



# COMP6750

## Applications Modelling and Development

Session 1, In person-scheduled-weekday, North Ryde 2024

*School of Computing*

### Contents

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<a href="#"><u>General Information</u></a>	2
<a href="#"><u>Learning Outcomes</u></a>	2
<a href="#"><u>General Assessment Information</u></a>	3
<a href="#"><u>Assessment Tasks</u></a>	4
<a href="#"><u>Delivery and Resources</u></a>	6
<a href="#"><u>Unit Schedule</u></a>	8
<a href="#"><u>Policies and Procedures</u></a>	9
<a href="#"><u>Changes from Previous Offering</u></a>	11

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#### **Disclaimer**

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## General Information

Unit convenor and teaching staff

Convenor and Lecturer

Charanya Ramakrishnan

[charanya.ramakrishnan@mq.edu.au](mailto:charanya.ramakrishnan@mq.edu.au)

Contact via Email

By Appointment

Lecturer

Carl Svensson

[carl.svensson@mq.edu.au](mailto:carl.svensson@mq.edu.au)

Contact via F2F after the lecture, or email

The hour after the lecture on Thursday

Credit points

10

Prerequisites

Corequisites

Co-badged status

COMP2750

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 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://www.mq.edu.au/study/calendar-of-dates>

## Learning Outcomes

On successful completion of this unit, you will be able to:

**ULO1:** Demonstrate the ability to ethically 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 an understanding of alternative SDLC 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

Details for each assessment will be available via iLearn.

You are encouraged to:

- set your personal deadline earlier than the actual one
- keep backups of all your important files
- seek assistance in the early stages rather than closer to the due date

## Requirements to Pass this Unit

To pass this unit, you must achieve a total mark equal to or greater than 50%.

## Late Assessment Submission and Penalties

Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark of the task) will be applied for each day a written report or presentation assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. The submission time for all uploaded assessments is 11:55 pm. A 1-hour grace period will be provided to students who experience a technical concern.

For any late submission of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, please apply for [Special Consideration](#).

Assessments where Late Submissions will be accepted

- Assessment 1- Requirements Gathering and Analysis – YES, Standard Late Penalty applies
- Assessment 2- Application Design – YES, Standard Late Penalty applies
- Assessment 3- Application Development and Testing – YES, Standard Late Penalty applies
- Quizzes - NO, unless Special Consideration is Granted

## Special Consideration

The [Special Consideration Policy](#) aims to support students who have been impacted by short-term circumstances or events that are serious, unavoidable and significantly disruptive and which may affect their performance in assessment. If you experience circumstances or events that affect your ability to complete the assessments in this unit on time, please inform the convenor and submit a Special Consideration request through [ask.mq.edu.au](http://ask.mq.edu.au)

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#">Diagnostic Quiz in Workshops</a>	25%	No	Weeks 3, 7, 13
<a href="#">Requirements Gathering and Analysis</a>	25%	No	Week 6
<a href="#">Application Design</a>	25%	No	Mid-Term Break Week-2
<a href="#">Application Development and Testing</a>	25%	No	Weeks 11, 12, and 13

### Diagnostic Quiz in Workshops

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

Indicative Time on Task <sup>2</sup>: 14 hours

Due: **Weeks 3, 7, 13**

Weighting: **25%**

Quizzes to determine students individual strengths, weaknesses, knowledge and skills to develop a baseline of what students know about the topic.

On successful completion you will be able to:

- Demonstrate the ability to ethically 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 an understanding of alternative SDLC models
- Demonstrate an understanding of the concepts and tools needed to successfully design and build an application

### Requirements Gathering and Analysis

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

Indicative Time on Task <sup>2</sup>: 20 hours

Due: **Week 6**

Weighting: **25%**

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

On successful completion you will be able to:

- Demonstrate the ability to ethically 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 an understanding of alternative SDLC models

## Application Design

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

Indicative Time on Task <sup>2</sup>: 20 hours

Due: **Mid-Term Break Week-2**

Weighting: **25%**

This assignment will develop and test your skills in designing applications for the given case study

On successful completion you will be able to:

- Demonstrate the ability to ethically 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 an understanding of alternative SDLC models
- 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 and Testing

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

Indicative Time on Task <sup>2</sup>: 20 hours

Due: **Weeks 11, 12, and 13**

Weighting: **25%**

This assignment will develop and assess your design, development and testing applications for the given case study.

On successful completion you will be able to:

- Demonstrate the ability to ethically 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 an understanding of alternative SDLC models
- 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

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<sup>1</sup> If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the [Writing Centre](#) for academic skills support.

<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

COMP2750 is taught via lectures and SGTA Classes.

### Delivery Modes

At the time of writing this unit guide, the plan is:

- **Lectures** will be delivered on campus during the entire semester.
- **SGTA classes** will be delivered on campus during the entire semester. Please check the timetable for the specific times and types of sessions.
- All **assessments** will be on campus or online, depending on the assessment type:

- Quizzes and the viva component of the Application Development and Testing assignment will be on campus, at the place and time of the SGTA classes.
- All other assessment tasks will be submitted online.

Any changes to this plan will be announced in iLearn.

## **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

## **SGTA Classes:**

- **Note:** SGTA Classes commence in **Week 2**
- These are small group classes that allow you to interact with your peers and with an SGTA instructor 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 SGTA Class that you've enrolled in, as there are group assessments
- SGTA Classes will provide you with practical experience in 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

## **Week 1 classes**

Lectures commence in Week 1, and SGTAs start in Week 2

### **Recommended Texts**

### **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**

### **Websites**

The web page for this unit can be found [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 to the questions asked.

## Feedback

You have many opportunities to seek and 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 that provide assignment feedback and compare your solution with sample solutions provided. You may also arrange to meet with your SGTA instructor 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 SGTAs. This will sometimes 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 and prepare you for the work in assignments. 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 SGTA classes and seek feedback from your SGTA instructor on your work
- Read assigned reading material/Watch lecture recordings, add to your notes and prepare questions for your lecturer or SGTA instructor
- Start working on any assignments immediately after they have been released.

Lecture notes/videos 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.

## Methods of Communication

We will communicate with you via your university email and through announcements on iLearn. Queries to convenors can either be placed on the iLearn discussion board or sent to the unit convenor via the contact email on iLearn.

## COVID Information

For the latest information on the University's response to COVID-19, please refer to the Coronavirus infection page on the Macquarie website: <https://www.mq.edu.au/about/coronavirus-faqs>. Remember to check this page regularly if the information and requirements change during the semester. If there are any changes to this unit in relation to COVID-19, these will be communicated via iLearn.

## Unit Schedule

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

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1	Unit Overview + Information Systems + SDLC process	Carl. S
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2	Agile Modelling + SCRUM	Charanya. R
3	Discovering Requirements, Documenting System Requirements through diagrams-1	Charanya. R
4	Documenting System Requirements through diagrams-2, Validation	Charanya. R
5	Prototyping/Iterative Development	Charanya. R
6	Design - Input/Output/Databases	Charanya. R
7	Design Principles/HCI/UX	Charanya. R
8	Development- Client/Server	Carl. S
Teaching Break (2 weeks) Students are expected to catch up with unit content (Weeks 1-8)		
9	Usability Testing	Carl. S
10	Project management, Ethics	Carl. S
11	Project management, Ethics	Carl. S
12	An Overview- Case Study	Carl. S

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au). 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](#)
- [Assessment Procedure](#)
- [Complaints Resolution Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#)

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

To find other policies relating to Teaching and Learning, visit [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au) and use the [search tool](#).

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/admin/other-resources/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](https://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## Academic Integrity

At Macquarie, we believe [academic integrity](#) – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free [online writing and maths support](#), [academic skills development](#) and [wellbeing consultations](#).

## Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

## The Writing Centre

[The Writing Centre](#) provides resources to develop your English language proficiency, academic writing, and communication skills.

- [Workshops](#)
- [Chat with a WriteWISE peer writing leader](#)
- [Access StudyWISE](#)
- [Upload an assignment to Studiosity](#)
- [Complete the Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

## Student Services and Support

Macquarie University offers a range of [Student Support Services](#) including:

- [IT Support](#)
- [Accessibility and disability support](#) with study
- Mental health [support](#)
- [Safety support](#) to respond to bullying, harassment, sexual harassment and sexual assault
- [Social support including information about finances, tenancy and legal issues](#)
- [Student Advocacy](#) provides independent advice on MQ policies, procedures, and processes

## Student Enquiries

Got a question? Ask us via [AskMQ](#), or contact [Service Connect](#).

## 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 from Previous Offering

We value student feedback to be able to improve the way we offer our units continually. As such, we encourage students to provide constructive feedback via student surveys, to the teaching staff directly, or via the FSE Student Experience & Feedback link on the iLearn page. Student feedback from the previous offering of this unit was very positive overall, with students pleased with the clarity around assessment requirements and the level of support from the teaching staff. As such, no change to the delivery of the unit is planned, however we will continue to strive to improve the level of support and the level of student engagement.

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Unit information based on version 2024.02 of the [Handbook](#)