still displaying some mistakes, parameters names obtuse and commenting limited</td>
<td>proficient coding in XML, perhaps a few trivial mistakes still in evidence, but generally codes quite competently</td>
<td>outstanding coding in XML, with code efficiencies clearly displayed, all parameters using meaningful names, code well commented</td>
<td></td>
</tr>
<tr>
<td>Criteria for L.O. #5</td>
<td>understanding how WSDL and BPEL enable ecommerce</td>
<td>limited understanding of what WSDL and BPEL actually is and do, however showing some understanding of how they enables ecommerce</td>
<td>competent understanding of WSDL and BPEL, limited recourse to the literature, perhaps just relying on the textbook or lecture notes</td>
<td>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</td>
<td>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</td>
</tr>
<tr>
<td>Competence in WSDL and BPEL</td>
<td>basic competence in coding, shows obvious and basic mistakes in coding</td>
<td>proficient but perhaps inefficient coding in WSDL and BPEL, still displaying some mistakes, parameters names obtuse and commenting limited</td>
<td>proficient coding in WSDL and BPEL, perhaps a few trivial mistakes still in evidence, but generally codes quite competently</td>
<td>outstanding coding in WSDL and BPEL, with code efficiencies clearly displayed, all parameters using meaningful names, code well commented</td>
<td></td>
</tr>
</tbody>
</table>

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 organised after the census date (31/8), therefore if you are allocated to a group, you are still considered formally enrolled in the course.
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.

Department of Computing expectations are that students have to perform satisfactorily in the final exam as well as in their internal work/assignments.