



# COMP2750

## Applications Modelling and Development

Session 1, Weekday attendance, North Ryde 2020

*Dept of Computing*

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## General Information

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Credit points

10

#### Prerequisites

COMP1350 or ISYS114

#### Corequisites

#### Co-badged status

COMP6750

#### Unit description

This unit is an intermediate unit to deliver a solid foundation in concepts, methods, tools and techniques that organisations use to control the information they use in their day-to-day business, with a particular focus on how computer-based technologies can most effectively contribute to the way business is structured. The unit focuses on the fundamental concepts and models of applications development so that they can understand the 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://students.mq.edu.au/important-dates>

## Learning Outcomes

**ULO1:** Demonstrate ability to communicate software requirements and designs, clearly and effectively.

**ULO2:** Practice the key phases of the software development life cycle (SDLC) including requirements engineering, analysis, design, basic development and testing.

**ULO3:** Demonstrate understanding of alternative SDLC lifecycle models

**ULO4:** Demonstrate an understanding of the concepts and tools needed to successfully design and build an application

**ULO5:** Integrate an application with a database or other form of persistent storage

## General Assessment Information

If you receive [special consideration](#) for the final exam, a supplementary exam will be scheduled in the interval between the regular exam period and the start of the next session. By making a special consideration application for the final exam you are declaring yourself available for a resit during the supplementary examination period and will not be eligible for a second special consideration approval based on pre-existing commitments. Please ensure you are familiar with the [policy](#) prior to submitting an application. You can check the supplementary exam information page on FSE101 in iLearn ([bit.ly/FSESupp](https://unitguides.mq.edu.au/unit_offerings/123704/unit_guide/print)) for dates, and approved applicants will receive an

individual notification one week prior to the exam with the exact date and time of their supplementary examination.

## Late Submission

No extensions will be granted without an approved application for Special Consideration. There will be a deduction of 10% of the total available marks made from the total awarded mark for each 24 hour period or part thereof that the submission is late. For example, 25 hours late in submission for an assignment worth 10 marks – 20% penalty or 2 marks deducted from the total. No submission will be accepted after solutions have been posted.

## Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Workshop Participation</u>	10%	No	Weekly (Week 2 to Week-12)
<u>Diagnostic Quiz in Workshops</u>	5%	No	Week 3 in Enrolled Workshops
<u>Requirements Gathering, Modelling and Specification</u>	15%	No	Week 7 (Thursday 9th April, 11.59 pm)
<u>Application Design</u>	10%	No	Week 9 (Friday 8th May 11.59pm)
<u>Application Development</u>	15%	No	Week 12,13 (Submit online by Friday 29th May 2020 11.59pm)
<u>Final Exam</u>	45%	No	TBA

## Workshop Participation

Assessment Type <sup>1</sup>: Participatory task

Indicative Time on Task <sup>2</sup>: 0 hours

Due: **Weekly (Week 2 to Week-12)**

Weighting: **10%**

Workshops are combined practicals and tutorials. Workshops will involve a range of activities, some individual, some in pairs, some in groups. Be prepared to present your ideas.

Workshops are the key learning activity in this unit and your weekly attendance and active participation is expected. Each week your attendance will be recorded in your scheduled workshop and you will receive 1 mark for attendance and active participation. There are 12 weeks of workshops, however, the total attendance mark is limited to 10 throughout the semester.

On successful completion you will be able to:

- Demonstrate ability to communicate software requirements and designs, clearly and effectively.

- Practice the key phases of the software development life cycle (SDLC) including requirements engineering, analysis, design, basic development and testing.
- Demonstrate understanding of alternative SDLC lifecycle models
- Demonstrate an understanding of the concepts and tools needed to successfully design and build an application

## Diagnostic Quiz in Workshops

Assessment Type <sup>1</sup>: Quiz/Test

Indicative Time on Task <sup>2</sup>: 5 hours

Due: **Week 3 in Enrolled Workshops**

Weighting: **5%**

Quiz covering weeks 1-2 to determine students individual strengths, weaknesses, knowledge and skills to develop a baseline of what students know about the topic. This will be conducted during the workshop in Week-3

On successful completion you will be able to:

- Demonstrate ability to communicate software requirements and designs, clearly and effectively.
- Practice the key phases of the software development life cycle (SDLC) including requirements engineering, analysis, design, basic development and testing.
- Demonstrate understanding of alternative SDLC lifecycle models
- Demonstrate an understanding of the concepts and tools needed to successfully design and build an application

## Requirements Gathering, Modelling and Specification

Assessment Type <sup>1</sup>: Case study/analysis

Indicative Time on Task <sup>2</sup>: 25 hours

Due: **Week 7 (Thursday 9th April, 11.59 pm)**

Weighting: **15%**

This assignment will develop and test your skills in requirements gathering, specification, analysis and modelling.

On successful completion you will be able to:

- Demonstrate ability to communicate software requirements and designs, clearly and effectively.
- Practice the key phases of the software development life cycle (SDLC) including requirements engineering, analysis, design, basic development and testing.
- Demonstrate understanding of alternative SDLC lifecycle models

## Application Design

Assessment Type <sup>1</sup>: Design Task

Indicative Time on Task <sup>2</sup>: 16 hours

Due: **Week 9 (Friday 8th May 11.59pm)**

Weighting: **10%**

You will design an application to the level of a complete specification.

On successful completion you will be able to:

- Practice the key phases of the software development life cycle (SDLC) including requirements engineering, analysis, design, basic development and testing.
- Demonstrate an understanding of the concepts and tools needed to successfully design and build an application
- Integrate an application with a database or other form of persistent storage

## Application Development

Assessment Type <sup>1</sup>: Design Implementation

Indicative Time on Task <sup>2</sup>: 16 hours

Due: **Week 12,13 (Submit online by Friday 29th May 2020 11.59pm)**

Weighting: **15%**

Assignment Two Part II will assess your development skills in implementing your application specification.

On successful completion you will be able to:

- Practice the key phases of the software development life cycle (SDLC) including requirements engineering, analysis, design, basic development and testing.
- Demonstrate an understanding of the concepts and tools needed to successfully design and build an application
- Integrate an application with a database or other form of persistent storage

## Final Exam

Assessment Type <sup>1</sup>: Examination

Indicative Time on Task <sup>2</sup>: 25 hours

Due: **TBA**

Weighting: **45%**

This closed book exam will test your knowledge of the concepts and ability to apply the learning material for Weeks 1-12.

On successful completion you will be able to:

- Demonstrate ability to communicate software requirements and designs, clearly and effectively.
  - Demonstrate understanding of alternative SDLC lifecycle models
  - Demonstrate an understanding of the concepts and tools needed to successfully design and build an application
- 

<sup>1</sup> If you need guidance or support to understand or complete this type of assessment, please contact the Learning Skills Team

<sup>2</sup> Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

## Delivery and Resources

### CLASSES

ISYS254 is taught via lectures and workshops.

#### Lectures:

- Lectures are used to introduce new material, provide motivation and context for your study, guide you in what is important to learn and explain more difficult concepts.
- There are 2 hours of lectures per week.

#### Workshops:

- **Note:** Workshops commence in Week-2
- Workshops are small group classes which allow you to interact with your peers and with a tutor who has a sound knowledge of the subject. This also gives you a chance to practice your technology skills.
- You will need to enrol and attend the workshop to obtain marks for your attendance and participation.
- Workshops will be providing you with practical experience of design and development processes. The content of the workshop may overlap or sometimes be ahead of the lecture content.
- If your workshop falls on a public holiday, you are expected to attend & participate in another workshop as a makeup class to obtain your participation marks for that week.
- For details of days, times and rooms consult the [timetables webpage](https://unitguides.mq.edu.au/unit_offerings/123704/unit_guide/print).

### RECOMMENDED TEXTS AND/OR MATERIALS

#### Textbook

There are no required textbooks for this unit. However, every week you will be provided with

lecture notes and references for further reading

## 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 of general interest there (for example, about assessment tasks), they are monitored by the unit staff but students may also provide answers.

## FEEDBACK

You have many opportunities to seek and to receive feedback. The feedback that you receive also plays an important role in your learning. Make sure you read the feedback you are given, attend lectures which provide assignment feedback and compare your solution with sample solutions provided. During lectures, you are encouraged to ask the lecturer questions to clarify anything you might not be sure of. You may also arrange to meet with your tutor or the lecturer. Consultation hours will be provided in some of the weeks. Each week, you will be given activities and problems to solve in the workshops. This will at times involve contributing to a group of students and presenting solutions to the class. The solutions provided will help you to understand the material in the unit, prepare you for the work in assignments as well as for the final exam. You must keep up with these problems every week. Assignments have been specially designed to deliver continuous feedback on your work.

Each week you should:

- Attend lectures, take notes, ask questions
- Attend your tutorial/practical and seek feedback from your tutor on your work
- Read assigned reading material (ideally before the lecture), add to your notes and prepare questions for your lecturer or tutor
- Start working on any assignments immediately after they have been released.

Lecture notes are made available each week but these notes are intended as an outline of the lecture only and are not a substitute for your notes or reading of the other additional material.

## Unit Schedule

**Tentative teaching schedule, subject to change:**

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1	Unit Overview + Information Systems + SDLC process	Y.Wang	No Workshops this week
2	Development Methodologies + Agile Modelling	Y.Wang	Workshop Participation (1%)
3	Project Management	Y.Wang	Workshop Participation (1%). Diagnostic Quiz in enrolled workshops (5%)
4	Discovering Requirements	Y.Wang	Workshop Participation (1%)
5	Documenting System Requirements through diagrams	Y.Wang	Workshop Participation (1%)
6	Designing Databases	C.Ramakrishnan	Workshop Participation (1%)
7	Designing Input	C.Ramakrishnan	Workshop Participation (1%). Assignment-1 due Thursday 9 <sup>th</sup> April 2020 at 11.59 pm (15%)
<b>Teaching Break (2 weeks) 10th April 2020 to 26th April 2020</b> <b>Students are expected to catch up with unit content (Weeks 1-7) and continue working in their groups on Assignment 2 Part 1</b>			
8	Designing Output	C.Ramakrishnan	Workshop Participation (1%)
9	Human-Computer Interaction	C.Ramakrishnan	Workshop Participation (1%). Assignment-2 Part-1 due Friday 8 <sup>th</sup> May 2020 at 11.59 pm (10%)
10	Client-side Development	C.Ramakrishnan	Workshop Participation (1%)
11	Server-side Development	Y.Wang	Workshop Participation (1%)
12	Testing and Quality Assurance	C.Ramakrishnan	Workshop Participation (1%). Assignment-2 Part-2 Online Submission due Friday 29th May 2020 at 11.59 pm (15%)
13	Revision	Y.Wang and C.Ramakrishnan	Assignment-2 Part-2. Presentation in enrolled Workshops.

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central\)](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)

- [Grade Appeal Policy](#)
- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#) (**Note:** *The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.*)

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

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central](http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/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/study/getting-started/student-conduct>

## Results

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

## 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](http://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](http://ask.mq.edu.au)

If you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@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://www.mq.edu.au/about\\_us/offices\\_and\\_units/information\\_technology/help/](http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/).

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

## Changes since First Published

Date	Description
18/02/2020	Requirements gathering assignment is now a group assignment