Artificial Intelligence BSc (Hons)

UCAS Code: GH76 | Duration: 3 years | Full-time | Hope Park | 2026/2027

Placement year opportunities available | Study Abroad opportunities

Course Overview

We are on the brink of a technological revolution, and Artificial Intelligence (AI) is at its core, transforming how we live, work, and interact. This Artificial Intelligence degree equips you with the knowledge and skills to understand how AI works, its current capabilities, potential future developments, and its ethical and responsible use.

The Artificial Intelligence course provides practical learning on AI systems, teaching you how to develop, utilise, and innovate with AI in real-world applications. With a growing demand for AI practitioners, this Artificial Intelligence degree prepares you to contribute to the rapidly evolving AI industry and be part of shaping its future.

Fees and Additional Costs

The tuition fees for 2026/2027 are £9,790 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.

Entry Requirements

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

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Artificial Intelligence BSc (Hons) Curriculum

Year One

This is a broad introduction to the subject and you develop the theoretical knowledge, problem solving and practical skills that underpin AI:

Introduction to Programming

This module explores the foundational concepts of programming and data structures, focusing on Java and Python, and examines how skills in structured coding, object-oriented programming, and core algorithms support the design of efficient, maintainable solutions to computational problems.

Introduction to Artificial Intelligence

We will explore the field of AI, starting with foundational concepts and progressing through its diverse applications and implications. We begin by understanding what AI is, its history, and core principles such as machine learning, neural networks, and natural language processing.

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

During your second year, you will build upon the foundational knowledge from the first year. Topics include the following:

Machine Learning

You will gain a wide range of skills in AI, with an emphasis on machine learning, but also metaheuristics and cellular automata.

Graph Theory

Understanding the mathematical foundations of graphs is essential to modern machine learning, notably current edge techniques such as graph neural networks.

Computer Vision

You will study how machines interpret and understand visual information from the world. Learn the foundational techniques and algorithms that enable computers to process, analyse, and make decisions based on visual data, bridging the gap between human and machine perception.

Professional Skills

This topic emphasises effective communication, teamwork, and the critical study techniques that will support your academic journey and future career.

Object-oriented Programming with C++

This topic provides a comprehensive understanding of classes, objects, inheritance, polymorphism, and other core OOP concepts, ensuring a strong foundation for advanced software development.

Algorithm Design and Analysis

Understand the heart of computational problem-solving. This course will introduce you to the design, analysis, and implementation of algorithms, ensuring you can develop efficient and effective solutions to complex problems.

Introduction to Software Engineering

This topic covers best practices, design patterns, and methodologies that ensure the creation of robust, scalable, and maintainable software systems.

Human-Computer Interaction

This topic focuses on design principles, user testing, and the psychology of user interactions, ensuring that software meets the needs and expectations of its users.

Year Three

This year focuses on advanced and specialised areas of AI, providing students with in-depth knowledge and practical skills.

Natural Language Processing Fundamentals

Students will learn classical NLP techniques based on linguistics in the first semester.

Applicant of Natural Language Processing

Advanced methods like Transformers and Language Models are studied in the second semester with the application of these techniques in areas like Stock Trading.

Convolutional Neural Networks

This builds on previous knowledge of computer vision, focusing on more advanced techniques, with a focus on CNNs, and applications for interpreting visual data.

Machine Learning Hardware

This focusses on the practical aspects of AI, specifically on programming with PyTorch and deploying AI models to physical devices.

Internet-of-Things (IoT)

You'll learn how everyday objects can communicate over the internet and will have access to modern tools to develop and test your ideas.

Cybersecurity

Students loan to identify vulnerabilities, implement security protocols and learn how machine learning techniques can be used to predict and mitigate cyber threats.

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.

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 third 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.

ASSESSMENT AND FEEDBACK

Throughout your four years of study, you will have a number of assessments, individual and group presentations, lab reports, portfolios, practical tests, case studies, and placement assessment.

In your final year, you complete a dissertation research project.