

## MODULE DESCRIPTOR

### Module Title

IT Infrastructure and Administration

Reference	CMM028	Version	3
Created	February 2023	SCQF Level	SCQF 11
Approved	July 2021	SCQF Points	15
Amended	June 2023	ECTS Points	7.5

### Aims of Module

To enable students to understand the key concepts of computer systems and infrastructures, and to provide fundamental programming skills to effectively manage and support networked systems.

### Learning Outcomes for Module

On completion of this module, students are expected to be able to:

- 1 Identify key concepts and components of a computer and how it connects to the Internet.
- 2 Describe and discuss recent and evolving developments, system architectures and technologies.
- 3 Critically evaluate operating systems architecture, functionality and facilities.
- 4 Implement effective interconnections between system programs.
- 5 Design and implement scripts for network connectivity and information management.

### Indicative Module Content

Overview of computer systems and network components. Common system architectures and patterns: client-server, publisher-subscriber. Internet of Things. Cloud computing. Software/library installation and configuration. Programming concepts. Network programming and interfacing with APIs. Operating systems programming and interacting with the OS.

### Module Delivery

Key concepts are introduced and illustrated through lectures and directed reading. Laboratory sessions provide a series of exercises designed to develop proficiency in techniques essential to the development of software program.

**Indicative Student Workload**

	Full Time	Part Time
Contact Hours	30	30
Non-Contact Hours	120	120
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	150
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

**ASSESSMENT PLAN**

If a major/minor model is used and box is ticked, % weightings below are indicative only.

**Component 1**

Type:	Practical Exam	Weighting:	100%	Outcomes Assessed:	1, 2, 3, 4, 5
Description:	A computer-based assessment involving questions about the material covered on the module and a practical test of skills developed.				

**MODULE PERFORMANCE DESCRIPTOR****Explanatory Text**

The calculation of the overall grade for this module is based on the grade obtained in the practical assessment.

Module Grade	Minimum Requirements to achieve Module Grade:
<b>A</b>	A grade in Component 1
<b>B</b>	B grade in Component 1
<b>C</b>	C grade in Component 1
<b>D</b>	D grade in Component 1
<b>E</b>	E grade in Component 1
<b>F</b>	F grade in Component 1
<b>NS</b>	Non-submission of work by published deadline or non-attendance for examination

**Module Requirements**

Prerequisites for Module	None.
Corequisites for module	None.
Precluded Modules	None.

**INDICATIVE BIBLIOGRAPHY**

- 1 SARKER, 2016. Learning Python Network Programming. Packt Publishing.
- 2 RHODES & GOERZEN, 2014. Foundations of Python Network Programming. Apress.
- 3 Buyya, Rajkumar; Dastjerdi, Amir Vahid. Internet of Things: Principles and Paradigms. Cambridge, MA 2016.
- 4 ERL, T., MAHMOOD, Z., PUTTINI, R., 2013. Cloud Computing: Concepts, Technology & Architecture. Prentice Hall.