# MSc Cybersecurity Programme and How it Meets Market Needs

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STAFFORDSHIRE UNIVERSITY

THE CONNECTED UNIVERSITY

# MSc Computer Science (Cyber Security)

- Final Awards: MSc Computer Science MSc Computer Science (Business Computing) MSc Computer Science (Computer Networks and Security) **MSc Computer Science (Cyber Security)** MSc Computer Science (Software Engineering)

- Duration: **13 months / 3 semester** (if Full-time)

  (An Undergraduate Honours degree (grade 2.2 or above) in a related Computing discipline is required.)
- Mode of Study: **Full-time/Part-time/Distance Learning**
- QAA Subject Benchmarks: **Master's Degrees in Computing 2011**
- Professional/Statutory Body: **Accredited by the BCS**

# The National Cyber Security Centre (NCSC)

NCSC-certified degrees help:

- universities to attract high quality students from around the world
- employers to recruit skilled staff and develop the cyber skills of existing employees
- prospective students to make better informed choices when looking for a highly valued qualification

# Cyber Security Body of Knowledge (CyBOK)

| Broad Category | Knowledge Area | Topics | Indicative Material | Modules providing significant coverage | Modules providing partial coverage | Assessment | Approximate number of credits |
|---|---|---|---|---|---|---|---|
| **E. Infrastructure Security** | **16. Network Security** | Internet Architecture | application layer security | | | | |
| | | | transport layer security | | | | |
| | | | network layer security | | | | |
| | | | link layer security | | | | |
| | | Network Defence Tools | packet filters | | | | |
| | | | intrusion detection systems | | | | |
| | | | intrusion prevention systems | | | | |
| | | | network architecture design | | | | |
| | | | application gateway | | | | |
| | | | circuit level gateway | | | | |

# EDUCATIONAL AIMS OF THE PROGRAMME

- To develop masters-level knowledge and skills in the theories, principles, practices and technologies of Cyber Security and Digital Forensics in context of employer-driven needs, emerging markets, and contemporary subject areas within the discipline.
- To engender the rigour of academic knowledge development and training to conceive and develop approaches to digital forensics and cybercrime analysis.
- To develop and apply analytical skills specifically in context of real-world scenarios that require digital forensics and cybercrime analysis intervention.
- To equip students with the ability to evaluate and apply emerging approaches and technologies in digital forensics and cybercrime analysis.

# What is distinctive about this programme?

- Research-informed teaching that is of direct value to industry, commerce, and the student as an IT industry professional.
- Take up opportunities for cyber and forensic certifications related to some modules.
- A 12-month industrial placement (or internship) can be taken. Utilise links with Staffordshire Forensic Partnership for projects and placements.
- Access to a wide range of facilities, including laboratories housing specialist computing equipment and software.
- Opportunities to attend on-campus recruitment events, guest lectures, seminars, and mini-conferences etc. organised by the department and university.
- Opportunity to take funded Erasmus mobility to another European country for international experience and exposure.

# PROGRAMME STRUCTURE and MODULES

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|---|---|---|---|---|---|
| LEVEL 7 | Sep | Operating System Security (15 credits) | Digital Forensic Fundamentals (15 credits) | Cyber Operations (15 credits) | Mobile Forensics (15 credits) |
| LEVEL 7 | Jan | Research Methods (15 credits) | Professional Secure Networks (15 credits) | Cybercrime Forensic Analysis (15 credits) | Penetration Testing (15 credits) |

# Module employability skills

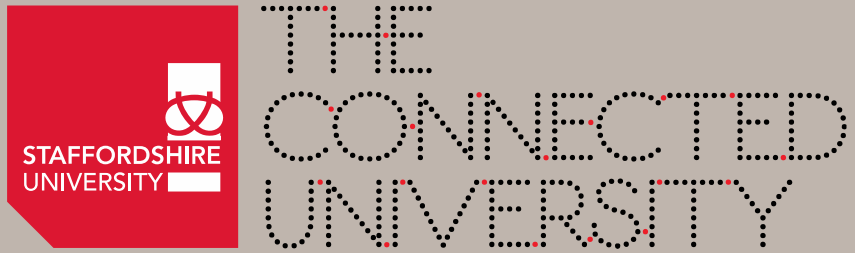
- Professional Secure Networks
  - Soft skills: presentation skills
  - Report writing skills: written report
  - Practical skills: access to real-world Cisco software and hardware routers with the modern IOS-XE operating system
  - Assessment: a real life scenario , 1h duration
  - Industry certifications: Cisco , Juniper

# MSc Dissertation

| | | |
|---|---|---|
| LEVEL 7 | June | Dissertation (60 Credits) |

# Industrial placement

- We strongly encourage every student to undertake a year of supervised work placement.
- The assessment of the industrial placement does not contribute to the degree classification directly, but, generally, the skills and confidence gained during the placement are of great value in enhancing your academic performance in the final year, as well as giving valuable professional experience.
- To provide practical experience of working in a professional environment and provide an opportunity
- To apply knowledge and skills developed during levels 4 & 5 of an award.
- To develop appropriate professional and personal behavioural attitudes within a professional environment.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