UNIVERSITY OF LIVERPOOL

MSc

Cyber Security

Study mode	Duration	
Full-time	12 months	Apply by: **11 September 2026** Starts on: **28 September 2026**

About this course

As our reliance on digital technologies grows, so does the need to defend them. With increasing cyber-attacks on critical infrastructures and personal information, the demand for cyber security has surged. This MSc aims to equip you with the knowledge and skills, including AI and machine learning techniques, to identify, mitigate, and prevent cyber threats and set you up for a thriving career in this rapidly evolving field.

Introduction

Our Cyber Security MSc programme provides a solid foundation for you if you want to pursue a career or become a researcher within the field of cyber security.

The programme offers an exciting blend of learning experiences, delivered by world-leading experts and members of the University of Liverpool Cybersecurity Institute. We dive into the strategies, technologies, and methodologies used to protect digital systems from cyber threats, exploring critical issues and ethical considerations in the discipline.

You'll learn how to identify and respond to cyber-attacks and how to design, develop, and implement robust security systems. This includes studying essential areas like communication network security, cryptographic protocols, artificial intelligence, and digital forensics.

With training in machine and deep learning, intrusion detection, firewalls, and ethical hacking, you'll be prepared to detect and defend against evolving threats while understanding the legal and ethical dimensions of cyber security. You'll also gain insight into emerging fields such as quantum cryptography, Internet of Things (IoT) and nanotech security, equipping you to tackle future cyber challenges.

You will graduate with a wide range of career opportunities and will be equipped with the skills, knowledge and experience to make a real-world impact.

This is an exciting time to join this brand-new course. The University is recognised as an Academic Centre of Excellence in Cyber Security Research (ACE-CSR) by the National Cyber Security Centre (NCSC) and is committed to support and invest in the University's cybersecurity research capacity and capability.

Who is this course for?

This MSc is for you if you want to take the leap into cyber security. Our MSc is for graduates with a good first degree in a related subject including, but not limited to, computer science, IT, engineering, mathematics, physics, chemistry & medical sciences.

You do not require a programming background as there will be optional modules on programming.

What you'll learn

- How to design, develop and implement secure systems using appropriate languages, algorithms and protocols
- Critical assessment skills
- To apply knowledge of legal, ethical and social implications of cyber security practices
- How to effectively communicate cyber security concepts, research findings and project outcomes to both technical and non-technical audiences
- The ability to evaluate and adapt to emerging technologies and challenges
- Proficiency in forensic investigations, secure system design, and organisational security
- How to plan, execute and critically evaluate a major cyber security related project
- Practical and personal skills that are required to work as part of a team in today's IT industry

Accreditation

This programme is pending accreditation by BCS, The Chartered Institute for IT.

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Course content

Discover what you'll learn, what you'll study, and how you'll be taught and assessed.

Semester one

In Semester one, you'll study three taught compulsory modules and one optional taught module. Based on prior knowledge and experience of programming, the optional module will either be Programming Fundamentals (COMP517) or one of either Quantum Computing and Security (COMP345) and Knowledge Representation (COMP521). Prior programming knowledge will be assessed with an informal, ungraded programming task.

Modules

Compulsory modules	Credits
RESEARCH METHODS IN COMPUTER SCIENCE (COMP516)	15
PRIVACY AND SECURITY (COMP522)	15
COMMUNICATIONS NETWORKS (ELEC461)	15

Optional modules	Credits
PROGRAMMING FUNDAMENTALS (COMP517)	15
KNOWLEDGE REPRESENTATION (COMP521)	15
QUANTUM COMPUTING AND SECURITY (COMP535)	15

Programme details and modules listed are illustrative only and subject to change.

Semester two

In Semester two, you'll study four compulsory taught modules.

Modules

Compulsory modules	Credits
MSC GROUP PROJECT (COMP530)	15
SAFETY AND DEPENDABILITY (COMP524)	15
APPLIED ARTIFICIAL INTELLIGENCE (COMP534)	15
DIGITAL FORENSICS (COMP536)	15

Programme details and modules listed are illustrative only and subject to change.

Final project

Your final project, undertaken over the summer, will give you the opportunity to work independently to explore a substantial problem in depth, making practical use of principles, techniques and methodologies you have acquired during the programme.

You'll create a proposal, deliver a presentation with a Q&A, and submit a final dissertation.

Modules

Compulsory modules	Credits
MSC PROJECT (COMP702)	60

Programme details and modules listed are illustrative only and subject to change.

Teaching and assessment

How you'll learn

Teaching comprises formal lectures, small group tutorials and practical sessions in computer laboratories. You may also take part in one or more group projects. In addition, you complete an individual project under academic supervision.

How you're assessed

Taught modules are assessed through a combination of examinations and coursework. You'll sit examinations at the end of each semester, which are typically in-person written assessments, usually completed over 2 or 2.5 hours. You will complete coursework throughout the semester, typically class tests, programming assignments or small projects.

For your final project, you will create a proposal, deliver a presentation with a Q&A, and submit a final dissertation, all of which will be assessed.

Liverpool Learning Framework

At Liverpool, we take a distinctive approach to education through the Liverpool Learning Framework. This means teaching that is engaging, inclusive and designed to help you succeed during your studies and beyond.

You'll develop specialist subject knowledge alongside the skills employers value most, including:

- Digital fluency
- Confidence
- Global citizenship

Our curriculum is characterised by the three Liverpool Hallmarks:

- Research-connected teaching - learning informed by the latest ideas and discoveries
- Active learning - taking part, applying knowledge and learning by doing
- Authentic assessment - assessments designed around real-world tasks and challenges

We also embed key priorities across our curriculum, including AI literacy, employability, and sustainability, helping you prepare for the future and make a positive impact in the world.

We're committed to creating a supportive and inclusive learning environment where every student can thrive.

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Careers and employability

Cyber Security graduates have excellent employment prospects and the demand for qualified professionals is growing each year. With salaries across the sector rising, now is the perfect time to start your career.

The University of Liverpool is one of the most targeted universities by top employers, according to **The Graduate Market 2024, High Fliers Research**. This means our graduates are in demand for employment, and sought after by top employers worldwide.

Qualifying with a Cyber Security degree from Liverpool will equip you with the knowledge and confidence to explore opportunities in many sectors. The career opportunities in Cyber Security are vast. Graduates find work in roles such as:

- Cyber Security Analyst
- Security Architect
- Security Consultant
- Network Engineer
- Cyber Risk Management
- Cybersecurity engineer
- Information security engineer
- Information security analyst
- Cybersecurity officer
- IT Security specialist
- Cyber defence forensics analyst
- Digital forensics
- Vulnerability assessment analyst
- Cyber defence incident responder
- Security systems administrator
- Cryptography engineer
- Computer network defence analyst
- Cybersecurity incident handler
- & many more

In the UK, Salaries for cyber security analysts with one to three years' experience typically range from £37,500 to £52,500.

Experienced cyber security analysts with four to six years' experience can earn between £47,500 and £60,000, rising to between £65,000 and £80,000 for senior analysts with seven to nine years' experience.

In higher-level managerial or leadership roles, they may receive salaries ranging from around £72,500 to in excess of £100,000.

source: Prospects, Sept 2024

Our graduates are also highly sought after in other industries for their analytical, communications, management, business and IT skills.

Career support from day one to graduation and beyond

Career planning

From education to employment

Networking events

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Fees and funding

Your tuition fees, funding your studies, and other costs to consider.

Tuition fees

UK fees (applies to Channel Islands, Isle of Man and Republic of Ireland)

Full-time place, per year - £14,000

International fees

Full-time place, per year - £34,000

Tuition fees are for the academic year 2026/27.

Tuition fees cover the cost of your teaching and assessment, operating facilities such as libraries, IT equipment, and access to academic and personal support.

- You can pay your tuition fees in instalments.
- All or part of your tuition fees can be funded by external sponsorship.
- International applicants who accept an offer of a place will need to pay a tuition fee deposit.

If you're a UK national, or have settled status in the UK, you may be eligible to apply for a Postgraduate Loan worth up to £12,858 to help with course fees and living costs. **Learn more about paying for your studies**.

Additional costs

We understand that budgeting for your time at university is important, and we want to make sure you understand any course-related costs that are not covered by your tuition fee. This could include buying a laptop, books, or stationery.

Find out more about the additional study costs that may apply to this course.

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Entry requirements

The qualifications and exam results you'll need to apply for this course.

Postgraduate entry requirements

We accept a 2:2 honours degree from a UK university, or an equivalent academic qualification from a similar non-UK institution. This degree should be in a Science, Technology, Engineering, Mathematics, or Medical subject, including Computer Science. Previous experience with programming is not required.

International qualifications

Select your country or region to view specific entry requirements.

Many countries have a different education system to that of the UK, meaning your qualifications may not meet our entry requirements. Completing your Foundation Certificate, such as that offered by the University of Liverpool International College, means you're guaranteed a place on your chosen course.

English language requirements

You'll need to demonstrate competence in the use of English language, unless you're from a majority English speaking country.

We accept a variety of international language tests and country-specific qualifications.

International applicants who do not meet the minimum required standard of English language can complete one of our Pre-Sessional English courses to achieve the required level.

IELTS

6.5 overall, with no component below 5.5

TOEFL iBT

If you took a TOEFL test on or before 20 January 2026, you'll need 88 overall, with minimum scores of listening 17, writing 17, reading 17 and speaking 19. If you took a TOEFL test from 21 January 2026 onwards, when a new scoring system was introduced, you'll need 4.5 overall, with 4 or above in all components. TOEFL Home Edition not accepted.

Duolingo English Test

125 overall, with speaking, reading and writing not less than 105, and listening not below 100. For academic year 2025/26 only, we will also accept the production, literacy, comprehension and conversation score set: 120 overall, with no component below 95.

LanguageCert Academic

70 overall, with no skill below 60

PSI Skills for English

B2 Pass with Merit overall and no band below B2 Pass

INDIA Standard XII

National Curriculum (CBSE/ISC) - 75% and above in English. Accepted State Boards - 80% and above in English.

WAEC

C6 or above

Pre-sessional English

Do you need to complete a Pre-sessional English course to meet the English language requirements for this course?

The length of Pre-sessional English course you'll need to take depends on your current level of English language ability.

Pre-sessional English in detail

If you don’t meet our English language requirements, we can use your most recent IELTS score, or the equivalent score in selected other English language tests, to determine the length of Pre-sessional English course you require.

Use the table below to check the course length you're likely to require for your current English language ability and see whether the course is available on campus or online.

Your most recent IELTS score	Pre-sessional English course length	On campus or online
6.0 overall, with no component below 5.5	6 weeks	On campus or online
5.5 overall, with no more than one component at 5.0	10 weeks	On campus or online
5.5 overall, with no component below 5.0	12 weeks	Online
5.0 overall, with no component below 5.0	20 weeks	On campus
5.0 overall, with no component below 4.5	30 weeks	On campus
4.5 overall, with no more than one component at 4.0	40 weeks	On campus

If you’ve completed an alternative English language test to IELTS, we may be able to use this to assess your English language ability and determine the Pre-sessional English course length you require.

Please see our guide to Pre-sessional English entry requirements for IELTS 6.5 overall, with no component below 5.5, for further details.

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