



COIT20270 App Development for Mobile Platforms

Term 1 - 2020

Profile information current as at 14/12/2025 04:08 pm

All details in this unit profile for COIT20270 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

General Information

Overview

This unit is devoted to the design and implementation of Android and iOS mobile applications. Native mobile programming languages will form the basis upon which programming techniques and design patterns will be developed for creating standalone applications. Commonly used mobile tools and frameworks for mobile application development are used. All stages of software development from the initial idea, through to development and testing will be covered. Consideration will be given to the business case from the developers' point of view. Some examination of how to market mobile apps is also undertaken. Research skills will be introduced as a means of keeping up to date with the changing mobile development landscape.

Details

Career Level: *Postgraduate*

Unit Level: *Level 9*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Pre-Req: COIT20268 Responsive Web Design

Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the [Assessment Policy and Procedure \(Higher Education Coursework\)](#).

Offerings For Term 1 - 2020

- Brisbane
- Melbourne
- Online
- Rockhampton
- Sydney

Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website

[This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.](#)

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Postgraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

[Regional Campuses](#)

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

[Metropolitan Campuses](#)

Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Portfolio**

Weighting: 20%

2. **Practical Assessment**

Weighting: 30%

3. **Written Assessment**

Weighting: 20%

4. **Practical Assessment**

Weighting: 30%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the [University's Grades and Results Policy](#) for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the [CQUniversity Policy site](#).

You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the [CQUniversity Policy site](#).

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from Unit feedback

Feedback

Some content in the lecture material could be better explained.

Recommendation

Revision of powerpoint and lecture material to be done for the next offering.

Unit Learning Outcomes

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

1. Design and implement native mobile applications
2. Describe and be able to develop critical parts of a native mobile system programming interface
3. Use an integrated IDE to build, debug and test native mobile applications
4. Determine the business impact of a given mobile solution and critically assess the implementation of an app and its likely marketability and profitability
5. Critically analyse a research issue in mobile computing.

The Australian Computer Society (ACS) recognises the Skills Framework for the Information Age (SFIA). SFIA is adopted by organisations, governments and individuals in many countries and provides a widely used and consistent definition of ICT skills. SFIA is increasingly being used when developing job descriptions and role profiles.

ACS members can use the tool MySFIA to build a skills profile at

<https://www.acs.org.au/professionalrecognition/mysfia-b2c.html>

This unit contributes to the following workplace skills as defined by SFIA 7 (the SFIA code is included):

- Systems Design (DESN)
- System Integration (SINT)
- Program ming/Software Development (PROG)
- Data Analysis (DTAN)
- Database/Repository Design (DBDS)
- Testing (TEST)
- Network Support (NTAS)
- Release and Deployment (RELM)
- Applications Support (ASUP)

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
1 - Portfolio - 20%		•		•	
2 - Practical Assessment - 30%	•		•		

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
3 - Practical Assessment - 30%	•		•	•	
4 - Written Assessment - 20%		•			•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
1 - Knowledge	○	○	○	○	○
2 - Communication		○		○	○
3 - Cognitive, technical and creative skills	○	○	○		○
4 - Research				○	○
5 - Self-management	○		○	○	
6 - Ethical and Professional Responsibility					
7 - Leadership					
8 - Aboriginal and Torres Strait Islander Cultures					

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes							
	1	2	3	4	5	6	7	8
1 - Portfolio - 20%	○	○			○			
2 - Practical Assessment - 30%	○		○		○			
3 - Practical Assessment - 30%	○		○		○			
4 - Written Assessment - 20%	○	○	○	○	○			

Textbooks and Resources

Textbooks

COIT20270

Prescribed

Beginning Android Programming with Android Studio
(2017)

Authors: J.F. DiMarzio
John Wiley & Sons, Inc.
Binding: Paperback

Additional Textbook Information

Copies can be purchased from the CQUni Bookshop here: <http://bookshop.cqu.edu.au> (search on the Unit code)

[View textbooks at the CQUniversity Bookshop](#)

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Latest version Android Studio (with Marshmallow API 23) + 1 working AVD (virtual phone)

Referencing Style

All submissions for this unit must use the referencing style: [Harvard \(author-date\)](#)

For further information, see the Assessment Tasks.

Teaching Contacts

Colin Lemmon Unit Coordinator
c.lemmon@cqu.edu.au

Schedule

Week 1 - 09 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Android programming, activities, layouts and activity lifecycle	Big Nerd Ranch Guide 3rd ed, Chapter 1-3, 5 & 6	

Week 2 - 16 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Fragments, FragmentManager and RecyclerView	Big Nerd Ranch Guide 3rd ed, Chapter 7 & 8	

Week 3 - 23 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
.Layouts, widgets, toolbar, menu and debugging	Big Nerd Ranch Guide 3rd ed, Chapter 4, 9 & 13	

Week 4 - 30 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
ViewPager, Dialogs and fragment arguments	Big Nerd Ranch Guide 3rd ed, Chapter 11 & 12	

Week 5 - 06 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
SQLite, Implicit Intents and taking pictures	Big Nerd Ranch Guide 3rd ed, Chapter 14, 15 & 16	

Vacation Week - 13 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
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Week 6 - 20 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
Data binding, MVVM, styles, themes and XML drawables	Big Nerd Ranch Guide 3rd ed, Chapter 20, 22 & 23	Assignment 1 due Assignment 1 Due: Week 6 Monday (20 Apr 2020) 11:45 pm AEST

Week 7 - 27 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
HTTP, background tasks, loopers, handlers and handler threads	Big Nerd Ranch Guide 3rd ed, Chapter 25 & 26.	

Week 8 - 04 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
SearchView, background services and broadcast intents	Big Nerd Ranch Guide 3rd ed, Chapter 27, 28 & 29	Report due

Week 9 - 11 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Location and Play Services, Google Maps and application deployment	Big Nerd Ranch Guide 3rd ed, Chapter 33 & 34	Report Due: Week 9 Monday (11 May 2020) 11:45 pm AEST

Week 10 - 18 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Custom Views, drawables, animation and cross platform technologies	Big Nerd Ranch Guide 3rd ed, Chapter 31 & 32	

Week 11 - 25 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Kotlin, Jetpack and Room	Big Nerd Ranch Guide 4th ed	Portfolio due Portfolio Due: Week 11 Friday (29 May 2020) 11:45 pm AEST

Week 12 - 01 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic
Review		Assignment 2 due Assignment 2 Due: Week 12 Friday (5 June 2020) 11:45 pm AEST

Review/Exam Week - 08 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic
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Exam Week - 15 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic
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Term Specific Information

The previously prescribed textbook *Beginning Android 4 Application Development* can be used as reference but not essential.

The tutorial content is based upon *Android Programming: The Big Nerd Ranch Guide, Third Edition* which is available to students through the library's online resources.

Assessment Tasks

1 Portfolio

Assessment Type

Portfolio

Task Description

You are to submit weekly portfolio submissions as per the instructions on the unit Moodle site. The weekly portfolios will describe your understanding of the topic for the week, with relevant references and resources providing evidence of your understanding.

Assessment Due Date

Week 11 Friday (29 May 2020) 11:45 pm AEST

Return Date to Students

Review/Exam Week Friday (12 June 2020)

Weighting

20%

Assessment Criteria

Criteria	Marks/week
Summarize weekly topic/s	1
Resource descriptions	0.5
Relevance and quality of resources	0.5
Total	2

Referencing Style

- [Harvard \(author-date\)](#)

Submission

No submission method provided.

Learning Outcomes Assessed

- Describe and be able to develop critical parts of a native mobile system programming interface
- Determine the business impact of a given mobile solution and critically assess the implementation of an app and its likely marketability and profitability

Graduate Attributes

- Knowledge
- Communication
- Self-management

2 Assignment 1

Assessment Type

Practical Assessment

Task Description

This task requires the development of an Android mobile application using Android Studio and Java. The application will

focus on basic programming techniques required to create a simple mobile application.
 More details of this assignments will be provided in the Moodle course website.
 The features of this mobile application will be extended in Assignment 2.

Assessment Due Date

Week 6 Monday (20 Apr 2020) 11:45 pm AEST

Return Date to Students

Week 8 Monday (4 May 2020)

Weighting

30%

Assessment Criteria

Component	Criteria	Marks
	Page Layouts	
Layouts	Options page	1
	List Page	1
	Details Page	1
	Operation	
Operation	Main page functions correctly	1
	List Page functions correctly	2
	Details Page including dialogs and menus functions correctly	3
	All errors are caught, and appropriate messages displayed	1
	Code	
Fragments	Fragments used for list page and details page	3
List View	ListView, ViewHolder and Adapter implemented correctly	5
Resources	Resources (such as string resources) used wherever possible	1
Menu	Menu and items correct	1
SQLite Database	Items are loaded from the database on start-up	2
	Details and edits are saved to the database	3
Dialogs	Dialog/s implemented correctly	2
Code Quality	Informative variable names, consistent indenting, adequate commenting, no more than one blank line between blocks of code	3
	Total	30

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Online

Learning Outcomes Assessed

- Design and implement native mobile applications
- Use an integrated IDE to build, debug and test native mobile applications

Graduate Attributes

- Knowledge
- Cognitive, technical and creative skills
- Self-management

3 Report

Assessment Type

Written Assessment

Task Description

You are to write a report that critically evaluates one of the following areas

- Challenges and advancements in cloud on mobile applications
- Issues and challenges in mobile application security
- Challenges and impact of changing technologies, languages and frameworks on mobile application development

See the Moodle course website for more information

Assessment Due Date

Week 9 Monday (11 May 2020) 11:45 pm AEST

Return Date to Students

Week 11 Monday (25 May 2020)

Weighting

20%

Assessment Criteria

This assignment will be assessed against the following criteria:

Criteria	Mark
Presentation Structure, grammar, spelling	2
Introduction Well defined and structured	3
Body Background comprehensive and well explained Current problems and challenges identified Solutions identified and discussed	10
Conclusion Summary well presented Logical conclusions derived	2
References Relevant and quality reference sources used Referencing style correct	3
Total	20

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Online

Learning Outcomes Assessed

- Describe and be able to develop critical parts of a native mobile system programming interface
- Critically analyse a research issue in mobile computing.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management

4 Assignment 2

Assessment Type

Practical Assessment

Task Description

This assignment extends the features of the mobile application developed in assignment 1 using advanced features such as HTTP, threads and email.

More details of this assignments will be provided in the Moodle course website.

Assessment Due Date

Week 12 Friday (5 June 2020) 11:45 pm AEST

Return Date to Students

Week 12 Monday (1 June 2020)

Weighting

30%

Assessment Criteria

Component	Criteria	Marks
HTTP	Data retrieved from server	4
Threads	Appropriate thread type used for HTTP connection	3
Email	Email sent when specified	4
Coding Style	Appropriate naming conventions, adequate commenting, well formatted	4
Testing	Quality and evidence of testing	5
Business case	Quality of business case	10
	Total	30

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Online

Learning Outcomes Assessed

- Design and implement native mobile applications
- Use an integrated IDE to build, debug and test native mobile applications
- Determine the business impact of a given mobile solution and critically assess the implementation of an app and its likely marketability and profitability

Graduate Attributes

- Knowledge
- Cognitive, technical and creative skills
- Self-management

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the [Student Academic Integrity Policy and Procedure](#). This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?

A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?

A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?

For academic advice and guidance, the [Academic Learning Centre \(ALC\)](#) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?



Be Honest

If your assessment task is done by someone else, it would be dishonest of you to claim it as your own



Seek Help

If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)



Produce Original Work

Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem