

MSc

# Computer Science with a Year in Industry

## Study mode

Full-time

## Duration

24 months

Apply by: **11 September 2026**

Starts on: **28 September 2026**

## About this course

If you didn't study computer science at degree level, this MSc combines a wide-ranging introduction to the analysis, design and implementation of computer systems, with a comprehensive understanding of cutting-edge research. You'll be immersed in software design, programming, datasets, information systems and web applications and develop all the skills needed to conduct independent research in computer science

## Introduction

This MSc provides a depth of knowledge in computer science, underpinned by a thorough understanding of key issues at the forefront of current research in this discipline.

You'll learn how to design and create software, gain experience of modern programming languages, and discover how databases are used in modern information systems, from supermarket checkouts to online banking.

We'll also equip you with a good understanding of the most significant technologies for developing web applications. These include HTML, Cascading Style Sheets, JavaScript, and PHP.

Further opportunities to specialise and enhance your knowledge are available through a range of optional modules. You could choose to focus on topics including artificial intelligence, biologically inspired optimisation, neural networks, data mining, machine learning, multi-agent systems, e-commerce, online map visualisations, or software safety and dependability.

You'll have the opportunity to work as part of a small group on a practical project to find a solution to a computer science problem. We'll also provide a thorough grounding in how to plan and conduct research in preparation for your dissertation.

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## Who is this course for?

This MSc is suitable for graduates with a science or engineering background, such as a degree in mathematics or physical sciences, who wish to build upon the IT skills and knowledge gained during undergraduate study. **The programme is not suitable for computer science graduates.** If you already have a degree in computer science, you may be interested in [Advanced Computer Science with a Year in Industry MSc](#).

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## What you'll learn

- Research skills in computer science
  - How to design and create software using a modern programming language
  - The role of structured query language, SQL, in information systems
  - Algorithmic techniques and data structures for large datasets
  - Key technologies for developing web applications
  - Data mining techniques and challenges using real-world datasets
  - Bio-inspired algorithms for optimisation and machine learning
  - Applications of multi-agent systems
  - Privacy, security, encryption and other technologies behind e-commerce
  - An understanding of all aspects of software safety and dependability
  - Neural networks for artificial intelligence
  - How maps can be visualised online
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## Accreditation

This programme is pending accreditation by BCS, The Chartered Institute for IT, the leading professional body for those working in IT. It is continually updated to reflect new technologies and trends.

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## Accreditation in detail

### BCS

The Chartered Institute for IT for the purposes of fully meeting the academic requirement for registration as a Chartered IT Professional.

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# Course content

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

## Year one

You'll study five compulsory modules and three optional modules in year one.

## Modules

Compulsory modules	Credits
<u>RESEARCH METHODS IN COMPUTER SCIENCE (COMP516)</u>	15
<u>PROGRAMMING FUNDAMENTALS (COMP517)</u>	15
<u>DATABASE AND INFORMATION SYSTEMS (COMP518)</u>	15
<u>EFFICIENT ALGORITHMS (COMP526)</u>	15
<u>WEB PROGRAMMING (COMP519)</u>	15
Optional modules	Credits
<u>COMPUTATIONAL INTELLIGENCE (COMP575)</u>	15
<u>DATA MINING AND VISUALISATION (COMP527)</u>	15
<u>MACHINE LEARNING AND BIOINSPIRED OPTIMISATION (COMP532)</u>	15
<u>SAFETY AND DEPENDABILITY (COMP524)</u>	15

Optional modules	Credits
<u>REASONING ABOUT ACTION AND CHANGE (COMP525)</u>	15
<u>MULTI-AGENT SYSTEMS (COMP310)</u>	15
<u>ONTOLOGIES AND SEMANTIC WEB (COMP318)</u>	15
<u>ADVANCED GEOVISUALISATION (ENVS456)</u>	15
<u>MSC GROUP PROJECT (COMP530)</u>	15

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

## Year two

COMP599 MSc Industrial Project and COMP598 MSc Placement Experience are completed across the duration of year two.

## Modules

Compulsory modules	Credits
<u>MSC PLACEMENT EXPERIENCE (COMP598)</u>	60
<u>MSC INDUSTRIAL PROJECT (COMP599)</u>	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 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 research 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.



# Careers and employability

You'll graduate ready for a wide range of careers in the IT industry. You may wish to join the many students who seek employment at the interface of the IT domain and the subject matter of your first degree. The programme also provides a strong foundation for potential PhD research.

Previous graduates are working network systems and data communications analysis, computer software engineering, network and computer systems administration, and database administration.

Potential roles you would be well placed to secure on completion of this MSc include:

- Database administrator
- Information systems manager
- Applications developer
- IT consultant
- Network engineer
- Systems designer.

Many of our graduates also choose to continue their studies and embark on PhD research.

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## Career support from day one to graduation and beyond

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### Career planning

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### From education to employment

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### 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

Year in industry fee – £2,800

### International fees

Full-time place, per year – £34,000

Year in industry fee – £6,800

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.

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# Entry requirements

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

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## 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 or engineering related subject, such as Mathematics or Physical Sciences, but should not be in Computer Science.

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## 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.

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## 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.

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### IELTS

6.5 overall, with no component below 5.5

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## **TOEFL iBT**

88 overall, with minimum scores of listening 17, writing 17, reading 17 and speaking 19. TOEFL Home Edition not accepted.

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## **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.

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## **Pearson PTE Academic**

61 overall, with no component below 59

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## **LanguageCert Academic**

70 overall, with no skill below 60

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## **PSI Skills for English**

B2 Pass with Merit overall and no band below B2 Pass

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## **INDIA Standard XII**

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

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## **WAEC**

C6 or above

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## **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.

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