

<b>Pre-Requisite Modules code(s)</b>	<b>Co-Requisite Modules code(s)</b>	<b>ECTS Credits</b>	<b>Module Code</b>	<b>Module Title</b>
		5	CMPU3026	Mobile Software Development

### 8.5.5. Mobile Software Development

**Module author: Programming and Algorithms Group**

**Module Description:**

This module covers the knowledge and practical skills to design and implement basic mobile phone applications, in a specific mobile development environment. In order to set mobile software development in context, it also covers background mobile communication technologies such as GSM, GPRS, EDGE, 3G, Bluetooth, and examines leading mobile development platforms and typical mobile data applications.

**Module aim**

The aim of this module is to enable the learner to develop mobile phone applications in a leading mobile phone development platform, whilst also providing an understanding of relevant mobile phone technologies in order to set the application development in context.

**Learning Outcomes:**

On completion of this module, the learner will be able to:

- - Develop mobile phone applications in a leading mobile development platform;
- - Understand and apply good design guidelines for mobile application development
- - Discuss and compare the leading mobile development platforms such as but not limited to: Android, Qt, Windows Mobile, and iOS (Apple);
- - Discuss and compare the mobile phone communication technologies such as, but not limited to: GSM, GPRS, EDGE, 3G, Bluetooth;

**Learning and Teaching Methods:**

Classroom based lectures will be used to explore and explain concepts, technologies, environment features, code examples and any other material relevant to the course that requires in class coverage.

A critical part of the module is the practical lab sessions where students will implement development concepts covered in lectures. Practical exercises will be completed within the lab, with practical assignments completed outside of class time, in the students own time. The students will use an Integrated Development Environment in the lab to support their programming work if appropriate for the platform selected.

A tutorial session will also be included to provide a discussion forum where students can explain the problems that have had in lab sessions or with concepts covered in lectures. The tutorial session will also be used to introduce new material as needed to supplement material covered in lecture time.

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**Module content:**

Technologies for mobile software development have and continue to develop and change rapidly. Therefore, no specific mobile platform is prescribed. The content is described generically, and will be covered for the particular platform used when the module is taught:

- Mobile phone development: typical applications, technologies, usage;
- Mobile communications technologies: local (e.g. Bluetooth) and network technologies (e.g. GSM, 3G);
- Use of the relevant IDE for application development;
- Mobile GUI components such as widgets, containers, menus;
- Mobile GUI Layouts;
- Mobile communications via the Internet;
- Using persistent data with mobile applications;
- Design consideration for mobile application development.

**Module Assessment**

This module will be based on 50% continuous assessment and 50% written examination. The continuous assessment will be based upon practical assignments that will reinforce and assess the practical learning outcome of application development. The written exam will test the student's understanding of the concepts covered of application development but will also assess the learning outcomes related to wider knowledge of mobile phone technologies.

**Essential Reading: (author, date, title, publisher)**

This will be prescribed by the lecturer at the beginning of the module as it will be specific to the mobile platform used.

**Supplemental Reading: (author, date, title, publisher)**

As per essential reading.

**Web references, journals and other:**

Relevant content references will be provided to students to support their learning activities

**Further Details:**

This module will run over one semester. There will be one weekly lecture, a two hour lab session and a one hour tutorial.

**Date of Academic Council approval .....**