**General Information**

Unit convenor and teaching staff

Convenor and Lecturer
Charanya Ramakrishnan
charanya.ramakrishnan@mq.edu.au
Contact via Email
4 Research Park Drive, Becton Dickson Building Rm 375
See HELP101 schedule/by appointment

Lecturer
Yan Wang
yan.wang@mq.edu.au
Contact via Email
4 Research Park Drive, Becton Dickson Building Rm 354
See HELP101 schedule/by appointment

Tutor
Darius Taslim
darius.taslim@mq.edu.au
Contact via Email
See HELP101 schedule/by appointment

Tutor
Hedieh Ranjbartabar
hedieh.ranjbartabar@mq.edu.au
Contact via Email
See HELP101 schedule/by appointment

Tutor
Mahdieh Rezaeian
mahdieh.rezaeian@mq.edu.au
Contact via Email
See HELP101 schedule/by appointment

Tutor
Zawar Hussain
zawar.hussain@mq.edu.au
Contact via Email
See HELP101 schedule/by appointment

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) 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**

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

**Workshop Participation**

Assessment Type: Participatory task  
Indicative Time on Task: 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: Quiz/Test
Indicative Time on Task: 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: Case study/analysis
Indicative Time on Task: 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 1: Design Task
Indicative Time on Task 2: 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 1: Design Implementation
Indicative Time on Task 2: 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 1: Examination
Indicative Time on Task 2: 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

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

2 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.

RECOMMENDED TEXTS AND/OR MATERIALS

Textbook
There are no required textbooks for this unit. However, every week you will be provided with
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:
# Unit Overview + Information Systems + SDLC process

Y. Wang

No Workshops this week

## Development Methodologies + Agile Modelling

Y. Wang

Workshop Participation (1%)

## Project Management

Y. Wang

Workshop Participation (1%). Diagnostic Quiz in enrolled workshops (5%)

## Discovering Requirements

Y. Wang

Workshop Participation (1%)

## Documenting System Requirements through diagrams

Y. Wang

Workshop Participation (1%)

## Designing Databases

C. Ramakrishnan

Workshop Participation (1%)

## Designing Input

C. Ramakrishnan

Workshop Participation (1%). Assignment-1 due Thursday 9th April 2020 at 11.59 pm (15%)

### Teaching Break (2 weeks) 10th April 2020 to 26th April 2020

Students are expected to catch up with unit content (Weeks 1-7) and continue working in their groups on Assignment 2 Part 1

## Designing Output

C. Ramakrishnan

Workshop Participation (1%)

## Human-Computer Interaction

C. Ramakrishnan

Workshop Participation (1%). Assignment-2 Part-1 due Friday 8th May 2020 at 11.59 pm (10%)

## Client-side Development

C. Ramakrishnan

Workshop Participation (1%)

## Server-side Development

Y. Wang

Workshop Participation (1%)

## 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%)

## Revision

Y. Wang and C. Ramakrishnan

Assignment-2 Part-2. Presentation in enrolled Workshops.

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### 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). 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**
Students seeking more policy resources can visit the 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 (https://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 or if you are a Global MBA student contact 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) 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

If you are a Global MBA student contact 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](http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/).

The policy applies to all who connect to the MQ network including students.

**Changes since First Published**

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>18/02/2020</td>
<td>Requirements gathering assignment is now a group assignment</td>
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