ISYS254

Applications Modelling and Development

S1 Day 2014

Computing

Contents

Disclaimer

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

General Information

Unit convenor and teaching staff
Other Staff
Matthew Mansour
matthew.mansour@mq.edu.au
Contact via matthew.mansour@mq.edu.au

Unit Convenor
Stephen Smith
stephen.smith@mq.edu.au
Contact via stephen.smith@mq.edu.au
30 minutes prior to lectures

Credit points
3

Prerequisites
ISYS114(P) or COMP114(P) or ISYS154(P) or COMP154(P)

Corequisites

Co-badged status

Unit description
This unit is an intermediate unit for the processes, methods, techniques and tools that organisations use to determine how they should conduct their business, with a particular focus on how computer-based technologies can most effectively contribute to the way business is structured. Study focuses on the fundamental concepts and models of applications development so that they can understand they key processes related to building functioning applications and appreciate the complexity of applications development. The unit emphasises program development and incorporates the software development life cycle, requirements gathering, designing a solution, and implementing and testing a solution in a programming language.

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:

To gain a basic understanding of the concepts, techniques and architectures in system design;

To have good knowledge and ability of programming methodologies for system design and development as well as a good understanding of the concepts and tools needed to successfully design and build application programs using UML, SQL and ASP

Be able to communicate clearly and effectively

Assessment Tasks

Name	Weighting	Due
Early Diagnostic Assessment	2%	Week 3
Tutorial Submission	4%	As required
Tutorial Attendance	4%	As required
Mid Semester Exam	10%	Week 6
Assignment Part 1 (Checkpoint)	5%	Week 7
Assignment Part 1A	10%	Week 12
Assignment Part 1B	15%	Week 12
Final Examination	50%	TBA

Early Diagnostic Assessment

Due: **Week 3**
Weighting: **2%**

In week 3 you will be given a list of questions that you will need to complete. This diagnostic assessment is more a check point to see that you are comfortable with the unit.

Paper submission in class.

On successful completion you will be able to:

• To gain a basic understanding of the concepts, techniques and architectures in system design;

Tutorial Submission

Due: **As required**
Weighting: **4%**

Within your tutorial workshop time you will find that in three (3) of the weeks in the semester you

will be given tutorial questions to complete within the class. Each submission is worth a total of 2 marks. The best two (2) out of the three (3) will recorded for a total of 4 marks.

The sets of questions submitted will be marked according to the following guidelines:

- 2 mark The student has made a genuine attempt to answer almost all the questions.
- 1 mark The student has made a genuine attempt to answer most all the questions.
- 0 mark The submission does not meet either of the above two requirements.

Part marks will not be awarded - each tutorial submission will receieve 2, 1 or 0 - nothing else.

Paper submission in class.

On successful completion you will be able to:
- To gain a basic understanding of the concepts, techniques and architectures in system design;
- To have good knowledge and ability of programming methodologies for system design and development as well as a good understanding of the concepts and tools needed to successfully design and build application programs using UML, SQL and ASP
- Be able to communicate clearly and effectively

Tutorial Attendance

Due: **As required**
Weighting: **4%**

One mark per tutorial where you attend that has a random submission.

Paper submission in class.

On successful completion you will be able to:
- Be able to communicate clearly and effectively

Mid Semester Exam

Due: **Week 6**
Weighting: **10%**

Paper submission in class.

On successful completion you will be able to:
- To gain a basic understanding of the concepts, techniques and architectures in system design;
- To have good knowledge and ability of programming methodologies for system design and development as well as a good understanding of the concepts and tools needed to

successfully design and build application programs using UML, SQL and ASP

Assignment Part 1 (Checkpoint)

Due: **Week 7**
Weighting: **5%**

There will be one assignment, with two parts. They are designed to develop your skills for both system analysis, design and development.

Submission via iLearn.

On successful completion you will be able to:

- To have good knowledge and ability of programming methodologies for system design and development as well as a good understanding of the concepts and tools needed to successfully design and build application programs using UML, SQL and ASP
- Be able to communicate clearly and effectively

Assignment Part 1A

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

There will be one assignment, with two parts. They are designed to develop your skills for both system analysis, design and development.

Submission via iLearn.

On successful completion you will be able to:

- To have good knowledge and ability of programming methodologies for system design and development as well as a good understanding of the concepts and tools needed to successfully design and build application programs using UML, SQL and ASP
- Be able to communicate clearly and effectively

Assignment Part 1B

Due: **Week 12**
Weighting: **15%**

There will be one assignment, with two parts. They are designed to develop your skills for both system analysis, design and development.

Submission via iLearn.

On successful completion you will be able to:

- To gain a basic understanding of the concepts, techniques and architectures in system

design;

- To have good knowledge and ability of programming methodologies for system design and development as well as a good understanding of the concepts and tools needed to successfully design and build application programs using UML, SQL and ASP
- Be able to communicate clearly and effectively

Final Examination

Due: **TBA**

Weighting: **50%**

Closed Examination

On successful completion you will be able to:

- To gain a basic understanding of the concepts, techniques and architectures in system design;
- To have good knowledge and ability of programming methodologies for system design and development as well as a good understanding of the concepts and tools needed to successfully design and build application programs using UML, SQL and ASP
- Be able to communicate clearly and effectively

Delivery and Resources

CLASSES

Each week you should attend 2 hours of lectures and a Mixed tutorial Class (starting in week 2). For details of days, times and rooms consult the timetables webpage.

Note that **mixed classes commence in week 2.**

Please note that you are **required** to attend most of the mixed classes and hand in prepared work each week. Failure to do so may result in you failing the unit or being excluded from the exam.

REQUIRED AND RECOMMENDED TEXTS AND/OR MATERIALS

Textbook

The textbooks for ISYS254 used this semester is:

1. Joseph S Valacich, Essentials of Systems Analysis and Design, Fifth Edition (or Later), Pearson, 2012, ISBN13: 978-0-013-706711-4 link

Note: The book can be found at the co-op bookshop.

UNIT WEBPAGE AND TECHNOLOGY USED AND

REQUIRED

Websites

The web page for this unit can be found at: here

iLecture

Digital recordings of lectures are available. Read instructions here.

Discussion Boards

The unit makes use of discussion boards hosted within ilearn Please post questions relevant to the unit there. They are monitored by the staff on the unit.

Unit Schedule

1	The Systems Development Environment	Chp1
2	The Sources of Software	Chp2
3	Managing the Information Systems Project	Chp 3
4	Systems Planning and Selection	Chp 4
5	Determining System Requirements	Chp 5
6	Mid Semester Exam	Everything from week 1 - week 5
7	Structuring System Requirements: Process Modeling	Chp 6
8	Structuring System Requirements: Conceptual Data Modeling	Chp 7
9	Designing the Human Interface	Chp 8
10	Designing Databases	Chp 10
11	Systems Implementation and Operation	Chp 10
12	Agile Methodologies , Object-Oriented Analysis and Design	Appendix A
13	Revision	

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://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 Learning and Teaching Category 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/

Special consideration policy of the Department of Computing:

http://comp.mq.edu.au/undergrad/policies/special_consideration_policy.htm

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 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

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

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 outcome

- Be able to communicate clearly and effectively

Assessment task

- Tutorial Submission

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 outcome

- Be able to communicate clearly and effectively

Assessment tasks

- Tutorial Submission
- Assignment Part 1 (Checkpoint)
- Assignment Part 1A
- Assignment Part 1B

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

- To gain a basic understanding of the concepts, techniques and architectures in system design;
- To have good knowledge and ability of programming methodologies for system design and development as well as a good understanding of the concepts and tools needed to successfully design and build application programs using UML, SQL and ASP

Assessment tasks

- Mid Semester Exam
- Assignment Part 1 (Checkpoint)
- Assignment Part 1A
- Assignment Part 1B
- Final Examination

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

- To gain a basic understanding of the concepts, techniques and architectures in system design;
- To have good knowledge and ability of programming methodologies for system design and development as well as a good understanding of the concepts and tools needed to successfully design and build application programs using UML, SQL and ASP

Assessment tasks

- Early Diagnostic Assessment
- Mid Semester Exam
- Assignment Part 1 (Checkpoint)
- Assignment Part 1A
- Assignment Part 1B
- Final Examination

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

- To gain a basic understanding of the concepts, techniques and architectures in system design;
- To have good knowledge and ability of programming methodologies for system design and development as well as a good understanding of the concepts and tools needed to successfully design and build application programs using UML, SQL and ASP

Assessment task

- Tutorial Submission

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

- To have good knowledge and ability of programming methodologies for system design and development as well as a good understanding of the concepts and tools needed to successfully design and build application programs using UML, SQL and ASP

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 outcomes

- To have good knowledge and ability of programming methodologies for system design

and development as well as a good understanding of the concepts and tools needed to successfully design and build application programs using UML, SQL and ASP

- Be able to communicate clearly and effectively

Assessment tasks

- Tutorial Submission
- Assignment Part 1 (Checkpoint)
- Assignment Part 1A
- Assignment Part 1B

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

- Be able to communicate clearly and effectively

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

- Be able to communicate clearly and effectively

Assessment tasks

- Tutorial Submission
- Tutorial Attendance

Changes from Last Year

There has been no assessment changes since to last offering.

Standards and Grading

Firstly, in order to pass the unit, you must obtain a total mark of 50% or higher and a mark of 40% or higher in the final examination; make a reasonable attempt at the exercises in the diagnostic assessment; demonstrate that you can perform at a Functional level or higher for each criterion assessed in the two assignments; reach a Functional level or higher for each criterion assessed in the final examination.

Secondly, ISYS254 will be graded according to the following general descriptions of the letter grades as specified by Macquarie University.

• High Distinction (HD, 85-100): 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 as appropriate to the discipline.

• Distinction (D, 75-84): 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.

• Credit (Cr, 65-74): 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; convincing argumentation with appropriate coherent justification; communication of ideas fluently and clearly in terms of the conventions of the discipline..

• Pass (P, 50-64): provides sufficient evidence of the achievement of learning outcomes. There is demonstration of understanding and application of fundamental concepts of the field of study; routine argumentation with acceptable justification; 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.

• Fail (F, 0-49): does not provide evidence of attainment of learning outcomes. There is missing or partial or superficial or faulty understanding and application of the fundamental concepts in the field of study; missing, undeveloped, inappropriate or confusing argumentation; incomplete, confusing or lacking communication of ideas in ways that give little attention to the conventions of the discipline.

L.O 1	Pass	Credit	Distinction	High Distinction

Knowledge development	Reproduce definitions and ideas, show some breadth of understanding	Show breadth of understanding across most of the unit material	Apply terminology and ideas in some new contexts, show breadth of understanding across most of the unit material	Apply terminology and ideas in new contexts, show breadth of understanding
L.O. 2	**Pass**	**Credit**	**Distinction**	**High Distinction**
Application Literacy	Able to use most of the application functionality specified in the assignments	Able to use almost all of the application functionality specified in the assignments for one of the applications covered, and most of the functionality for the remainder.	Able to use almost all of the application functionality specified in the assignments for half of the applications covered, and most of the functionality for the other half.	Able to use almost all of the application functionality specified in the assignments
L.O. 3	**Pass**	**Credit**	**Distinction**	**High Distinction**
Ability to communicate with and explain to others	Able to describe and explain almost all of the functionality of some applications covered and most of the functionality of the others	Able to clearly communicate about, describe and explain almost all of the functionality of the applications covered	Able to clearly communicate about, describe and explain almost all of the functionality of the applications covered and, for some of the applications, material within the general area of the assignment, but outside that explicitly in the assignment description	Able to fluently communicate about, describe and explain the applications covered, within the general area of the assignment, but including material outside that explicitly in the assignment description