

ISYS301

Enterprise Systems Integration

S2 Evening 2014

Computing

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General Information

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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

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:

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

Competence to undertake some 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

Name	Weighting	Due
Diagnostic assignment	5%	21 August 2014
Individual assignment	15%	18 September 2014
Group Project Brief	5%	9th October 2014
Group assignment	15%	30 October 2014
Group presentation	10%	Week 12
Exam	50%	17 November - 5 December 2014

Diagnostic assignment

Due: 21 August 2014

Weighting: 5%

A report on eBusiness principles

On successful completion you will be able to:

- Ability to acquire knowledge needed integrate new systems and processes of an organisation
- Competence to undertake some IT strategic planning.

Individual assignment

Due: 18 September 2014

Weighting: 15%

Business Process Modelling

On successful completion you will be able to:

- Ability to acquire knowledge needed integrate new systems and processes of an organisation
- · Competence to undertake some IT strategic planning.
- Ability to use various modelling techniques to describe information flows and processes in an organisation.

Group Project Brief

Due: 9th October 2014

Weighting: 5%

Provide a description of the project and the role of each team member with some explanation.

This will be marked individually.

On successful completion you will be able to:

 Ability to use various modelling techniques to describe information flows and processes in an organisation.

Group assignment

Due: 30 October 2014

Weighting: 15%

Group assignment implementing eBusiness solution

On successful completion you will be able to:

- Ability to acquire knowledge needed 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, but each team member will be marked *individually*.

On successful completion you will be able to:

- Ability to acquire knowledge needed 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: 17 November - 5 December 2014

Weighting: 50%

Closed book exam

On successful completion you will be able to:

- Ability to acquire knowledge needed integrate new systems and processes of an organisation
- Competence to undertake some 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 <u>timetables</u> 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:

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

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

- Mili, H., Guy Tremblay, G., Jaoude, G., Lefebvre, E., Elabed, L., Boussaidi, G., (2010)
 "Business process modeling languages: Sorting through the alphabet soup" *Computing Surveys* 43(1) November pp: 4(1)-4(56).
- Kabak, Y., Dogac, A., (2010) " A survey and analysis of electronic business document standards" *Computing Surveys* 42(3) March pp: 11(1)-11(31).
- 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.
- Jacobs, A., Nakata, K., (2010) "Evolving the social business: a look at stages of growth for Web 2.0 integration with business activities" IWCSC '10 September pp: 1-6.
- Sindhgatta, R., Sengupta, B., (2009) " An extensible framework for tracing model

- evolution in SOA solution design" OOPSLA '09 Otober 2009 pp: 647-658.
- Zarvić, N., Wieringa, R., van Eck, P., (2008) "Checking the alignment of value-based business models and IT functionality" SAC '08 March pp: 607-613.
- 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.
- Ko, R., (2009) "A computer scientist's introductory guide to business process management (BPM)" Crossroads 15(4) June pp: 11-18.
- Ionita, A., Catapano, A., Giuroiu, S., Florea, M., (2008) S"ervice oriented system for business cooperation" SDSOA '08 May pp: 13-18.
- Shahzad, K., Johannesson, P., (2009) "An evaluation of process warehousing approaches for business process analysis" *EOMAS '09* June pp: 1-14.
- Kalbande, D., Thampi, G., Deotale, N., (2011) "e-procurement for increasing business process agility" *ICWET '11* February pp: 761-764.
- Khoo, B., (2010) "RFID- from Tracking to the Internet of Things: A Review of Developments" GREENCOM-CPSCOM '10 December pp: 533-538.
- Cimino, A., Costantino, F., Di Gravio, G., Longo, F., (2009) "Reverse logistics of refillable glass bottles: a simulative approach" *SpringSim '09* March pp: 1-6.
- Zhou, L., Xie, Y., Wild, N., Hunt, C., (2008) "Learning and practising supply chain management strategies from a business simulation game: a comprehensive supply chain simulation" WSC '08 December pp: 2534-2542.
- Margaria, T., Steffen, B., (2007) "Middleware: just another level for orchestration"
 MNCNA '07 November pp: 1-6.
- Paradies, M., Malaika, S., Nicola, M., Xie, K., (2010) "Comparing XML processing performance in middleware and database: a case study" *Middleware Industrial Track '10* November pp: 35-39.
- Ramesh, J., Singh, S., Sharma, M., (2011) "Development of private cloud for educational institution using Aneka grid container" ICWET '11 February pp: 244-247.
- 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.
- Nitu (2009) "Configurability in SaaS (software as a service) applications" ISEC '09
 February pp: 19-26.
- Norta, A., (2011) "A choreography language for eBusiness collaboration" SAC '11 March pp: 468-469.
- Samavi, R., Yu, E., Topaloglou, T., (2008) "Applying strategic business modeling to

- understand disruptive innovation" ICEC '08 August pp: 1-10.
- Rajam, S., Cortez, R., Vazhenin, A., Bhalla, S., (2010) "Design patterns in enterprise application integration for e-learning arena" *HC '10* December pp: 81-88.
- Jiang, K., Winer, C., (2009) "Introducing an application integration course in IT curriculum" SIGITE '09 October pp: 33-36.
- Bernstein, P., Haas, L., (2008) "Information integration in the enterprise"
 Communications of the ACM 51(9) September pp: 72-79.
- Clavreul, M., Barais, O., Jézéquel, F., (2010) "Integrating legacy systems with MDE" ICSE '10 May pp: 69-78.
- Sánchez Ramón, O., Sánchez Cuadrado, J., García Molina, J., (2010) "Model-driven reverse engineering of legacy graphical user interfaces" ASE '10 September pp: 147-150.
- Rebstock, M., (2009) "Technical opinion: Semantic ambiguity: Babylon, Rosetta or beyond?" Communications of the ACM 52(5) May pp: 145-146.
- Huemer, C., Liegl, P., Motal, T., Schuster, R., Zapletal, M., (2008) "The development process of the UN/CEFACT modeling methodology" *ICEC '08* August pp: 1-10.

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

1 (Peter) Week starts 4/8	World of eBusiness eBusiness strategy - What is eBusiness strategy - Strategic positioning - Level of eBusiness strategy - Strategic alignment Intro to Systems Integration - Enterprise systems - System integration - Tools and technologies	No tutorial	No practical	Papazoglou and Ribbers chapters 1, 2, 18	- Kabak and Dogac (2010) - Eckhardt and Rosenkranz (2010) - Jacobs and Nakata (2010)
2 (Peter) 11/8	- Pressures forcing business changes - Classifications of business models Governance structures	Background to eBusiness	Introduction to modelling	Papazoglou and Ribbers chapter 3, 5	- Sindhgatta and Sengupta (2009) - Zarvić, Wieringa and van Eck (2008) - Rech et al., (2010)
3 (Peter) 18/8	Business process modeling - Business modelling - Business processes and collaboration - Business modelling with UML	Modelling	Assignment preparation Assignment 1 Part I (5%) due 21st August	Papazoglou and Ribbers chapter 12	- Ko (2009) - Ionita et al., (2008) - Shahzad and Johannesson (2009)

4 (Peter) 25/8	Business process modeling - Business process modelling methodologies - Supply chain operations reference (SCOR) model - Model driven architecture (MDA) - Business process modelling notation (BPMN)	Modelling	Modelling exercise	Papazoglou and Ribbers chapter 18	- Mili et al. (2010) - Kalbande, Thampi and Deotale (2011)
5 (Peter) 1/9	Enterprise Resource Planning (ERP) Supply Chain Logistics	Modelling	Assignment preparation	Sumner Bowersox, Closs and Cooper	- Khoo (2010) - Cimino et al., (2009) - Zhou et al., (2008)
6 (Peter) 8/9	eBusiness Technological Infrastructure	ERP, SCL	ERP, SCL practical	Papazoglou and Ribbers chapter 6	- Norta (2011) - Samavi, Yu and Topaloglou (2008)
7 (Jian) 15/9	EDI and Middleware - EDI concepts and standards - Middleware concepts, architecture and systems	Technological infrastructure	Technological aspects of integration Individual modelling assignment due 18th September	Papazoglou and Ribbers chapters 7, 14	
Mid Semester Break: 20th September to 6th October inclusive					
8 (Jian) 7/10 6th is Labour day public holiday!	Loosely coupled eBusiness solutions - Concept of software as a service - Web services - Web service architecture	XML, Middleware	XML, Middleware Group project brief due 9th October	Papazoglou and Ribbers chapter 19	- Ramesh, Singh and Sharma (2011) - Heart (2010) - Nitu (2009)

9 (Jian) 13/10	Workflow systems - Workflow concepts - Workflow elements - Workflow modeling - Workflow verification	eBusiness solutions	Business solutions, Workflow systems	Papazoglou and Ribbers chapters 6, 18	- Margaria and Steffen (2007) - Paradies et al. (2010)
10 (Jian) 20/10	Enterprise Application Integration (EAI) - Concepts - Technologies	Legacy systems	Assignment work	Papazoglou and Ribbers chapter 17	- Rajam et al., (2010) - Jiang and Winer (2009) - Bernstein and Haas (2008)
11 (Jian) 27/10	Leverage legacy applications	Workflow systems	Group assignment (15%) due 30th October	Papazoglou and Ribbers chapter 16	- Clavreul, Barais and Jézéquel, (2010) - Sánchez Ramón, Sánchez Cuadrado, and García Molina (2010)
12 (Jian) 3/11	Business protocols - Why are business protocols and standards needed - XML technology stack for eBusiness integration - RosettaNet - Electonic business XML	eBusiness solutions	Group Presentations (10%)	Papazoglou and Ribbers chapter 20	- Rebstock (2009)
13 (Peter/Jian) 10/11	Revision for the exam	Business protocols	No practical		

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 <u>Policy Central</u>. Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy http://mq.edu.au/policy/docs/academic_honesty/policy.html

Assessment Policy http://mq.edu.au/policy/docs/assessment/policy.html

Grading Policy http://mq.edu.au/policy/docs/grading/policy.html

Grade Appeal Policy http://mq.edu.au/policy/docs/gradeappeal/policy.html

Grievance Management Policy http://mq.edu.au/policy/docs/grievance_management/policy.html

Disruption to Studies Policy http://www.mq.edu.au/policy/docs/disruption_studies/policy.html The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.

In addition, a number of other policies can be found in the <u>Learning and Teaching Category</u> 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/

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 Services and Support

Students with a disability are encouraged to contact the <u>Disability Service</u> 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

IT Help

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

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

Graduate Capabilities

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 to undertake some IT strategic planning.

Assessment tasks

- Diagnostic assignment
- · Group Project Brief
- 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

- Ability to acquire knowledge needed integrate new systems and processes of an organisation
- Competence to undertake some 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

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 to undertake some 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

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

Assessment tasks

- Individual assignment
- Group Project Brief

- 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

- Competence to undertake some 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

• Competence to undertake some 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

Competence to undertake some IT strategic planning.

Assessment tasks

- · Individual assignment
- Group Project Brief
- 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

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

Changes from Previous Offering

Late work policy has been updated - assignments will suffer a 10% penalty on a daily basis.

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 <u>learning outcomes of this unit</u> 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.

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.

• peform 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.

Changes since First Published

Date	Description
01/08/2014	Changed Raj to Imran
14/01/2014	The Prerequisites was updated.