

# Course Outline

**Title:** MOBILE APPLICATION DEVELOPMENT

**Code:** ITECH3250

**Faculty / Portfolio:** Faculty of Science

## Program Level:

	AQF Level of Program					
	5	6	7	8	9	10
Level						
Introductory						
Intermediate						
Advanced			✓			

**Pre-requisites:** (ITECH3229)

**Co-requisites:** Nil

**Exclusions:** Nil

**Progress Units:** 15

**ASCED Code:** 029999

## Learning Outcomes:

### Knowledge:

- K1.** Describe and explain the functionality and use of a variety of mobile API components.
- K2.** Identify techniques for maintaining application performance.
- K3.** Discuss the use of threads and background services with relation to mobile application development.
- K4.** Describe the manner in which mobile application may be monetised, including an understanding of digital rights management (DRM) and application signing.

### Skills:

- S1.** Construct mobile applications utilising a variety of development techniques.
- S2.** Analyse application specifications and identify suitable API functionality to perform the specified tasks.
- S3.** Construct location-aware mobile applications.
- S4.** Construct mobile applications which send and receive data across a network to/from online services.
- S5.** Construct mobile applications which store, transmit and receive data in a secure manner.

### Application of knowledge and skills:

- A1.** Develop applications involving multiple components, where each component may utilise different areas of the mobile APIs for a variety of different tasks, based on the requirements and characteristics of the task being undertaken.

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- A2.** Create high performance, secure mobile applications which operate in a variety of functional areas.

### Values and Graduate Attributes:

#### Values:

- V1.** Recognise the need for strong security practices when working with users` personal information.
- V2.** Recognise the importance of multi-threading in modern application design.

#### Graduate Attributes:

Attribute	Brief Description	Focus
Continuous Learning	Students will continue to develop their programming skill and theoretical knowledge as applied to mobile devices. These skills will enable them to transfer their skills to other programming languages and/or platforms.	High
Self Reliance	Students will participate in a self-directed and collaborative learning environment to develop their theoretical and technical expertise in the field of mobile programming.	High
Engaged Citizenship	The mobile applications that students will develop will meet industry standards.	Medium
Social Responsibility	Students will consider security, privacy and ethical responsibilities surrounding mobile applications.	Medium

#### Content:

Topics may include:

- Working with common mobile devices sensors, which may include GPS (Global Positioning System) sensors, accelerometers, gyroscopes, magnetometers, cameras and microphones.
- Handling personal information securely.
- Network communications through services and broadcast receivers, including storing and transmission of data via XML and JSON (JavaScript Object Notation).
- Background services and processes including performance and battery constraints.
- Application signing, marketplaces, and monetisation.
- Modern fragment-based interface design and construction.
- Incorporating and utilising functionality from third-party libraries in mobile applications.

#### Assessment:

Learning Outcomes Assessed	Assessment Task	Assessment Type	Weighting
S1, S2, S3, S4, S5, A1, A2	Practical demonstration of skills	Assignments, Projects, Presentation	40 - 50%
K1, K2, K3, K4	Lecture test and exam(s)	Invigilated Exam(s)	50 - 60%

#### Adopted Reference Style:

APA

#### Presentation of Academic Work:

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<https://federation.edu.au/students/assistance-support-and-services/academic-support/general-guide-for-the-presentation-of-academic-work>