School of Science, Computing and Engineering Technologies

Unit Outline

COS30017

Software Development for Mobile Devices

Semester Jan, 2024

Please read this Unit Outline carefully. It includes:

PART A Unit summary
PART B Your Unit in more detail
PART C Further information

"Swinburne University of Technology recognises the historical and cultural significance of Australia's Indigenous history and the role it plays in contemporary education

Each day in Australia, we all walk on traditional Indigenous land

We therefore acknowledge the traditional custodians of the land that our Australian campuses currently occupy, the Wurundjeri people, and pay respect to Elders past and present, including those from other areas who now reside on Wurundjeri land"

PART A: Unit Summary

Unit Code(s)	COS30017
Unit Title	Software Development for Mobile Devices
Duration	One semester
Total Contact Hours	48 hours
Requisites:	COS20007 Object Oriented Programming OR COS20011 Software Development in Java OR COS30014 Object Oriented Programming in C++
Pre-requisites	
Co-requisites	Nil
Concurrent pre-requisites	Nil
Anti-requisites	Nil
Assumed knowledge	Nil
Credit Points	12.5
Campus/Location	Ho Chi Minh City
Mode of Delivery	Blended
Assessment Summary	Portfolio 100%

Aims
This unit of study aims to introduce students to software development and design for mobile devices.

Unit Learning Outcomes
Students who successfully complete this unit will be able to:

1. Explain a range of techniques of intelligent systems across artificial intelligence (AI) and intelligent agents (IA); both from a theoretical and a practical perspective.
2. Apply different AI/IA algorithms to solve practical problems.
3. Design and build simple intelligent systems based on AI/IA concepts.

Graduate Attributes

This unit may contribute to the development of the following Swinburne Graduate Attributes:

■ Communication 1 - Verbal communication

■ Communication 2 - Communicating using different media

■ Teamwork 1 - Collaboration and negotiation

■ Teamwork 2 - Teamwork roles and processes

■ Digital literacies 1 - Information literacy

■ Digital Literacies 2 - Technical literacy

Content
The unit includes the following topics:

■ Introduction to Intelligent Systems

- Knowledge representation and reasoning

- Intelligent agents and multi-agent systems

- Learning and adaptation

- Evolutionary computing

- Neural networks

- Collective intelligence

- Methodologies and applications

PART B: Your Unit in more detail

Unit Improvements
Feedback provided by previous students through the Student Survey has resulted in improvements that have been made to this unit. Recent improvements include:

• Reinstatement of 2 hour synchronous lecture

Unit Teaching Staff

Name	Role	Email	Consultation Times
Dr Tuan Tran	Unit Coordinator	tuanatran@swin.edu.au	Appointment by email

Learning and Teaching Structure

Activity	Total Hours	Hours per Week	Teaching Period Weeks
Lectures	24 hours	2 hours	Weeks 1 to 12
Labs	24 hours	2 hours	Weeks 1 to 12

Week by Week Schedule

Teaching Week	Beginning Monday	Learning focus / delivery mode	Assessment
1	01 Jan	Overview Designing for mobile	Review previous experience with OOP and XML, set up Android Studio and GitHub
2	08 Jan	Kotlin	Regular submission of portfolio tasks (pass tasks/dates shown, see Canvas for C/D/HD tasks/dates):
3	15 Jan	App building blocks	
4	22 Jan	Lifecycles and states	
5	29 Jan	UX for mobile	• Discussion 1 (week 3) • Core 1 (week 5, close week 8) • Quiz 1 (week 5)
Luna New Year's Holiday (05 – 18 February 2024 inclusively)			
6	19 Feb	Activity communication and fragments	• Discussion 2 (week 6)
7	26 Feb	Lists	Regular submission of portfolio tasks (pass tasks/dates shown, see Canvas for C/D/HD tasks/dates):
8	04 Mar	Concurrent programming	
9	11 Mar	Persistent data	
10	18 Mar	Extra topic: sensors	

| 11 | 25 Mar | Summary and further work | • Core 2 (week 7, close week 10)
• Core 3 (week 10)
Quiz 2 (week 11) |
| 12 | 01 Apr | Custom app mini-conference | Mini-conference participation
Finalisation and submission of portfolio |

Assessment

a) Assessment Overview

Tasks and Details	Individual or Group	Weighting	Unit Learning Outcomes that this assessment task relates to	Assessment Due Date
1. Portfolio	Individual	100%	1-3	Throughout semester; final submission date and interview dates in formal exam period to be advised

a) Minimum requirements to pass this Unit

To pass this unit, you must:
- achieve an overall mark for the unit of 50% or more, and
- submit a passable Portfolio, see the Submission Requirements section for details.

b) Examinations

If the unit you are enrolled in has an official examination, you will be expected to be available for the entire examination period including any Special Exam period.

c) Submission Requirements

Assignments and other assessments are generally submitted online through the Canvas assessment submission system which integrates with the Turnitin plagiarism checking service, and GitHub Classroom/GitHub where requested.

Please ensure you keep a copy of all assessments that are submitted.

In cases where a hard copy submission is required an Assessment Cover Sheet must be submitted with your assignment. The standard Assessment Cover Sheet is available from the Submitting work webpage or www.swinburne.edu.au/studentforms/

Generative AI tools are **not** permitted to be used for assessment tasks. Each minor textbased submission (Core and Extension tasks) must include a statement regarding who contributed to the work and how. Admission of use, or non-admission when used, of generative AI tools, would breach academic misconduct regulations and sanctions can be applied. Generative AI tools are permitted to be used for clarifying ideas for personal study, however all submitted code and text must be written by the student.

Each major submission (portfolio) must include an Acknowledgement of Country and a statement regarding who contributed to the work and how.

Where requested or required, tasks may require demonstration during workshop or consultation.

At the end of semester, you are required to submit a portfolio that contains the following items:

1. A Learning Summary Report that reflects on what you have learned, and shows how your portfolio addresses the assessment criteria and unit learning outcomes.

2. Links/references to a number of pieces of work that demonstrate how you have met all unit learning outcomes. This must include coverage of all outcomes for your desired grade which can be best met by including:

> a. All core (for Pass and above) and extension (for Credit and above) tasks, including quizzes and discussions

> b. A report and subsequent interview for Distinction and above. The nature of the custom projects will be advised during semester.

Non-submission of a Learning Summary Report will result in a grade of NA, regardless of whether any individual tasks were submitted during semester.

d) Extensions and Late Submission

Late Submissions - Unless an extension has been approved, late submissions will result in a penalty. You will be penalised 10% of your achieved mark for each working day the task is late, up to a maximum of 5 working days. After 5 working days, a zero result will be recorded.

If an extension for a portfolio or interview is required, evidence will need to be presented to the convenor prior to the due date of the portfolio or day of the interview (or as soon as practicable afterwards if it relates to an event on the day).

Tasks do not require formal extension requests, however students not submitting pass tasks by the suggested **due dates** will be requested to create a learning plan with revised submission dates, agreed to by the convenor. Tasks not marked as complete (this includes demonstration to teaching staff where requested) by the **close date** as listed in Canvas or **other agreed date** will result in no further feedback and no resubmissions. Time-based discussions not participated in by their deadline will mean contributions need to be submitted as a non-interactive assignment and may incur a penalty.

e) Referencing

To avoid plagiarism, you are required to provide a reference whenever you include information from other sources in your work. Further details regarding plagiarism are available in Section C of this document under 'Academic Integrity'.

Referencing conventions required for this unit are: APA

Helpful information on referencing can be found at
http://www.swinburne.edu.au/library/referencing/

f) Groupwork Guidelines

This unit does not involve any groupwork.

Required Textbook(s)

The required textbook(s) are available from Swinburne Bookshop:
http://bookshop.swin.edu.au

None

Recommended Reading Materials

The Library has a large collection of resource materials, both texts and current journals. Listed below are some references that will provide valuable supplementary information to this unit. It is also recommended that you explore other sources to broaden your understanding.

A list of recommended textbooks and online resources can be found in Canvas.

PART C: FURTHER INFORMATION

For further information on any of these topics, refer to Swinburne's Current Students web page http://www.swinburne.edu.au/student/.

Student behaviour and wellbeing

All students are expected to: act with integrity, honesty and fairness; be inclusive, ethical and respectful of others; and appropriately use University resources, information, equipment and facilities. All students are expected to contribute to creating a work and study environment that is safe and free from bullying, violence, discrimination, sexual harassment, vilification and other forms of unacceptable behaviour.

The Student Charter describes what students can reasonably expect from Swinburne in order to enjoy a quality learning experience. The Charter also sets out what is expected of students with regards to your studies and the way you conduct yourself towards other people and property.

You are expected to familiarise yourself with University regulations and policies and are obliged to abide by these, including the Student Academic Misconduct Regulations, Student General Misconduct Regulations and the People, Culture and Integrity Policy. Any student found to be in breach of these may be subject to disciplinary processes.

Examples of expected behaviours are:

- conducting yourself in teaching areas in a manner that is professional and not disruptive to others
- following specific safety procedures in Swinburne laboratories, such as wearing appropriate footwear and safety equipment, not acting in a manner which is dangerous or disruptive (e.g. playing computer games), and not bringing in food or drink
- following emergency and evacuation procedures and following instructions given by staff/wardens in an emergency response

Canvas

You should regularly access the Swinburne learning management system, Canvas, which is available via the Current Students webpage or https://swinburne.instructure.com/ Canvas is updated regularly with important unit information and communications.

Communication

All communication will be via your Swinburne email address. If you access your email through a provider other than Swinburne, then it is your responsibility to ensure that your Swinburne email is redirected to your private email address.

Academic Integrity

Academic integrity is about taking responsibility for your learning and submitting work that is honestly your own. It means acknowledging the ideas, contributions and work of others; referencing your sources; contributing fairly to group work; and completing tasks, tests and exams without cheating.

Swinburne University uses the Turnitin system, which helps to identify inadequate citations, poor paraphrasing and unoriginal work in assignments that are submitted via Canvas. Your Unit Convenor will provide further details. Plagiarising, cheating and seeking an unfair advantage with regards to an exam or assessment are all breaches of academic integrity and treated as academic misconduct.

Plagiarism is submitting or presenting someone else's work as though it is your own without full and appropriate acknowledgement of their ideas and work. Examples include:

- using the whole or part of computer program written by another person as your own

- using the whole or part of somebody else's written work in an essay or other assessable work, including material from a book, journal, newspaper article, a website or database, a set of lecture notes, current or past student's work, or any other person's work

- poorly paraphrasing somebody else's work
- using a musical composition or audio, visual, graphic and photographic work created by another
- using realia created by another person, such as objects, artefacts, costumes, models
- submitting assessments that have been developed by another person or service (paid or unpaid), often referred to as contract cheating
- presenting or submitting assignments or other work in conjunction with another person or group of people when that work should be your own independent work. This is regardless of whether or not it is with the knowledge or consent of the other person(s). Swinburne encourages students to talk to staff, fellow students and other people who may be able to contribute to a student's academic work but where an independent assignment is required, the work must be the student's own
- enabling others to plagiarise or cheat, including letting another student copy your work or by giving access to a draft or completed assignment

The penalties for academic misconduct can be severe, ranging from a zero grade for an assessment task through to expulsion from the unit and, in the extreme, exclusion from Swinburne.

Student support

Swinburne offers a range of services and resources to help you complete your studies successfully. Your Unit Convenor or studentHQ can provide information about the study support and other services available for Swinburne students.

Special consideration

If your studies have been adversely affected due to serious and unavoidable circumstances outside of your control (e.g. severe illness or unavoidable obligation), you may be able to apply for special consideration (SPC).

Applications for Special Consideration will be submitted via the SPC online tool normally no later than 5.00pm on the third working day after the submission/sitting date for the relevant assessment component.

Accessibility needs

Sometimes students with a disability, a mental health or medical condition or significant carer responsibilities require reasonable adjustments to enable full access to and participation in education. Your needs can be addressed by Swinburne's AccessAbility Services by negotiating and distributing an 'Education Access Plan'. The plan makes recommendations to University teaching and examination staff. You must notify AccessAbility Services of your disability or condition within one week after the commencement of your unit to allow the University to make reasonable adjustments.

Review of marks

An independent marker reviews all fail grades for major assessment tasks. In addition, a review of assessment is undertaken if your final result is between 45 and 49 or within 2 marks of any grade threshold.

If you are not satisfied with the result of an assessment, you can ask the Unit Convenor to review the result. Your request must be made in writing within 10 working days of receiving the result. The Unit Convenor will review your result to determine if your result is appropriate.

If you are dissatisfied with the outcomes of the review, you can lodge a formal complaint.

Feedback, complaints and suggestions

In the first instance, discuss any issues with your Unit Convenor. If you are dissatisfied with the outcome of the discussion or would prefer not to deal with your Unit Convenor, then you can complete a feedback form. See https://www.swinburne.edu.au/corporate/feedback/

Advocacy

Should you require assistance with any academic issues, University statutes, regulations, policies and procedures, you are advised to seek advice from an Independent Advocacy Officer at Swinburne Student Life.

For an appointment, please call +61-(0)3-9214 5445 or email advocacy@swin.edu.au For more information, please see https://www.swinburne.edu.au/current-students/student-services- support/advocacy/