

# Course Outline (Higher Education)

**Institute / School:** Institute of Innovation, Science & Sustainability

**Course Title:** MOBILE DEVELOPMENT FUNDAMENTALS

**Course ID:** ITECH2000

**Credit Points:** 15.00

**Prerequisite(s):** (ITECH1101)

**Co-requisite(s):** Nil

**Exclusion(s):** (GPSIT2000 and ITECH1300)

**ASCED:** 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.

**Does Recognition of Prior Learning apply to this course?** No

**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	■	■	■	■	■	■
Intermediate	■	■	✓	■	■	■
Advanced	■	■	■	■	■	■

### Learning Outcomes:

#### Knowledge:

- K1.** Describe constructs typical of many programming languages such as: variables, expressions, assignment, sequence, selection, iteration, procedures, parameters, return values.
- K2.** Describe software development frameworks, 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.** Critique contemporary IT industry practices/presentations related to mobile software development and relate them to professional standards and your own career aspirations

#### 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, development frameworks and tools for various mobile platforms, such as iOS, Android and Windows Phone.
- Differences between desktop and mobile programming.
- Guest speaker: mobile software development in industry

## FEDTASKS

Federation University Federation recognises that students require key transferable employability skills to prepare them for their future workplace and society. FEDTASKS (**T**ransferable **A**tttributes **S**kills and **K**nowledge) provide a targeted focus on five key transferable Attributes, Skills, and Knowledge that are embedded within curriculum, developed gradually towards successful measures and interlinked with cross-discipline and Co-operative Learning opportunities. *One or more FEDTASK, transferable Attributes, Skills or Knowledge must be evident in the specified learning outcomes and assessment for each FedUni course, and all must be directly assessed in each program.*

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the course	
		Learning Outcomes (KSA)	Assessment task (AT#)
FEDTASK 1 Interpersonal	Students will demonstrate the ability to effectively communicate, interact and work with others both individually and in groups. Students will be required to display skills in-person and/or online in: <ul style="list-style-type: none"> <li>• Using effective verbal and non-verbal communication</li> <li>• Listening for meaning and influencing via active listening</li> <li>• Showing empathy for others</li> <li>• Negotiating and demonstrating conflict resolution skills</li> <li>• Working respectfully in cross-cultural and diverse teams.</li> </ul>	Not applicable	Not applicable
FEDTASK 2 Leadership	Students will demonstrate the ability to apply professional skills and behaviours in leading others. Students will be required to display skills in: <ul style="list-style-type: none"> <li>• Creating a collegial environment</li> <li>• Showing self-awareness and the ability to self-reflect</li> <li>• Inspiring and convincing others</li> <li>• Making informed decisions</li> <li>• Displaying initiative</li> </ul>	Not applicable	Not applicable
FEDTASK 3 Critical Thinking and Creativity	Students will demonstrate an ability to work in complexity and ambiguity using the imagination to create new ideas. Students will be required to display skills in: <ul style="list-style-type: none"> <li>• Reflecting critically</li> <li>• Evaluating ideas, concepts and information</li> <li>• Considering alternative perspectives to refine ideas</li> <li>• Challenging conventional thinking to clarify concepts</li> <li>• Forming creative solutions in problem solving</li> </ul>	A1	AT1

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the course	
		Learning Outcomes (KSA)	Assessment task (AT#)
FEDTASK 4 Digital Literacy	Students will demonstrate the ability to work fluently across a range of tools, platforms and applications to achieve a range of tasks. Students will be required to display skills in: <ul style="list-style-type: none"> <li>• Finding, evaluating, managing, curating, organising and sharing digital information</li> <li>• Collating, managing, accessing and using digital data securely</li> <li>• Receiving and responding to messages in a range of digital media</li> <li>• Contributing actively to digital teams and working groups</li> <li>• Participating in and benefiting from digital learning opportunities</li> </ul>	K1, S1, S2, S3, S4	AT1, AT2
FEDTASK 5 Sustainable and Ethical Mindset	Students will demonstrate the ability to consider and assess the consequences and impact of ideas and actions in enacting ethical and sustainable decisions. Students will be required to display skills in: <ul style="list-style-type: none"> <li>• Making informed judgments that consider the impact of devising solutions in global economic environmental and societal contexts</li> <li>• Committing to social responsibility as a professional and a citizen</li> <li>• Evaluating ethical, socially responsible and/or sustainable challenges and generating and articulating responses</li> <li>• Embracing lifelong, life-wide and life-deep learning to be open to diverse others</li> <li>• Implementing required actions to foster sustainability in their professional and personal life.</li> </ul>	Not applicable	Not applicable

### Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1, K2, K3, K4, S1, S2, S3, S5, S6, A1	Individual applied problem solving activities, with associated documentation	Project(s) and Report(s)	60% - 80%
K1, K2, K3, K4, S1, S2, S3, S4, S5	Review and Skills Practice	Test(s)/Examination(s)/Quiz(zes)/Presentation(s)	20% - 40%

### Alignment to the Minimum Co-Operative Standards (MiCS)

The Minimum Co-Operative Standards (MiCS) are an integral part of the Co-Operative University Model. Seven criteria inform the MiCS alignment at a program level. Although courses must undertake MiCS mapping, there is NO expectation that courses will meet all seven criteria. The criteria are as follows:

1. Co-design with industry and students
2. Co-develop with industry and students
3. Co-deliver with industry
4. FedTASK alignment
5. Workplace learning and career preparation
6. Authentic assessment
7. Industry-link/Industry facing experience

MiCS program level reporting highlights how each program embraces the principals and practices associated with the Co-Operative Model. Evidence of program alignment with the MiCS, can be captured in the Program Modification Form.

**MICS Mapping has been undertaken for this course** No

Date:

**Adopted Reference Style:**

APA

Refer to the [library website](#) for more information

Fed Cite - [referencing tool](#)