



# Course Outline (Higher Education)

<b>School:</b>	School of Engineering, Information Technology and Physical Sciences
<b>Course Title:</b>	MOBILE DEVELOPMENT FUNDAMENTALS
<b>Course ID:</b>	ITECH2000
<b>Credit Points:</b>	15.00
<b>Prerequisite(s):</b>	(ITECH1101)
<b>Co-requisite(s):</b>	Nil
<b>Exclusion(s):</b>	(ITECH1300)
<b>ASCED:</b>	020103

## Description of the Course:

This course is part of the core first year of the Bachelor of IT degree, and serves as an introduction to the various Software/App Development streams of the Bachelor of IT degree. It will provide students with a background into the major mobile application platforms currently available including iOS and Android. Students will start to develop skills in application development. This course also serves to provide students with exposure to programming concepts, covering topics such as boolean expressions, selection, iteration, list data collections, events and procedures.

**Grade Scheme:** Graded (HD, D, C, P, MF, F, XF)

## Work Experience:

No work experience: Student is not undertaking work experience in industry.

**Placement Component:** No

**Supplementary Assessment:** Yes

Where supplementary assessment is available a student must have failed overall in the course but gained a final mark of 45 per cent or above and submitted all major assessment tasks.

## Program Level:

Level of course in Program	AQF Level of Program					
	5	6	7	8	9	10
Introductory	■	■	■	■	■	■

Level of course in Program	AQF Level of Program					
	5	6	7	8	9	10
Intermediate	■	■	✓	■	■	■
Advanced	■	■	■	■	■	■

### Learning Outcomes:

#### Knowledge:

- K1.** Understand constructs typical of many programming languages such as: variables, expressions, assignment, sequence, selection, iteration, procedures, parameters, return values.
- K2.** Describe the basic (software) architectures and operating systems of various mobile platforms.
- K3.** Describe key aspects of the behaviour and organisation of a mobile app as pertaining to the various mobile platforms.
- K4.** Describe at a high level the considerations and key elements of the process of developing an app from conception to publicly releasing.

#### Skills:

- S1.** Analyse the input, processing and output needs of small programming problems.
- S2.** Design code sequences to realise algorithms in a programming language.
- S3.** Design basic user interfaces and develop storyboards to convey designed interaction sequences.
- S4.** Comprehend already-written code sequences to describe their effect when running.
- S5.** Develop test cases for code sequences to ensure correct behavior.
- S6.** Develop mobile apps using visual programming environments.

#### Application of knowledge and skills:

- A1.** Design, develop, test and debug mobile apps from a given textual program specification.

#### Course Content:

Topics may include:

- Programming Constructs: Sequence, Selection, Iteration, Variables, Expressions, Lists, Events, UI Components.
- Programming Techniques: Event handling, searching through lists, data storage and retrieval, task decomposition.
- Fundamentals of mobile programming concepts.
- Basics of hardware architecture for mobile computing.
- Basics of operating systems for mobile computing.
- Overview of software development lifecycles, as applicable to development of a mobile app.

- Programming approaches and tools for various mobile platforms, such as iOS, Android and Windows Phone.
- Differences between desktop and mobile programming.

**Values:**

- V1.** Demonstrate a professional approach to mobile programming.
- V2.** Develop problem-solving skills leading to self-reliance.

**Graduate Attributes**

The Federation University FedUni graduate attributes (GA) are entrenched in the [Higher Education Graduate Attributes Policy](#) (LT1228). FedUni graduates develop these graduate attributes through their engagement in explicit learning and teaching and assessment tasks that are embedded in all FedUni programs. Graduate attribute attainment typically follows an incremental development process mapped through program progression. **One or more graduate attributes must be evident in the specified learning outcomes and assessment for each FedUni course, and all attributes must be directly assessed in each program**

Graduate attribute and descriptor		Development and acquisition of GAs in the course	
		Learning Outcomes (KSA)	Assessment task (AT#)
GA 1 Thinkers	Our graduates are curious, reflective and critical. Able to analyse the world in a way that generates valued insights, they are change makers seeking and creating new solutions.	K1, K2, K3, K4, S1, S2, S3, S4, S5, S6, A1	Assignments, Reports
GA 2 Innovators	Our graduates have ideas and are able to realise their dreams. They think and act creatively to achieve and inspire positive change.	S1, S2, S3, S6	Assignments, Reports
GA 3 Citizens	Our graduates engage in socially and culturally appropriate ways to advance individual, community and global well-being. They are socially and environmentally aware, acting ethically, equitably and compassionately.	S1, S2, S3	Assignments, Reports
GA 4 Communicators	Our graduates create, exchange, impart and convey information, ideas, and concepts effectively. They are respectful, inclusive and empathetic towards their audience, and express thoughts, feelings and information in ways that help others to understand.	K4, S2, S3, S5, S6	Assignments, Reports
GA 5 Leaders	Our graduates display and promote positive behaviours, and aspire to make a difference. They act with integrity, are receptive to alternatives and foster sustainable and resilient practices.	S3, S6	Assignments, Reports

**Learning Task and Assessment:**

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K1, K2, K3, K4, S1, S2, S3, S5, S6, A1	Individual problem solving exercises or an essay	Project(s)/Assignment(s)/Report(s)/Lab Task(s)	60% - 80%

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K1, K2, K3, K4, S1, S2, S3, S4, S5, A1	Review and Skills Practice	Test(s)/Examination(s)/Quiz(zes)/Presentation(s)	20% - 40%

**Adopted Reference Style:**

APA

Refer to the [library website](#) for more informationFed Cite - [referencing tool](#)