Course Outline

Title: MOBILE DEVICE PROGRAMMING 2

Code: ITECH3240

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. Understand mobile application development, including a strong knowledge of mobile API functionality.

K2. Develop an overview of mobile API features and their implementation strategies.

K3. Develop techniques for maintaining application performance.

K4. Understand how to use threads and background services

K5. Understand how to distribute and monetise applications, including an understanding of digital rights management (DRM)

K6. Understanding and review current trends in application development.

Skills:

S1. Demonstrate various techniques in mobile application development

S2. Analyse application specifications and identify suitable API functionality to perform the specified tasks

S3. Make location-aware applications

S4. Utilise network programming techniques to send and retrieve data to/from online services

S5. Store, transmit and retrieve 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

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requirements and characteristics of the task being undertaken.

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

Values and Graduate Attributes:

Values:

V1. Appreciate the need for strong security practices when working with users' personal information

V2. Appreciate multi-threading issues 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 sensors and sensor data from the accelerometer, gyroscopic sensor and magnetometer
- Global Positioning Systems (GPS) location data and maps
- Capturing and saving photos and video
- Handling personal information securely
- Network communications through services and broadcast receivers
- Background services and processes including performance and battery constraints
- Mobile graphics programming
- Interactive visualisation
- Application signing, marketplaces, and monetisation.

Assessment:

Assessment Task	Assessment Type	Weighting
Practical demonstration of skills	Assignments, Projects, Presentation	40%-60%
Class attendance and exercises, reading of reference material and lecture notes	Examination(s)	40%-60%

Adopted Reference Style:

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APA

Presentation of Academic Work:

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