UNIVERSITY OF LIVERPOOL

BEng (Hons)

Computer Science and Electronic Engineering

UCAS code HH66

Entry requirements	Study mode	Duration	
A level: ABB	Full-time	3 years	Apply by: **13 January 2027** Starts on: **27 September 2027**

About this course

Smart devices shape the way we live, both now and in the future. Study Computer Science and Electronic Engineering at Liverpool and ensure you're a part of the rapid technological development taking place globally.

Introduction

This programme combines the core elements of electronic engineering with those of computer science, which is the intellectual discipline underlying all aspects of software development.

Combining elements from these two disciplines will equip you with an added breadth of knowledge and greater specialisation. Our graduates are in demand because of their fluency both in the language of electronic engineers, as well as that of computer scientists, enabling you to bridge the gap between software systems and the real world.

You'll be taught by staff who are actively engaged in research, most with international reputations, ensuring you'll receive the most up-to-date and commercially-relevant education.

Take your university experience even further on a paid year-long industry placement, or spend a year abroad at a partner university or our China campus.

What you'll learn

- A broad educational background in electronics and computing
- Critical thinking
- Teamwork
- The practical application of concepts and theory, always with awareness of their relevance to the real world
- How to take projects from conception, through to design, implementation and operation
- Use of industry standard tools, technologies and working methods

Accreditation

Accredited by the Institution of Engineering and Technology (IET) on behalf of the Engineering Council for the purposes of fully meeting the academic requirement for registration as an Incorporated Engineer and partly meeting the academic requirement for registration as a Chartered Engineer.

Accreditation in detail

IET

IET are one of the world's leading professional societies for engineers and technicians and their accreditation covers a whole range of subjects including electrical, electronic, manufacturing, mechanical, systems and software engineering, as well as bioengineering, nanotechnology and renewable energy. It's recognised globally as an indicator of quality through the Washington and Sydney accords, which are governed by the International Engineering Alliance (IEA).

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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

During year one you will be introduced to the fundamentals of electronics as well as the underlying principles and theory of computing. Your lecture modules will cover the core subjects of electronic circuits, digital electronics, Java programming and data structures.

In addition, you will take modules such as mathematics and spend one day a week doing practical work in both the computer and electronics laboratories. This will give you excellent practical and transferable skills vital for subsequent years of the programme and invaluable in your future career.

Modules

Compulsory modules	Credits
ELECTRICAL CIRCUITS & SYSTEMS (ELEC142)	15
MATHEMATICS A FOR ELECTRICAL ENGINEERS (ELEC191)	15
ELECTRONIC CIRCUITS (ELEC104)	15
OBJECT-ORIENTED PROGRAMMING (COMP122)	15
DIGITAL & INTEGRATED ELECTRONICS DESIGN (ELEC143)	15
ENGINEERING SKILLS IN PRACTICE (ELEC182)	15
MATHEMATICS B FOR ELECTRICAL ENGINEERS (ELEC192)	15

Optional modules	Credits
INTRODUCTION TO PROGRAMMING (COMP101)	15
PROGRAMMING LANGUAGE PARADIGMS (COMP105)	15

Programme details and modules listed are illustrative only and subject to change. As part of our commitment to continuous improvement, we are currently reviewing all of our programmes. This may include refining study pathways, strengthening links with employers, integrating generative AI, developing students' research skills, and enhancing alignment with our research strengths. The course content currently shown on this page reflects the programme as it is running in September 2026. This page will be updated for students beginning in September 2027 by 1 September 2026 at the latest.

Year two

The second year builds on the first with core modules in software engineering, database development, digital electronics, and signals and communication systems. More time is spent in the electronics laboratory doing practical work to consolidate the knowledge learnt in lectures and partaking in an extended team project.

Modules

Compulsory modules	Credits
DATABASE DEVELOPMENT (COMP207)	15
COMMUNICATION SYSTEMS (ELEC202)	7.5
DIGITAL ELECTRONICS & MICROPROCESSOR SYSTEMS (ELEC211)	15
INSTRUMENTATION & CONTROL (ELEC207)	15

Compulsory modules	Credits
PROJECT, PROBLEM SOLVING & INDUSTRIAL AWARENESS (ELEC222)	7.5
SIGNALS AND SYSTEMS (ELEC270)	15
SOFTWARE ENGINEERING I (COMP201)	15
DISTRIBUTED SYSTEMS (COMP212)	15
AMPLIFIER CIRCUITS - DESIGN & APPLICATIONS (ELEC221)	15

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Year three

You will undertake an extended individual project during this year. Recent projects have included real-time GPS tracking of a vehicle fleet by mobile phones, and mobile multi-user dungeon (MUD) game using SMS messaging. You can choose lecture-based modules from both Electronic Engineering and Computer Science.

Modules

Compulsory modules	Credits
APPLICATION DEVELOPMENT WITH C++ (ELEC362)	15

Compulsory modules	Credits
LOW POWER COMPUTER ARCHITECTURE (ELEC370)	15
NEURAL NETWORKS (ELEC320)	7.5
ENGINEERING MANAGEMENT & ENTREPRENEURIAL SKILLS (ELEC352)	7.5

Optional modules	Credits
ADVANCED MODERN MANAGEMENT (MNGT352)	7.5
DIGITAL CONTROL AND OPTIMISATION (ELEC303)	15
FORMAL METHODS (COMP313)	15
INTRODUCTION TO COMPUTATIONAL GAME THEORY (COMP323)	15
MULTI-AGENT SYSTEMS (COMP310)	15
SIGNAL PROCESSING AND DIGITAL FILTERING (ELEC309)	15
SOFTWARE ENGINEERING II (COMP319)	15
HONOURS YEAR COMPUTER SCIENCE PROJECT (COMP390)	30
BENG PROJECT (ELEC340)	30
BIOCOMPUTATION (COMP305)	15
DIGITAL SYSTEM DESIGN (ELEC373)	15
CLOUD COMPUTING FOR E-COMMERCE (COMP315)	15

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Teaching and assessment

How you'll learn

Programmes are taught over two semesters, with examinations at the end of each semester. Modules vary from those which are assessed by examination only, to others which are continuous assessment only. All programmes incorporate a substantial practical component, with an increasing emphasis on project work as you progress through to the final year.

How you're assessed

Assessment on this course will include a mix of exams, coursework and projects.

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

Some of our graduates go on to work in the industrial sector, in government and in education, whilst others enter non-technical professions such as banking, accountancy, management and law.

Specific career paths are many and varied, and have previously included Design Engineer, Systems Engineer, Medical Physicist, Postdoctoral Research Scientist and Radio Frequency Scientist.

Many graduates have moved on to have careers with employers in the following industries:

- Technology: ARM Holdings Ltd, Ericsson Ltd, Logica CMG, Marconi, Siemens UK
- Energy: British Nuclear Group, Energetix Group PLC, Scottish Power, United Utilities PLC.
- Healthcare: Royal Liverpool University Hospital
- Government/Research: Daresbury Laboratory, Ministry of Defence, Science and Technology Facilities Council, The Highways Agency
- Engineering/Manufacturing: Deva Electronic Controls, Heap and Partners Ltd

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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 - £10,050
Year in industry fee - £2,010
Year abroad fee - £1,508 (applies to year in China)

International fees

Full-time place, per year - £32,000
Year in industry fee - £1,955
Year abroad fee - £16,000 (applies to year in China)

The UK fees shown are for the academic year 2027/28. The international fees shown are for the academic year 2026/27 and will be subject for change for the academic year 2027/28. Please be advised that tuition fees may increase each year for both UK and international students. For UK students, this will be subject to the government's regulated fee limits.

Tuition fees cover the cost of your teaching and assessment, operating facilities such as libraries, IT equipment, and access to academic and personal support. 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. You can find information on the general and subject-specific costs you could expect to incur on our study costs webpage.

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Entry requirements

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

A levels

ABB
including Mathematics and a science subject.

Applicants with the Extended Project Qualification (EPQ) are eligible for a reduction in grade requirements. For this course, the offer is **BBB** from A levels, with **A** in the EPQ.

You may automatically qualify for reduced entry requirements through our contextual offers scheme. Based on your personal circumstances, you may automatically qualify for up to a two-grade reduction in the entry requirements needed for this course. When you apply, we consider a range of factors – such as where you live – to assess if you're eligible for a grade reduction. You don't have to make an application for a grade reduction – we'll do all the work.

Find out more about how we make reduced grade offers.

If you don't meet the entry requirements, you may be able to complete a foundation year which would allow you to progress to this course.

Available foundation years:

- Engineering Foundation (4 year route including a Foundation Year at Carmel College) BEng (Hons)

T levels

T levels are not currently accepted.

GCSE

4/C in English and 4/C in Mathematics

Subject requirements

Acceptable sciences: Applied ICT, Biology (and Human Biology), Chemistry, Computer Science; Economics, Electronics, Environmental Science, Further Mathematics, Geography, Geology, ICT, Life and Health Sciences, Mathematics, Psychology, Physics; Statistics.

BTEC Level 3 National Extended Certificate

Distinction in BTEC (any subject) plus AB in A Levels.

A Levels must include Mathematics and a science subject (Chemistry, Computer Science, Further Mathematics, Physics or Electronics).

BTEC Level 3 Diploma

D*D in a relevant BTEC considered alongside grade B in A Level Mathematics.

BTEC Level 3 National Extended Diploma

D*D*D in a relevant Diploma, including Distinction in 'Further Mathematics for Engineering Technicians' unit. Students will also be required to take an online Mathematics assessment, please contact the University for further information.

International Baccalaureate

32 points overall and no score less than 4 and including 5 in HL Mathematics and 5 in a second HL science subject, or pass the IB Diploma with 6,5,5 in three Higher Level subjects, including HL Mathematics and a second HL science subject.

Irish Leaving Certificate

H1, H2, H2, H2, H3, H3 including H2 or above in Mathematics and a science subject (Chemistry, Computer Science, Further Mathematics, Physics or Electronics).

Scottish Higher/Advanced Higher

ABB in Advanced Highers including Mathematics and a science subject (Chemistry, Computer Science, Further Mathematics, Physics or Electronics).

Welsh Baccalaureate Advanced

B in the Welsh Baccalaureate, plus AB at A level (including Mathematics and a second science subject).

Cambridge Pre-U Diploma

D3 in Cambridge Pre U Principal Subject is accepted as equivalent to A-Level grade A
M2 in Cambridge Pre U Principal Subject is accepted as equivalent to A-Level grade B
Global Perspectives and Short Courses are not accepted.

Access

Pass Access to HE Diploma in a relevant subject with 45 Level 3 credits with 33 at Distinction (including 15 Mathematics credits) and 12 at Merit. Applicants will be required to take a maths test.

International qualifications

Select your country or region to view specific entry requirements.

If you hold a bachelor's degree or equivalent, but don't meet our entry requirements, you could be eligible for a Pre-Master's course. This is offered on campus at the University of Liverpool International College, in partnership with Kaplan International Pathways. It's a specialist preparation course for postgraduate study, and when you pass the Pre-Master's at the required level with good attendance, you're guaranteed entry to a University of Liverpool master's degree.

Alternative entry requirements

- If your qualification isn't listed here, or you're taking a combination of qualifications, contact us for advice
- Applications from mature students are welcome.

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

6.0 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

115 overall, with speaking, reading and writing not less than 105, and listening not below 100

Pearson PTE Academic

59 overall, with no component below 59

LanguageCert Academic

65 overall, with no skill below 60

Cambridge IGCSE First Language English 0500

Grade C overall, with a minimum of grade 2 in speaking and listening. Speaking and listening must be separately endorsed on the certificate.

Cambridge IGCSE First Language English 0990

Grade 4 overall, with Merit in speaking and listening

Cambridge IGCSE Second Language English 0510/0511

0510: Grade C overall, with a minimum of grade 2 in speaking. Speaking must be

separately endorsed on the certificate. 0511: Grade C overall.

Cambridge IGCSE Second Language English 0993/0991

0993: Grade 5 overall, with a minimum of grade 2 in speaking. Speaking must be separately endorsed on the certificate. 0991: Grade 5 overall.

Cambridge ESOL Level 2/3 Advanced

169 overall, with no paper below 162

International Baccalaureate English A: Literature or Language & Literature

Grade 4 at Standard Level or grade 4 at Higher Level

International Baccalaureate English B

Grade 6 at Standard Level or grade 5 at Higher Level

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
5.5 overall, with no component below 5.5	6 weeks	On campus or online
5.5 overall, with no component below 5.0	10 weeks	On campus or online
5.0 overall, with no component below 5.0	12 weeks	Online
5.0 overall, with no component below 4.5	20 weeks	On campus
4.5 overall, with no component below 4.5	30 weeks	On campus
4.0 overall, with 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 6.0 overall, with no component below 5.5, for further details.

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