

Robotics BEng with a Year in Industry (Hons)

UCAS Code: H672 | **Duration: 4 years** | **Full-time** | **Hope Park** | **2026/2027**

Placement year opportunities available



Course Overview

Robotics is entering an exciting new era, with intelligent robots transforming industries from consumer technology to healthcare. As one of the fastest-growing industries in the world, Robotics is poised to become one of the largest sectors of the coming decade, reshaping the way society interacts with technology and how technology interacts with us.

Our Robotics degree reflects the latest software and hardware advances, equipping you with highly sought-after skills and exposure to cutting-edge research. This Robotics course covers areas such as Embedded Systems, Machine Learning, and Mechatronics, giving you both theoretical understanding and hands-on experience.

You will work with specialist software, hardware interfaces, commercial robots and fabrication facilities, developing practical expertise alongside academic knowledge. Taught by research-active academics with internationally recognised expertise in Robotics and Intelligent Systems, this degree prepares you for a future at the forefront of technological innovation.

Entry Requirements

This course follows the standard University entry requirements. Please see the website for further information.

Fees and Additional Costs

The tuition fees for 2026/2027 are £9,535 for full-time undergraduate courses.

You will also need to consider the cost of your accommodation each year whilst you study at university.

Visit our accommodation webpages for further details about our Halls of Residence: www.hope.ac.uk/halls

Applicants will need access to a computer if course delivery is switched to online. The University has a laptop lending service if remote study is necessary.



**LIVERPOOL
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Robotics BEng with a Year in Industry (Hons) Curriculum

Year One

In the first year, you will develop the theoretical knowledge and practical skills that underpin Robotics.

Introduction to Programming

This module explores the foundational concepts of programming and data structures, focusing on Java and Python.

Introduction to Artificial Intelligence

In this course, we will explore the field of Artificial Intelligence (AI), starting with foundational concepts and progressing through its diverse applications and implications.

Introduction to Engineering

Students will study the key underpinning principles for their programme including analogue and digital electronics and engineering mathematics.

Fundamentals of Computational Science

This module introduces the foundations of computer science by weaving together mathematics, C programming, cryptography and scientific computing. Students begin with sets, logic, and proofs to build the habits of abstract reasoning and formal problem-solving.

Year Two

In the second year, you will develop a broader understanding and knowledge of the theoretical and practical aspects of Robotics. Topics include the following:

Robotics Platforms

You gain hands-on experience with real robots, learning how to programme them.

Robot Operating System (ROS)

ROS is the industry standard software architecture for the control of robots and you will gain practical hands on experience.

Kinematic and Mechanics

You study the motion of an object in 3D which leads to understanding the

relationship between a robot's joint coordinates and its spatial layout in robotics kinematics.

Microcontrollers

Being able to program microcontrollers and interface them to sensors and actuators are critical skills.

Control theory

Dive into the world of computer network infrastructure and protocols.

Computer vision

You will study how machines interpret and understand visual information from the world.

Professional skills

From communication to problem-solving, you'll be prepared to navigate the challenges of industry.

Applied electronics

In this block of study you will learn about electronic semiconductor devices and application circuits, sensors and signal conditioning, signal conversion and sequential logic.

Year Three

You spend your third year on a compulsory placement in industry.

Year Four

Your fourth year helps you develop a deeper understanding of the theoretical aspects of Robotics and be able to critically select appropriate tools and techniques to solve problems. Topics will depend on latest developments, but will include the following:

- Machine learning
- Engineering and Manufacturing Principles for Robots
- Electronics systems
- Embedded systems
- Internet of Things (IoT)
- Robotics systemsinteraction.

COURSE STRUCTURE

Teaching on this degree is structured into lectures, where all students are taught together, seminars of smaller groups of around 15-20 students, and tutorials which typically have no more than 10 students. Your third year of study is a compulsory placement year in industry.

During your first year of study, there are approximately 12 teaching hours each week, which reduces to approximately 10 teaching hours in your second and fourth years. On top of teaching hours, you are also expected to spend a number of hours studying independently each week, as well as studying in groups to prepare for any group assessments that you may have.

Work Placement Opportunities

This degree includes a compulsory year in industry placement, giving you the opportunity to gain real workplace skills highly sought after by employers.

ASSESSMENT AND FEEDBACK

You will have a number of assessments each year, including exams and coursework.

You will be given written feedback on your assessments, and you will have the opportunity to discuss this with your tutor in more detail.



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