

Module Title Introduction To Telecommunications	Reference EN2520 SCQF SCQF Level 8 SCQF Points 15 ECTS Points 7.5 Created May 2002 Approved March 2004 Amended August 2011 Version No. 3
Keywords Signal Fundamentals, Communication Media, Information Theory, Data Transmission, Digital Transmission, Modulation. Multiplexing	

This Version is No Longer Current

The latest version of this module is available [here](#)

Prerequisites for Module

Successful completion of SCQF 7 level or equivalent.

Information Theory: channel capacity, performance bounds for data transmission.

Data Transmission: Modems, Telecommunications standards, ADSL

Corequisite Modules

None.

Indicative Student Workload

Precluded Modules

None.

	Full Time	Part Time
<i>Contact Hours</i>		
Lectures	24	24
Tutorials	12	12

Aims of Module

To provide the student with the ability to analyse the fundamentals of communication techniques and information theory.

Directed Study

Directed Self Study	24	24
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Private Study

Private Study	90	90
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Learning Outcomes for Module

On completion of this module,

Mode of Delivery

This is a lecture-based course supplemented with tutorial

students are expected to be able to:

1. Apply standard mathematical principles to analysing signals and transmission systems.
2. Analyse simple digital and analogue based telecommunication systems.

Indicative Module Content

Fundamental concepts:

Frequency, phase, amplitude, power, amplification, dB scale.

Information sources, time and frequency domain, bandwidth.

Communications media,

Amplitude Modulation techniques:

Radio receiver: Superhet Receivers. Noise.

Brief history of telecommunications.

Overview of analogue and digital communications and analogue and digital transmission.

Digital transmission: sampling, Pulse Code Modulation, Multiplexing.

sessions and student-centred learning.

Various topics will be supported by self directed student work using simulation tools.

Assessment Plan

	Learning Outcomes Assessed
Component 1	1,2

Component 1 is an examination. (100% weighting)

Indicative Bibliography

1. Glover I, Grant PM. Digital communications. Pearson Education; 2010.
2. Stallings W. Data and computer communications. Pearson Hall; 2013.
3. Schiller JH. Mobile communications. Pearson education; 2003.
4. Haykin SS, Moher M. Modern wireless communications. Pearson Education India; 2011.
5. Haykin S. Communication systems. John Wiley & Sons; 2008.
6. Dunlop J. Telecommunications engineering. Routledge; 2017.