

## **Module Name: Introduction to Telecommunications Networks**

**Module Acronym: ITN**

**Module Manager: Prof Izzat Darwazeh**

### **Course Summary:**

This is an introductory modules that provides a wide perspective of available communication networks and their properties. Many of the topics covered are fundamental to communication engineers regardless of whether they are working in a circuit switched or packet switched environment.

### **Course Content**

- Introduction to communication networks and services, network hardware, Voice and data network structures and protocols
- The rapidly changing world of telecommunications
- Telecommunication networks and the Internet
- Sources and signal characteristics
- PCM systems
- Integrated services digital network (ISDN)
- PDH and SDH: plesiochronous digital hierarchy (PDH), synchronous digital hierarchy (SDH), synchronous transport networks
- Teletraffic engineering and performance evaluation
- Control and Management planes: network control and signalling, management of networks
- Multimedia Systems
- Multimedia Communications and processing
- Packet Network Technologies
- Services management
- Internet Technologies
- Introduction to access network technologies including xDSL, PONS, Fibre Coax; evolution and potential of ATM, ADSL and PONs, outline and development
- Introduction to mobile networks and mobility, GSM, UMTS, GPRS overview, • Introduction to satellite networks
- Multi-services networks.

# Integrated Graduate Development Programme 2009/10

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## **Assessment:**

A two and half hour unseen written examination will be held under UCL MSc examination regulations at UCL.

## **Tutorials/Workshops:**

*A two hour tutorial will take place in the week following the course.*