COURSE DETAILS

**Course Code:** F20AN  
**Full Course Title:** Advanced Network Security  
**SCQF Level:** 10  
**SCAF Credits:** 15  
**Available as Elective:** No

DELIVERY LEVEL

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<th>Postgraduate Research:</th>
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**Additional Information:**

COURSE AIMS

- Improve students’ analysis skills and allow them to identify network security threats in a systematic way.
- Give practical experience of exploiting vulnerabilities in common computer system architectures.
- Impart a good understanding of common techniques to implement countermeasures.
- Provide the student with in-depth understanding of penetration testing concepts and methodologies.

LEARNING OUTCOMES – SUBJECT MASTERY

- Identify and explain vulnerabilities of network protocols vulnerabilities.
- Design countermeasures to protect a network from unauthorised network access.
- Identify threats and measures to protect against threats in wireless networks.
- Test and evaluate the security of an IT infrastructure.

LEARNING OUTCOMES – PERSONAL ABILITIES

- Develop a set of ethical best practices for a security career.
- Ability to make decisions regarding how to secure a system in absence of a complete picture of its configuration.

Showing teamwork skills and being an effective member of a penetration testing team.

Ability to appraise the security of an IT infrastructure.

SYLLABUS

- Wireless Security: Wired Equivalent Privacy (WEP) vulnerabilities, Wireless Protected Access (WPA) and IEEE802.11i
F20AN Advanced Network Security

- Penetration testing: penetration testing process: Reconnaissance, Scanning, Gaining access, Maintaining access, and Covering tracks.
- Digital Forensics: introduction, EnCase and open source tools.
- Privacy and P3P.

**COURSE RELATIONSHIPS**

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<th>Course Code</th>
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<td>Data Communications and Networking</td>
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**LOCATION AND ASSESSMENT METHODS**

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