Module Title:	IT Infrastructure
Module Code:	01I
Level:	5
Credits:	15
Pre-Requisites:	None

Module Description:
The module will give broad experience and skills relevant to IT Infrastructure. It will introduce students to a range of current operating systems, including addressing new operating systems which have evolved to support mobile technologies.

'Systems architecture' is multi-machine architecture that treats a single computer as a component with no internal structure. The module extends knowledge beyond the view that there is a one-to-one relationship between a program and a host. A practical and descriptive approach is taken to complex modern architectures.

The role of the Internet in the evolution and spread of complex systems architectures will also be studied.

Indicative Content:

- Evolution of system architectures
- Thin and thick client and virtual machines
- Virtualisation architecture
- Operating systems e.g. Linux, Android, Windows
- Informal Distributed Computing and Parallel Computing
- Architecture of cloud computing: infrastructure, platforms and software
- Security of cloud computing
- Service Oriented Architecture
- BYOD
- Virtualisation techniques and security concerns
- Business needs and the migration to cloud technologies
- Legal and ethical issues

Learning and Teaching Methods:
The module will be delivered through lectures and workshops and be supported by the use of a virtual learning environment.

Specific Learning Resources:
Access to several different modern smart-phones as well as simulators.
Access to Linux Operating System.

Bibliography

Highly Recommended

Marinescu, D. (2013) Cloud Computing: Theory and Practice, Morgan Kaufmann

Burd, S D (2010) Systems architecture (6th Edition). London: Cengage Learning.

Recommended

Coulouris, G., Dollimore, J., Kindberg, T. and Blair, G. (2012) Distributed Systems. Harlow: Pearson Education Ltd

Reese, G. (2009) Cloud Application Architectures: Building Applications and Infrastructure in the Cloud: Transactional Systems for EC2 and Beyond (Theory in Practice) USA: O'Reilly Media

Pallab Saha (ed.) (2007) Handbook of Enterprise Systems Architecture in Practice

Hershey PA USA: Information Science Reference Inc

Module Learning Outcomes

Subject Specific Learning Outcomes

On successful completion of this module you will be able to:

LO 1	Evaluate the use and features of a range of modern operating systems
LO 2	Describe multi-machine architectures in current use
LO 3	Evaluate the evolution of cloud computing and related security issues, and their impact on business
LO 4	Build an application that combines data or functionality from more than one server/site/source, using user-level APIs

Assessment Title or element	Weighting (%)
Assignment: design an IT infrastructure (2000 words) [late semester]	80%
Group presentation: describe and evaluate aspects of an IT infrastructure solution (5 minutes per person) [end semester]	20%