

## MODULE DESCRIPTOR

<b>MODULE TITLE</b>	WIRELESS AND MOBILE NETWORKS		
<b>MODULE CODE</b>	CO3514 (L6)	<b>CREDIT VALUE</b>	20 UK CREDITS / 10 ECTS
<b>SCHOOL</b>	SCHOOL OF SCIENCES		

### MODULE AIMS

1. To enable students to develop a strong theoretical understanding of Wireless and Mobile networks.
2. To provide students with hands-on experience in the set-up, configuration and testing of Wireless Networks.
3. To develop understanding of how wireless and mobile technologies can be applied in both business and home environments.
4. To encourage students to expand their knowledge about new networking technologies from published research materials and to conduct independent investigations into wireless and mobile network related areas.

### MODULE CONTENT

#### Indicative syllabus content:

Wireless and mobile networks systems have become an essential part of the modern world. Technologies such as 802.11, GPRS, and Bluetooth are being used in ever increasing numbers of businesses and homes. This module focuses on these technologies in depth, covering both the theory and practice of their use.

EM Radiation

Mobile Networks

GSM / GPRS / 3G / 3.9G/4G

Wireless LANs

802.11 a/b/g/n/ac/ad

Basic Security

Internal and external networks

Site Surveys

WiMAX

Satellite Communications

Other Standards

Bluetooth

Advanced Security – 802.1x Authentication Methods, WPA, 802.11i, VPNs etc.

Managing Wireless Networks

Wireless Networks in the Home

Social and cultural impact of mobile and wireless technology

Future Developments

### INTENDED LEARNING OUTCOMES

On successful completion of this module a student will be able to:

1. Build and deploy secure, effective wireless networks.
2. Assess the performance and limitations of wireless networking systems.
3. Critically evaluate the trends and emerging technologies in wireless and mobile networks.
4. Present an analytical argument in this subject area.

## TEACHING METHODS

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This module will provide students with fundamental theoretical knowledge through lecture sessions, which will also introduce topics for further investigation by the students. Practical sessions will be used to complement the lectures. The approach of assessment as learning is used, with students undertaking the assignment work during these sessions. Students are expected to be actively engaged in research activities into relevant networking topics by making full use of external learning resources, such as the Web, magazines, and other professionally published material.

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## ASSESSMENT METHODS

This module is assessed through an investigative assignment and an examination.