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 course 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

Back to top

Course content

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

Semester one

You'll study three compulsory modules and one optional module in semester one. 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 (COMP345)	15

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

Semester two

You'll study four compulsory modules in semester two. In addition to the three compulsory modules listed below, you'll also study Digital Forensics (COMP536). Students who have previously taken the module Computer Forensics (COMP343) on another course at the University of Liverpool will replace the module Digital Forensics (COMP536) with a suitable alternative. This will be agreed with the Director of Studies.

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

You will create a proposal, a presentation, and 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 on this programme comprises of formal lectures, small group tutorials and practical sessions in computer laboratories. You will also take part in one or more group projects. At the end of the year, you'll complete a major individual project under expert supervision.

How you're assessed

Modules are assessed through a combination of examinations and coursework. The examinations take place at the end of each semester and typically take the form of an in-person written assignment, usually to be completed in a couple of hours. You'll be assigned coursework across the length of each semester. This typically takes the form of class tests, programming assignments or small projects.

Your dissertation is assessed through a combination of written reports and a presentation of your achievements.

Liverpool Hallmarks

We have a distinctive approach to education, the Liverpool Curriculum Framework, which focuses on research-connected teaching, active learning, and authentic assessment to ensure our students graduate as digitally fluent and confident global citizens.

The Liverpool Curriculum framework sets out our distinctive approach to education. Our teaching staff support our students to develop academic knowledge, skills, and understanding alongside our **graduate attributes**:

- Digital fluency
- Confidence
- Global citizenship

Our curriculum is characterised by the three **Liverpool Hallmarks**:

- Research-connected teaching
- Active learning
- Authentic assessment

All this is underpinned by our core value of **inclusivity** and commitment to providing a curriculum that is accessible to all students.

Back to top

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

Back to top

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 £12,167 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.

Back to top

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

88 overall, with minimum scores of listening 17, writing 17, reading 17 and speaking 19

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
5.5 overall, with no component below 5.5	10 weeks	On campus and online options available
5.5 overall, with no more than one component below 5.5, and no component below 5.0	12 weeks	On campus and online options available
5.5 overall, with no component below 4.5	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 below 4.5, and no component below 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.

Back to top

Generated: 4 Dec 2025, 19:53