



NEW START4U CIC
024 7767 1470
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12-14 Riley Square,
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MSc Cyber Security

London Campus

Level of study: Postgraduate

Mode of study: Full-time

Duration: 1 year

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 provides you with a critical understanding of information governance and assurance, combined with technology risk management practices. In addition to developing the key skills for handling security incidents, you will learn how to identify new and existing threats and the methods by which to reduce them.

Key facts

Develop key skills which are highly in demand by employers. Enhance your ability to handle and minimise security threats and incidents. Understand information governance and assurance. Also available as MSc Cyber Security with Advanced Practice. Also available as a part-time programme

Course information

Level of study: Postgraduate

Fees: To find out about current fees and student finance contact us

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

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

English language requirements: IELTS 6.5 (or above) with no single element below 5.5 or

equivalent Mode of study: Full-time

Duration: 1 year

Assessment methods: Coursework and exams

Scholarships or bursaries: available

Student finance: available



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Payment plan: available

Starts: Jan, Sep, May,

About this course:

What will I study?

The programme aims to provide you with advanced and specialist knowledge and skills in the field of cyber security. Your MSc Cyber Security will cover topics such as Information Governance and Security, Information Assurance and Risk Management, Wireless Networks and Security, Network Security and Ethical Hacking for Cyber Security. You will also develop your research and project management skills, in particular to support your preparation for your MSc project. In your final semester you will complete a major individual project, where you will receive one-to-one tuition and supervision from a relevant academic supervisor.

This project will provide you with a platform to undertake a substantial piece of individual research. To do this you will utilise appropriate advanced research, critical evaluation and synthesis techniques.

This programme is also available part-time or as MSc Cyber Security with Advanced Practice which includes either an internship, consultancy project or research project.

Ultimately, as a graduate of MSc Cyber Security you will be able to:

Demonstrate complex and specialised knowledge and skills in the field of cyber security

- . Appreciate innovations, advances and major issues at the frontiers of cyber security and their implications
- . Deal with complex issues both creatively and systematically, and show originality in tackling and solving problems
- . Use and evaluate a variety of software, tools and techniques relevant to cyber security practices

Work both individually and as a member of a team, recognising different team roles and multi-cultural environmental issues

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Communicate balanced judgements effectively (in writing and verbally) at the appropriate business and technical level with users, management, customers and technical specialists, justifying work in the content of wider theories and practice, including when considering incomplete or ambiguous data. Critically understand computing systems in relation to cyber security issues. Act in a professional and ethical manner in the development and use of computing systems

Demonstrate professional attributes, including self-reflection, showing initiative, sound judgement, analytical ability, problem solving, the ability to conceptualise, theorise and research complex issues which advance understanding, and the ability to critically evaluate their own work and the work of others.



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Demonstrate the knowledge, skills and attributes to take leading roles within the computer science industry and will have developed highly transferrable skills that promote employability and lifelong learning. Satisfy the educational requirements of the BCS, The Chartered Institute for IT for professional membership

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 on this programme 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.

You will be assessed using a mix of coursework and exams.

You'll be taught by experienced lecturers and academics who use their industry experience to demonstrate how the theories you will learn translate in to real life situations.

Technology Enhanced Learning (TEL) is embedded throughout the course with tools such as the 'Blackboard' eLearning Portal and electronic reading lists that will guide your preparation for seminars and independent research. Significant emphasis is placed on developing your ability to complete a Masters degree. As part of induction you will be made fully familiar with the learning resources and support available to you. There will also be weekly academic support sessions designed to build your confidence and ability as a postgraduate learner. You will also be allocated an individual guidance tutor at induction. You will meet this tutor at regular intervals across your period of study.

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.

This programme will prepare you to meet the educational requirements of the BCS, The Chartered Institute for IT for the purposes of fully meeting the further learning academic requirement for registration as a Chartered IT Professional. Upon successfully completing your course, you may undertake further professional development and training through Professional Pathways programmes 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.

Entry requirements

Applicants should have the following:

Academic requirements

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



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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.

If you don't meet these entry requirements, you may be eligible to study our BSc (Hons) Applied Computing (Top-Up) programme which is also taught at our London Campus. Successful completion of this Top-Up degree with a minimum of a 2:2 award will give you entry on to this Masters programme.

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.

LD7006 - Information Governance and Security (20 credits)

You will learn about the information governance and 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. This will enable you to evaluate an organisation's current approach to information governance and security and to advise on the design and implementation of an appropriate strategy for managing an organisation's information assets to meet legal, regulatory, organisational and/or societal needs for information governance and security. Topics include:

- . Key concepts and principles of information governance and security
- . Information governance, security, risk and business continuity frameworks and standards
- . Legislative and regulatory frameworks
- . Strategies, policy and procedures
- . Risk management and business continuity
- . Embedding information governance and security (incl. roles, responsibilities and culture)

LD7007 - Network Security (20 credits)

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 on 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.



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You will also have the opportunity to develop practical networking skills by using Cisco IOS, 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.

LD7008 - Wireless Networks and Security (20 credits)

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

LD7009 - Information Assurance and Risk Management (20 credits)

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. A breakdown of the key areas of information risk assessment – context establishment, information risk assessment will be followed by the various elements of risk analysis and evaluation. An examination of the treatment of identified risks will be used to illustrate that mitigation is not the only option that organisations The last element of the module will explore the important aspect of communicating the result of the risk management process with key stakeholders.

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 catastrophic loss of data and facilities.

LD7010 - Ethical Hacking for Cyber Security (20 credits)

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 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.

LD7028 - Research Methods and Project Management (20 credits)



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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 which 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).

LD7029 - 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.

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 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.