



MONASH University
Information Technology

FIT4039
Android and iOS development

Unit Guide

Semester 1, 2015

Copyright © Monash University 2014. All rights reserved. Except as provided in the Copyright Act 1968, this work may not be reproduced in any form without the written permission of the host Faculty and School/Department.

The information contained in this unit guide is correct at time of publication. The University has the right to change any of the elements contained in this document at any time.

Last updated: 12 Feb 2015

Table of Contents

<u>FIT4039 Android and iOS development - Semester 1, 2015</u>	1
<u>Mode of Delivery</u>	1
<u>Workload Requirements</u>	1
<u>Unit Relationships</u>	1
<u>Prohibitions</u>	1
<u>Chief Examiner</u>	1
<u>Campus Lecturer</u>	1
<u>Caulfield</u>	1
<u>Tutors</u>	2
<u>Caulfield</u>	2
<u>Your feedback to Us</u>	2
<u>Previous Student Evaluations of this Unit</u>	2
<u>Academic Overview</u>	3
<u>Learning Outcomes</u>	3
<u>Unit Schedule</u>	4
<u>Teaching Approach</u>	4
<u>Assessment Summary</u>	5
<u>Assessment Requirements</u>	6
<u>Assessment Policy</u>	6
<u>Assessment Tasks</u>	6
<u>Participation</u>	6
<u>Learning resources</u>	8
<u>Feedback to you</u>	8
<u>Extensions and penalties</u>	8
<u>Returning assignments</u>	8
<u>Assignment submission</u>	9
<u>Online submission</u>	9
<u>Required Resources</u>	9
<u>Technological Requirements</u>	9
<u>Other Information</u>	10
<u>Policies</u>	10
<u>Faculty resources and policies</u>	10
<u>Graduate Attributes Policy</u>	10
<u>Student Charter</u>	10
<u>Student services</u>	10
<u>Monash University Library</u>	10
<u>Disability Liaison Unit</u>	10
<u>Other</u>	11

FIT4039 Android and iOS development - Semester 1, 2015

This unit focuses on the design, construction and deployment of mobile applications, with particular focus on Android and iOS platforms. Areas such as mobile data management and networking, MVC design patterns, and mobile GUI design considerations will be explored. The unit will emphasise hands-on, practical experience with actual devices and emulators. Research topics and ideas will also be covered for post-graduate students.

Mode of Delivery

Caulfield (Day)

Workload Requirements

Minimum total expected workload equals 12 hours per week comprising:

(a.) Contact hours for on-campus students:

- Two hours of lectures
- One 2-hour laboratory

(b.) Additional requirements (all students):

- A minimum of 8 hours independent study per week for completing lab and project work, private study and revision.

See also Unit timetable information

Unit Relationships

Prohibitions

CSE3211, [FIT3027](#)

Chief Examiner

Mr Elliott Wilson

Campus Lecturer

Caulfield

Matthew Kairys

Consultation hours: Email for appointment

Elliott Wilson

Consultation hours: Email for appointment

Tutors

Caulfield

Matthew Kairys

Consultation hours: Email for appointment.

Elliott Wilson

Consultation hours: Email for appointment.

Your feedback to Us

Monash is committed to excellence in education and regularly seeks feedback from students, employers and staff. One of the key formal ways students have to provide feedback is through the Student Evaluation of Teaching and Units (SETU) survey. The University's student evaluation policy requires that every unit is evaluated each year. Students are strongly encouraged to complete the surveys. The feedback is anonymous and provides the Faculty with evidence of aspects that students are satisfied and areas for improvement.

For more information on Monash's educational strategy, see:

www.monash.edu.au/about/monash-directions/ and on student evaluations, see:
www.policy.monash.edu/policy-bank/academic/education/quality/student-evaluation-policy.html

Previous Student Evaluations of this Unit

In response to the last SETU of this unit, the following changes have been made:

- Materials have been updated to cover latest Android and iOS platform developments.
- Weekly topics structure has been modified slightly to have a greater emphasis on building mobile interfaces.
- Examination component has been removed in favour for a more practical mobile application being developed and assessed.

Student feedback has highlighted the following strength(s) in this unit:

- Many students appreciated the demonstrations performed in the lectures so a greater number of these will be made available.

If you wish to view how previous students rated this unit, please go to
<https://emuapps.monash.edu.au/unitevaluations/index.jsp>

Academic Overview

Learning Outcomes

At the completion of this unit, students will:

- recall the history of mobile platforms and the development of software for those platforms;
- describe the MVC design pattern and explain the importance of this design pattern in mobile applications development;
- critically analyse and distinguish between the design considerations for mobile application interface development and traditional interfaces;
- analyse and implement the use of graphic and audio components in the development of mobile applications;
- investigate, design, construct and publish applications for mobile platforms with particular focus on Android and iOS.

Unit Schedule

Week	Activities	Assessment
0		No formal assessment or activities are undertaken in week 0
1	Android and iOS Programming Fundamentals	
2	MVC Architecture and Mobile Interface Design	
3	Mobile Interface Controls	
4	Mobile Data Management	Assignment 1 due Friday 27th March 2015
5	Web Networking	
6	Phone and Tablet Application Design	
7	Mobile Sensors and Location Awareness	Assignment 2 due Monday 20th April 2015
8	Audio and Visual Processing	
9	Platform-specific Features	
10	3D Graphics with OpenGL ES	Prototype application due in lab classes
11	Accessibility and Localisation	
12	Publishing Mobile Applications	
	SWOT VAC	No formal assessment is undertaken in SWOT VAC; Assignment 3 due Friday 12th June 2014 (Week 14)
	Examination period	LINK to Assessment Policy: http://policy.monash.edu.au/policy-bank/academic/education/assessment/assessment-in-coursework-policy.html

*Unit Schedule details will be maintained and communicated to you via your learning system.

Teaching Approach

- **Lecture and tutorials or problem classes**

The aim of the lectures is to introduce one or more concepts in a way, and at a pace, that is adequate for students to learn, not to provide students with everything there is to know about those concepts. In this sense, the lecture notes provide a first step towards learning those concepts, a first step that will be complemented by tutes and/or pracs, consultation hours and personal reading and working time.

- **Laboratory-based classes**

The aim of the prac is to increase the knowledge of students on a particular area covered by the associated unit. In pracs this is achieved by each student (or group of students) practicing on their own the concepts already learned previously.

Assessment Summary

In-semester assessment: 100%

Assessment Task	Value	Due Date
A1: Mobile Application Design Specification	20%	Friday 27th March 2015 (Week 4)
A2: Android and iOS Portfolio Exercises	30%	Monday 20th April 2015 (Week 7)
A3: Android / iOS Mobile Application	50%	Assigned Lab Class in Week 10 (Prototype) and Friday 12th June 2015, Week 14 (Completed Application)

Assessment Requirements

Assessment Policy

Faculty Policy - Unit Assessment Hurdles

(<http://intranet.monash.edu.au/infotech/resources/staff/edgov/policies/assessment-examinations/assessment-hurdles>)

Academic Integrity - Please see resources and tutorials at

<http://www.monash.edu/library/skills/resources/tutorials/academic-integrity/>

Assessment Tasks

Participation

- **Assessment task 1**

Title:

A1: Mobile Application Design Specification

Description:

The objective of this assessment is to enable students to design innovative applications on both Android and iOS by taking into consideration the interface requirements and functionality available on both platforms. Students will be required to submit a specification outlining the type of application they wish to build, a breakdown of the application requirements, interface storyboards and a project timeline. Specific details regarding this specification will be made available on Moodle.

Postgraduate students will also need to include a competitor analysis section in their specification by researching similar applications that currently exist on the market and analysing their strengths and weaknesses. This analysis should be used to support design decisions made on the final application design.

Weighting:

20%

Criteria for assessment:

- ◆ This is an individual assignment and is to be entirely your own work.
- ◆ The assignment will be marked against criteria of correctness and clarity.
- ◆ Further detailed assessment criteria will be available with the assignment specification.

Due date:

Friday 27th March 2015 (Week 4)

Remarks:

Students will need to negotiate with their tutor during their assigned lab session regarding what type of application they would like to develop for the semester and if it is appropriate for the marking criteria.

Late assignment submissions will be penalised by 5% for each day late and may be submitted up to a maximum of 7 days late. Submissions beyond this deadline may not be accepted without prior consultation.

• **Assessment task 2**

Title:

A2: Android and iOS Portfolio Exercises

Description:

The objective of this assessment is to enable students to gain the fundamental skills and knowledge required for building effective mobile applications with a critical focus on native Android and iOS development. Students will be required to submit a portfolio of weekly exercises for both Android and iOS platforms for Weeks 2 to 6. Specific details regarding each lab exercise will be clearly outlined in the laboratory notes accessible via Moodle.

Weighting:

30%

Criteria for assessment:

- ◆ This is an individual assignment and is to be entirely your own work.
- ◆ The assignment will be marked against criteria of correctness and clarity.
- ◆ Further detailed assessment criteria will be available with the assignment specification.

Due date:

Monday 20th April 2015 (Week 7)

Remarks:

Students will be provided feedback based on their performance in this assignment to determine their current progress in Android and iOS application development. Suggestions for where potential improvements could be made for the remainder of the semester will also be provided.

Late assignment submissions will be penalised by 5% for each day late and may be submitted up to a maximum of 7 days late. Submissions beyond this deadline may not be accepted without prior consultation.

• **Assessment task 3**

Title:

A3: Android / iOS Mobile Application

Description:

The objective of this assessment is to enable students to build a functionally complete mobile application by selecting either Android or iOS to showcase and demonstrate their knowledge gained during the semester. Students will be required to submit an application based upon their design specification.

This assessment is broken down into two deliverables:

a) Application Prototype (25%)

Students will need to demonstrate their development progress on their mobile application by showing their tutor current progress and discuss any challenges faced. This will help provide students with additional feedback before final submission.

Due: Assigned Lab Class in Week 10

b) Final Application (75%)

Students will need to submit their final version of the application via Moodle and arrange an interview with their tutor to demonstrate their final mobile application.

Due: Friday 12th June 2015, Week 14

Postgraduate students will also need to incorporate and demonstrate unit testing in their Android or iOS project to ensure that the application has been made to an industry standard.

Specific details regarding this application will be made available on Moodle and discussed during the lectures.

Weighting:

50%

Criteria for assessment:

- ◆ This is an individual assignment and is to be entirely your own work.
- ◆ The assignment will be marked against criteria of correctness and clarity.
- ◆ Further detailed assessment criteria will be available with the assignment specification.

Due date:

Assigned Lab Class in Week 10 (Prototype) and Friday 12th June 2015, Week 14 (Completed Application)

Remarks:

Late assignment submissions will be penalised by 5% for each day late and may be submitted up to a maximum of 7 days late. Submissions beyond this deadline may not be accepted without prior consultation.

Learning resources

Monash Library Unit Reading List (if applicable to the unit)

<http://readinglists.lib.monash.edu/index.html>

Feedback to you

Types of feedback you can expect to receive in this unit are:

- Informal feedback on progress in labs/tutes
- Graded assignments with comments
- Interviews
- Solutions to tutes, labs and assignments

Extensions and penalties

Submission must be made by the due date otherwise penalties will be enforced.

You must negotiate any extensions formally with your campus unit leader via the in-semester special consideration process: <http://www.monash.edu.au/exams/special-consideration.html>

Returning assignments

Students can expect assignments to be returned within two weeks of the submission date or after receipt, whichever is later.

Assignment submission

It is a University requirement

(<http://www.policy.monash.edu/policy-bank/academic/education/conduct/student-academic-integrity-managing-pla>) for students to submit an assignment coversheet for each assessment item. Faculty Assignment coversheets can be found at <http://www.infotech.monash.edu.au/resources/student/forms/>. Please check with your Lecturer on the submission method for your assignment coversheet (e.g. attach a file to the online assignment submission, hand-in a hard copy, or use an electronic submission). Please note that it is your responsibility to retain copies of your assessments.

Online submission

If Electronic Submission has been approved for your unit, please submit your work via the learning system for this unit, which you can access via links in the my.monash portal.

Required Resources

Please check with your lecturer before purchasing any Required Resources. Limited copies of prescribed texts are available for you to borrow in the library, and prescribed software is available in student labs.

- Android Studio 1.0 or later
- Xcode 6.0 or later (Mac)

Technological Requirements

Students should routinely check Moodle to access class materials and check for the latest announcements. You are permitted to use your own laptop in the lab in addition to using any Android or iOS phone / tablet device if you wish to test your software rather than run it in an emulated environment.

Other Information

Policies

Monash has educational policies, procedures and guidelines, which are designed to ensure that staff and students are aware of the University's academic standards, and to provide advice on how they might uphold them. You can find Monash's Education Policies at:

www.policy.monash.edu.au/policy-bank/academic/education/index.html

Faculty resources and policies

Important student resources including Faculty policies are located at

<http://intranet.monash.edu.au/infotech/resources/students/>

Graduate Attributes Policy

<http://www.policy.monash.edu/policy-bank/academic/education/management/monash-graduate-attributes-policy.h>

Student Charter

www.opq.monash.edu.au/ep/student-charter/monash-university-student-charter.html

Student services

The University provides many different kinds of support services for you. Contact your tutor if you need advice and see the range of services available at <http://www.monash.edu.au/students>. For Malaysia see <http://www.monash.edu.my/Student-services>, and for South Africa see <http://www.monash.ac.za/current/>.

Monash University Library

The Monash University Library provides a range of services, resources and programs that enable you to save time and be more effective in your learning and research. Go to www.lib.monash.edu.au or the library tab in [my.monash](#) portal for more information. At Malaysia, visit the Library and Learning Commons at <http://www.lib.monash.edu.my/>. At South Africa visit <http://www.lib.monash.ac.za/>.

Disability Liaison Unit

Students who have a disability or medical condition are welcome to contact the Disability Liaison Unit to discuss academic support services. Disability Liaison Officers (DLOs) visit all Victorian campuses on a regular basis.

- Website: <http://www.monash.edu/equity-diversity/disability/index.html>
- Telephone: 03 9905 5704 to book an appointment with a DLO; or contact the Student Advisor, Student Community Services at 03 55146018 at Malaysia
- Email: dlu@monash.edu
- Drop In: Equity and Diversity Centre, Level 1, Building 55, Clayton Campus, or Student Community Services Department, Level 2, Building 2, Monash University, Malaysia Campus

Other Information

Other

Online references will be advised throughout the semester.