



Module code	NS_PCOM7E	NQF level	7
Credit value	10	Study duration	6 weeks

# Network Security

## Module description

This module introduces students to the underpinning concepts of Network Security. The module describes the security management and protection issues involving business resources, risks and monitoring. It will also discuss common diagnostic and monitoring tools utilised as part of a Network Security practice such as nessus, snort, syslog and ELK. Students will be introduced to the techniques in an engaging format, using a mixture of group work and individual activities.

## This module aims to:

The module aims to provide students with

- Understand the fundamentals of vulnerability assessment in various systems
- Understand of the fundamentals of the provision of security in information networks.
- Be aware of the various protocols and architectures used by various network systems.
- An understanding of the use and benefits of various monitoring and logging tools
- An understanding of how to create and use security vulnerability and assessment tools,
- The ability to present critical arguments for specific actions or outcomes to a diverse audience.
- The opportunity to reflect on and evaluate their personal development

## Learning outcomes

After completing the module, students should be able to:

- Identify and analyse security threats and vulnerabilities in network systems and determine appropriate methodologies, tools and techniques to manage and/or solve them
- Design and critically appraise computer programs and systems to produce solutions that help manage and audit risk and security issues
- Gather and synthesise information from multiple sources (including internet security alerts & warning sites) to aid in the systematic analysis of security breaches & issues
- Articulate the legal, social, ethical, and professional issues faced by information security and risk professionals.

## Syllabus

- Threats and vulnerabilities
- Networking security assessment
- Logging, auditing, vulnerability, and analysis tools, including sustainability
- Creating an assessment report and recommendations



## **Learning and teaching methods**

The module will be delivered through the provision of specified reading materials on the virtual learning platform, which shall be supported by specified online discussion forums and lecturecasts. The lecturecasts and other learning materials will follow the best practices of 'diverse inclusion'. The tutor-led discussion forums will be available to the students in order to engage and enhance students' learning in a friendly and respectful environment. The flexible and participative approach of the module will develop a collaborative research inquiry in the advancement of computing, enabling them to accelerate in their chosen career.

Students will demonstrate their ability and strengths through evidence and reflections by maintaining an e-portfolio. The e-portfolio will also act as a means for assessment on evidence of personal growth and CPD. They will also identify and share appropriate web-based resources as learning support references with their fellow students and as indicators of their individual learning contexts with their tutors.

Synchronous sessions will last for one hour and allow students the opportunity for tutor contact and interaction with fellow students. The sessions will include live coding sessions and referenced use of selected case studies which will be drawn

from the reading materials/web-based module learning resources and the professional/educational experience of the Tutors. These synchronous sessions will be recorded in order to ensure that all students can access the material in their own time.

At pre-arranged days and agreed times during the module (usually weekly, prior to a synchronous session), the Module Tutor will be available for a 'drop in' telephone or online preparatory learning liaison session. This is to give students an opportunity to ask specific and general questions related to that week's learning opportunities and to enable them to contextualise their learning experience. Additionally, self-managed learning will supplement lectures and students are given weekly direction on required and indicative reading.

Description of unit of assessment	Length/Duration	Submission date	Weighting
Analysis Document	1 page (600 words equivalent)	Unit 3	30%
Executive Summary	1200 words	Unit 6	40%
Individual Reflective piece	800 words	Unit 6	30%