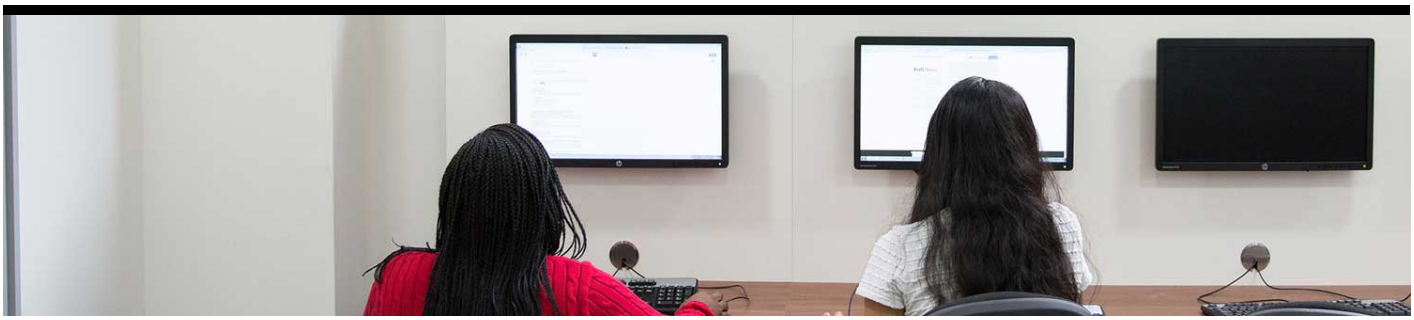
Northumbria University NEWCASTLE | Newcastle London Amsterdam



MSc Cyber Security with Advanced Practice

London Campus

Level of study: Postgraduate

Mode of study:

Duration: 16-24 months

Response to Covid-19: Our focus is on providing a safe and welcoming learning environment and ensuring continued access to learning.

As a result of the coronavirus (Covid-19) pandemic and resulting social distancing requirements, we are intending to teach this course using a mix of on-campus and online learning activities. We continue to be guided by the Government to ensure our campus is Covid-secure. More information about our response to Covid-19 and FAQs are available here.

All information is accurate at the time of sharing. Courses starting in 2021 are offered as a mix of face to face and online learning. We continue to monitor government and local authority guidance in relation to Covid-19 and we are ready and able to flex accordingly to ensure the health and safety of our students and staff. Contact time is subject to increase or decrease in line with additional restrictions imposed by the government or the University in the interest of maintaining the health and safety and wellbeing of students, staff, and visitors, potentially to a full online offer, should further restrictions be deemed necessary in future. Our online activity will be delivered through Blackboard Ultra, enabling collaboration, connection and engagement with materials and people.

Overview

With the dramatic increase in high-profile cyber security incidents reported in the media, the demand for highly skilled security professionals is growing significantly as businesses across the globe seek to protect their networks and data. Our MSc Cyber Security with Advanced Practice provides you with a critical understanding of information governance and assurance, combined with technology risk management practices.

The Advanced Practice stage of this programme provides you with the opportunity to undertake a 12-15 week internship, allowing you to put your learning in to practice, enhancing your learning and further developing your employability.

Key facts

- Develop key skills which are highly in demand by employers and gain valuable practical experience
- Enhance your ability to handle and minimise security threats and incidents
- Understand information governance and assurance
- Provisional certification in Cyber Security from the NCSC (National Cyber Security Centre), placing us in an elite group of postgraduate providers to have achieved this standard
- Northumbria University is recognised as a Centre of Excellence in Cyber Security Research (ACEs-CSR) by the National Cyber Security Centre
- Upon completion of your programme, you will be eligible for the QA Professional Pathways programmes which will enable you to further develop your skills with one of the UK s largest providers of IT and project management training
- Also available as a part-time programme

Course information

Level of study: Postgraduate
Fee (UK/Home): £11,400
Fee (International): £19,000
Entry requirements: Minimum 2:2 honours degree, or equivalent, from a recognised university in a related subject IELTS 6.5, with no single element below 5.5, or equivalent .
English language requirements: IELTS 6.5, with no single element below 5.5, or equivalent
Mode of study:
Duration: 16-24 months
Assessment methods: Coursework and exams
Scholarships or bursaries: available
Student finance: available
Payment plan: available
Starts: Jan, May, Sep,

About this course:

What will I study?

In addition to learning the key skills for handling security incidents, you will cover how to identify new and existing threats and the methods by which to reduce them.

This full-time course is taught at our London Campus where you will be taught by our experienced academics, guiding you as you analyse and evaluate the theories, principles and applications associated with the field. They will encourage you to question current approaches and processes in the fields of information and cyber security.

You will be introduced to key theoretical and practical aspects using real world scenarios and case studies and will be expected to investigate new approaches, processes and solutions in this fast-moving environment.

You will learn how to professionally, systematically and critically understand information governance and assurance along with technology risk management practices. The course will develop and enhance your ability to handle security incidents as well as identifying new and existing threats and determining methods to minimise them.

Our MSc Cyber Security has been awarded provisional certification in Cyber Security from the NCSC (National Cyber Security Centre). This places us in an elite group of postgraduate providers which have achieved this standard.

This programme is also available as a part-time programme, or as MSc Cyber Security which lasts for 1 year.

Advanced Practice stage

The Advanced Practice version of this course offers you a valuable opportunity to secure a work placement or research placement, giving you the experience of the workplace environment or live Cyber Security issues, and an excellent way to put your learning into practice. This stage of the programme will take place between your second and final semester, and is a semester-long (12-15 weeks approx.) in duration. Internships as part of the Advanced Practice stage may be paid or unpaid. The alternative research placement allows you to work on a research project to carry out active research. Whether you choose the internship or research project, you will successfully develop your cyber skills and further enhance your employability.

The module has two options for your third semester of study within the structure outlined below.

The programme typically runs over three semesters. In the first two semesters taught modules are studied. The sequencing of the modules depends upon when you start – September, January or May. The table below shows a typical study pattern depending on your start date with Advanced Practice.

- **September start dates:** your programme will last for up to 21 months. You will have a summer break after Semester 2, and commence your Advanced Practice stage in September.
- **January start dates:** your programme will run for 24 months. You will commence the Advanced Practice stage of the programme in the following January, immediately after your second semester. Please note that there are two summer breaks included in this programme for those starting in January.
- **May start dates:** your programme will run for a total of 16-18 months. Please note that there is no summer break included in this programme for those starting in May. Your Advanced Practice stage will commence in January.

The Advanced Practice programmes are structured as below:

	Sept – Jan	Jan – May	May-Sept	Sept – Jan	Jan – May	May-Sept	Sept – Jan
September start	Semester 1	Semester 2	Summer Break	Masters Internship Research Project	Final semester		
January start		Semester 1	Summer Break	Semester 2	Masters Internship Research Project	Summer break	Final semester

How will I be taught and assessed?

Throughout the course, you will be able to trial new approaches and processes in a safe environment, working on real-life scenarios and case studies.

- Teaching is delivered through tutorials, lectures and practicals, totalling between **12-13 hours per week.**
- You will also be expected to engage in independent study, around **29 hours per week**.
- **Assessment** includes a mix of coursework and exams.
- Taught by **experienced lecturers and academics** who use their industry experience to demonstrate how theories translate into real-life situations.
- **Technology-enhanced** learning is embedded throughout the course to guide your preparation for seminars and independent research
- Benefit from **weekly academic support sessions** designed to build your ability and confidence as an academic learner
- You will be assigned a **guidance tutor** at induction who you will meet with regularly during your studies

Careers and further study

For those with high career aspirations, this programme can give you an extra edge in today s competitive job market. Graduates from the programme will be equipped to work in a variety of careers in the IT industry or to progress to academic or research-orientated careers. Job roles, including roles in leadership and management, could include working in, for example, software engineering, network design and management, network security, artificial intelligence

or IT consultancy.

Cyber security has become an increasingly recurring subject for businesses, governments and the public. Recent hacks include the US presidential election, Yahoo s 'biggest data breach in history and the continual release of information by WikiLeaks, the financial cost to business has been estimated to be as high as $1 trillion. Given this, businesses and governments alike have significantly invested in their cyber security systems, with the UK Government committing £650m in cyber security in its Strategic Defence and Security Review last autumn.

With all this investment, there are a plethora of career options following completion of this course, typical roles include:

- Threat management & forensics
- Risk analytics & management
- Policy makers & Strategists
- Operations & security management
- Engineering, Architecture & Design
- Chief Technology Officer

Upon successfully completing your course, you may undertake further professional development and training through Professional Pathways programmes. This additional training is offered to our graduates for free, from our partner, QA and provides you with an excellent opportunity to undertake professional training at the end of your Masters from one of the UK s leading corporate training providers, further enhancing your professional development and employability skills. Find out more about Professional Pathways and your eligibility.

Related reading

From your Programme Leader, Hamid Jahankhani**:**

- What is Cyber Crime and How Can Cyber Criminology Help Reduce Victimisation?
- Fighting Cyber-Crime

Cyber Security reading:

- Threats to Information Security 2019
- Meet our Cyber Security Lecturer: Dr John McCarthy
- The State of Cyber Security
- 11th International Conference on Global Security, Safety and Sustainability
- High Flying Jobs in Cyber Security
- The 11%; Where are the Women in Cyber Security?
- Popular Course: Cyber Security

Advanced Practice:

- Master Your Future: MSc with Advanced Practice
- What is a 'Masters with Advanced Practice ?
- Infographic: The Stages of a Masters with Advanced Practice

- Studying a Masters with Advanced Practice

Entry requirements

Academic requirements

- Minimum 2:2 (second class) honours degree or equivalent from a recognised university in a related subject

If you don t meet the academic requirements

Applicants with non-standard prior learning and or relevant work experience and training are encouraged to apply. A CV (curriculum vitae) made up of prior work experience and training would need to be submitted for consideration by our faculty alongside the standard application.

Please visit our entry requirements page for country-specific qualifications.

English language requirements

Students require IELTS 6.5 (or above) with no single element below 5.5 or equivalent.

If you have IELTS 5.5 – 6.0, you may be eligible to join our Pre-Sessional English before starting this programme.

Modules

All modules on this course are core and 20 credits unless otherwise stated.

Information Governance and Security

In this module, you will learn about the information governance and cyber security principles that underpin the management of an organisation s information assets. You will critically analyse the key concepts, theories, standards and frameworks of information governance and security, including risk management.

It will enable you to evaluate an organisation s current approach to information governance and cyber security. You will have the expertise to advise on the design and implementation of an appropriate strategy for managing an organisation s information (ensuring all assets meet legal, regulatory, organisational and/or societal needs for information governance and security.

Network Security

The main objective of this module is to provide you with an in-depth coverage of the fundamental concepts, principles and technologies for network security. This module will provide you with a theoretical and practical understanding of two important aspects related to security namely, data security and network security.

The module will cover a number of topics including cryptography, classical systems, IP protocol security, private and public-key cryptography, cryptographic protocols, hash functions, authentication, signature schemes, email and web

security, viruses, and firewalls. The concepts introduced in lectures are reinforced with the help of extensive hands-on laboratory workshops.

You will also have the opportunity to develop practical networking skills by using Cisco IOS, a configuration of firewalls, switches and routers. You will also explore the wider impact of security via a consideration of related legal, ethical and social issues.

Wireless Networks and Security

This module is designed to be suitable for a variety of networking professional roles including those wishing to gain a deeper understanding of 802.11 protocols, security and enterprise deployment. Additionally, it is suitable for wireless network administrators and support or design staff requiring a greater understanding of the new technologies and applications of modern converged networks and delegates seeking Certified Wireless Network Associate (or similar) certification. You will study the following areas:

- Enterprise wireless deployment elements and methodologies
- Basic RF characteristics for mobile systems
- 11 protocol operation and technologies
- Wireless security issues and attack vulnerabilities

Information Assurance and Risk Management

This module will provide you with an in-depth knowledge of the processes used in assuring the security of information during use, sharing, storage, transmission and disposal. It will cover the protection of the integrity, authenticity, availability and confidentiality of all classes of information.

The module is designed to provide a comprehensive framework for ensuring the resilience of business activities during threats and disruptive events thus enabling the assessment of potential risks to the business which could result from disasters or emergency situations.

You will develop an in-depth understanding of the different types of business interruptions – man-made, natural disasters and technology failures – and the potential damage/revenue losses that can result from them. It is crucial to perform regular disaster recovery testing exercises in order to prove that organisations can recover from a catastrophic loss of data and facilities.

Ethical Hacking for Cyber Security

This module will enable you to develop a deep understanding of both theoretical and practical aspects of Ethical Hacking. An essential part of a modern organisation s e-security. The module includes testing and analysis to determine vulnerabilities. Carrying out such work requires a special skill set, which crosses, legal issues, psychology, computer networks along with a detailed understanding of system vulnerabilities and exploits. Additionally, you will be exposed to a collection of industry-standard hacking tools and will learn how to apply these in an ethical manner to determine system vulnerabilities.

Research Methods and Project Management

In this module, you will learn about research and the processes involved in carrying out research and project management, and you will apply them to develop a master s project proposal. This will include research approaches and methods of research, including literature searching, evaluation and review and project management tools and techniques. You will also consider relevant legal, ethical and social issues and good professional practice.

By the end of this module you will have constructed a project proposal that can be executed in a master s project. This will contain a brief literature review justifying a research question, establish aims and objectives, and provide a plan of execution, using tools and techniques in project management, including an outline of deliverables (both artefacts and products).

MSc Computer Science and Digital Technologies Project (60 credits)

The aim of this module is to enable you to undertake a substantial academic research project at Masters Level and present the results from this work in both written and oral forms. Your project itself will be a major piece of independent and original research centred at the forefront of your programme discipline within the wider sphere of the computer science and digital technologies field.

Advanced Practice (60 credits)

Internship/Work Placement Option:

During the work placement/internship, the student will have a workplace mentor, normally a member of the employer s senior staff and a visiting tutor from the Faculty.

When a work placement has been secured the students must complete a 'work placement confirmation form. This form identifies the employer and job title and will assist allow the faculty to confirm that the work placement is academically acceptable.

The student will then be asked to complete and confidential personal risk assessment form which covers health issues and any travel risks inherent in the work role. The employer completes a learning agreement that identifies and work-related health and safety risks and confirms Employer and Public Liability insurance.

Prior to taking up the work placement students will complete a self-assessment questionnaire to establish personal competencies. Then, working with the employer and visiting tutor identify learning and development experiences available in the workplace. This will take the form of a personal learning contract. At the end of the placement, the student will repeat the competence assessment to provide a framework for the reflective account of the placement which forms the assessment of the module.

Study Log: During your placement, it is advisable to maintain a Study Log that details work experience and learning achieved. This gives you a framework for discussion with your supervisor.

Research Placement

The University has a number of Research Institutes and interest groups carrying out active research at the cutting edge of your Masters study. If you wish to participate in one of the research groups associated with your programme of study

you will need to contact the module tutor who will introduce you to appropriate research professors. Following a successful interview, you will be assigned a role in an ongoing research project. The Faculty will take responsibility for health and safety issues around your placement.

The student, research team and module tutor will identify learning outcomes available within the research group and establish a personal learning contract with the student. At the end of the placement, the student will provide evidence of the learning achieved as part of the reflective account of the placement.

Enquire now

Fees and finance

Tuition fees 2021/22

- **UK/Home students:** £11,400
- **International students:** £19,000

Please note that your tuition fees do not include the cost of course books that you may choose to purchase, stationery, printing and photocopying, accommodation, living expenses, travel or any other extracurricular activities.

As a Northumbria University London Campus student, you will have full access to our online digital library with over 400,000 e-books and 50,000 electronic journals. The modules you will study do not require you to purchase additional textbooks although we recommend you allow an additional £100 for the duration of your studies should you choose to purchase any additional reading materials.

What's included in your tuition fees?

Your tuition fees cover far more than your time in class with our expert academics, it covers the cost of providing you with excellent services and student experience.

- Contact time in class – typically in lectures, seminars and tutorials
- Access to facilities, including computers, on-campus Wi-Fi, printers, vending machines, quiet study spaces
- The support of our Careers & Employment Service who can help you to become more employable, secure placements and run workshops
- Academic support – our ACE Team run multiple sessions on academic writing, presenting, exam techniques throughout the semester, as well as 1-2-1 appointments and drop-in sessions
- Student support services such as our Ask4Help Service. Find out more about the services available to you on our Student Support page
- Access to online resources, including 24/ 7 Library with over 400,000 e-books and 50,000 electronic journals.

Scholarships and bursaries for international students

If you are an international student and choose to study the full-time programme, you will be eligible for either our programme bursary or a country bursary, whichever is greater. High performing students may be eligible for an academic scholarship in addition.

Depending on the country you are from, you may be eligible for one of our country bursaries and/scholarships to help finance your studies.

All of our scholarships and bursaries are automatically applied when we process your application and our team will be able to confirm your eligibility.

Scholarships and bursaries

Payment plans for self-funded students

If you need to spread the cost of your tuition, you may be eligible for our payment plan.

Payment plans

Government Loan for Masters study

If you are the UK or a Home student, you may be eligible for a postgraduate loan of up to £10,000+ from the UK Government. Click here to find out more about the loan and whether you are eligible to receive it.

Postgraduate Loan

How to apply or find out more

How to find out more

Enquire now to find out to find out more information about the course, studying with us, the application process, and to ask any other questions you may have.

Enquire now

How to apply

Once you re ready to apply, you can apply online to study the MSc Cyber Security with Advanced Practice. This method allows you to upload your supporting documents at the time of application and automatically receive your student application number.

Apply online

We strongly recommend that you submit your application as early as possible to allow you to complete all of the preparations needed to study your programme. After receiving an offer it can take time to arrange your finances and apply for your visa (if required) and it is important that you arrive in good time to enrol onto your course. Please refer to

the Dates and Fees page.

If you are unable to apply online, then you can download a PDF application form and email it to london.admissions@northumbria.ac.uk.

International students application form UK/Home students application form

Supporting documents

For us to assess your application in a timely manner, it is important that you provide us with the following documents:

- Fully completed application form
- Personal email address must be included on the application form
- Transcripts and/or certificates (including a certified translation if not in English)
- Passport – copy of personal details page
- Proof of financial sponsorship if applicable
- Reference
- Confirmation of immigration history including copies of previous and current visas if applicable

You can check more information on how to apply here, including guidelines for the application forms.