COURSE DETAILS

Course Code: F20MC
Full Course Title: Mobile Communications & Programming
SCQF Level: 10
SCAF Credits: 15
Available as Elective: No

DELIVERY LEVEL

Undergraduate: Yes
Postgraduate Taught: No
Postgraduate Research: No

Additional Information:

COURSE AIMS

- To introduce students to the particular problems of building networks which include mobile computing devices and to explain how they may be overcome using current technology
- To introduce students to the issues surrounding ad hoc networking and give an understanding of how these can be addressed
- To introduce students to programmable mobile and handheld devices
- To develop students' skills in developing applications for mobile and handheld devices

LEARNING OUTCOMES – SUBJECT MASTERY

- To understand and apply the principles of secure, effective communication over networks including mobile elements.
- To be able to explain the operation of current and proposed protocols for communication over networks which include mobile elements
- To understand the issues introduced by ad-hoc networking.
- To have knowledge of common ad-hoc routing protocols
- To explain evaluate current and proposed mobile devices
- To design applications for mobile devices including use of wireless communications where appropriate.
- To program such applications using current application development environments

LEARNING OUTCOMES – PERSONAL ABILITIES

- To be able to select and apply suitable techniques of analysis in assessing the effectiveness of a technical solution
- To be able to critically review the issues of security and privacy relating to networking
- To be able to write good technical documents in support of problem solving within the domains of mobile networking and of mobile and handheld device solutions.

SYLLABUS

Fixed node IP routing - routing techniques for conventional wired networks
Mobile IP routing - routing for wireless mobiles to IP
Ad hoc networks and routing
Security protocols - identification and authorisation, infra structure security
Small device characteristics - screen size, memory, power consumption, input mechanisms
F20MC Mobile Communications & Programming

Current devices - tablet PC, mobile phone, PDA
Application development environments - Java APIs, C# and .NET

COURSE RELATIONSHIPS
N/A

LOCATION AND ASSESSMENT METHODS

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