

Course record information

Name and level of final award	<ul style="list-style-type: none"> • Master of Science - Applied Artificial Intelligence <p>The award is Bologna FQ-EHEA second cycle degree or diploma compatible</p>
Name and level of intermediate awards	<ul style="list-style-type: none"> • Postgraduate Diploma (Pg Dip) - Applied Artificial Intelligence • Postgraduate Certificate (Pg Cert) - Applied Artificial Intelligence
Awarding body/institution	University of Westminster
Teaching institution	University of Westminster
Status of awarding body/institution	Recognised Body
Location of delivery	Primary: Central London
Language of delivery and assessment	English
QAA subject benchmarking group(s)	QAA Subject Benchmark Statements - Computing, March 2022
Professional statutory or regulatory body	British Computer Society (BCS, The Chartered Institute for IT) (Pending: Please see section on Professional body accreditation or other external references for further information)
Westminster course title, mode of attendance and standard length	<ul style="list-style-type: none"> • Applied Artificial Intelligence MSc, Full-time, September start - 1 year standard length • Applied Artificial Intelligence MSc, Part-time day, September start - 2 years standard length
Valid for cohorts	From 2025/6

Admissions requirements

There are standard minimum entry requirements for all postgraduate courses. Students are advised to check the standard requirements for the most up-to-date information. For most courses a decision will be made on the basis of your application form alone. However, for some courses the selection process may include an interview to demonstrate your strengths in addition to any formal entry requirements. More information can be found here: <https://www.westminster.ac.uk/courses/postgraduate/how-to-apply>.

Aims of the programme

In a world increasingly driven by data and Artificial Intelligence (AI) algorithms, many professionals acknowledge the importance of AI but recognise the need for more systematic training. The Applied Artificial Intelligence MSc offers a structured pathway, blending rigorous academic instruction with real-world application.

The Applied Artificial Intelligence MSc caters to individuals with a strong interest in AI who want to explore its practical applications. It is suitable for professionals across various sectors who want to utilise AI for better problem-solving and decision-making or for those seeking to transition into the AI industry with a solid foundation of knowledge and skills.

Artificial Intelligence involves developing and using algorithms that allow machines to undertake tasks typically demanding human Intelligence. AI specialists utilise various methods, including search algorithms, knowledge representation, reasoning, machine learning, and neural networks, to transform extensive data into actionable insights.

This course will equip you with applied AI skills that are in high demand in the industry, anchored by theoretical foundations. Through immersive modules, you will navigate through the key techniques of AI, from its foundational concepts to its industry applications, ensuring that you are proficient at both theory and practice.

A key aim of the course is to produce graduates who are not only technically skilled but also aware of the societal and ethical implications of AI applications. This programme incorporates the principles of Education for Sustainable Development (ESD) and aligns with the United Nations Sustainable Development Goals (SDGs). You will learn how bias can manifest in training data, and model architectures and to evaluate the societal impact of large-scale AI adoption. This is realised by integrating ethics and societal impact into all modules, thereby cultivating a breed of AI specialists who champion responsible and ethical AI.

Employment and further study opportunities

Today's organisations need graduates with both good degrees and skills relevant to the workplace, i.e. employability skills. The University of Westminster is committed to developing employable graduates by ensuring that:

- Career development skills are embedded in all courses
- Opportunities for part-time work, placements and work-related learning activities are widely available to students
- Staff continue to widen and strengthen the University's links with employers in all sectors, involving them in curriculum design and encouraging their participation in other aspects of the University's career education and guidance provision
- Staff are provided with up-to-date data on labour market trends and employers' requirements, which will inform the service delivered to students.

The MSc in Applied AI's primary objective is to give graduates critical employability skills essential for a successful career in AI. This program equips you with a range of skills highly valued by employers: technical skills like machine learning algorithms and deep learning, as well as transferable skills like communication and collaboration. The course also includes workshops and interactive sessions with industry experts, allowing you to gain first hand insights, discuss evolving trends, and understand the tangible application of their AI skills in the professional domain.

Graduates of the MSc in Applied AI are well positioned for roles across a vast array of AI applications and environments. Prospective job titles include AI Specialist, Machine Learning Engineer, AI Solution Architect, Deep Learning Scientist, and AI Ethics Consultant, amongst others. The roles often demand proficiency in AI system design, algorithm development, and the application of AI in diverse sectors.

Beyond these core AI-oriented roles, the course equips graduates to apply their previous skills and newly acquired AI expertise for broader IT and business roles. For instance, a graduate with a business background could transition into AI Strategy Consulting, AI-driven Market Analysis, Prompt Engineering, or positions in AI Product Management. The program's focus on sustainability and ethical AI practices will also prepare you for emerging roles in responsible AI development, ensuring your skills remain relevant as the industry evolves.

What will you be expected to achieve?

Course learning outcomes

Learning outcomes are statements on what successful students have achieved as the result of learning.

These are threshold statements of achievement the learning outcomes broadly fall into four categories:

The overall knowledge and understanding you will gain from your course (KU)

Graduate attributes are characteristics that you will have developed during the duration of your course (GA)

Professional and personal practice learning outcomes are specific skills that you will be expected to have gained on successful completion of the course (PPP)

Key transferable skills that you will be expected to have gained on successful completion of the course. (KTS)

Level 7 course learning outcomes: upon completion of Level 7 you will be able to:

- 001 Critically evaluate the foundational principles and practices of artificial intelligence and machine learning. (KU)
- 002 Design, implement, and evaluate AI models using diverse programming languages and mathematical techniques. (SS)
- 003 Utilise machine learning in solving complex problems and enhance decision making processes. (PPP SS)
- 004 Apply AI methodologies effectively within industrial decision-support systems and other relevant contexts. (KTS SS)
- 005 Understand and apply deep learning techniques and neural networks in AI systems. (KU SS)
- 006 Leverage diverse AI techniques, tools, and methodologies to innovatively address a spectrum of AI-related challenges. (CS)
- 007 Foster professional attitudes as well as the interpersonal and entrepreneurial skills required of a practitioner in the industry. (PPP KTS)
- 008 Conduct an independent research project, demonstrating a critical understanding of the selected topic, and the application of appropriate research methodologies. (KU CS)
- 009 Evaluate the societal and ethical implications of AI applications, and propose actionable strategies for addressing these challenges to promote equity, diversity, and inclusion in real-world contexts. (PPP KTS)
- 010 Employ sustainability principles and practices in the design, development, and deployment of AI systems, promoting eco-friendly and socially responsible AI applications. (PPP)

How will you learn?

Learning methods

Learning methods are designed to facilitate your active and critical learning through acquiring, understanding, and applying knowledge, skills, and professionalism. This course is designed to take advantage of the latest e-learning tools and strategies. Consequently, a wide range of learning methods are used across the course's modules, for example, the use of:

- In person lectures and seminars: Lectures and Seminars will be delivered face-to-face, providing you with the opportunity to engage with instructors and your peers allowing for immediate feedback and discussions. Lectures will be complemented by supporting online materials, ensuring you can review and reinforce your understanding outside of class. Small group seminars will provide opportunities for in-depth discussion and problem solving.
- Advanced AI-specific software tools and packages: These tools, including Machine Learning libraries and AI development platforms, enrich the hands-on learning experience by simulating real-world AI problem-solving and development scenarios.
- Case studies: Case studies are integrated into the curriculum to support analytical and problem-solving skills. These studies bring forth real-world AI challenges, promoting interdisciplinary knowledge application.
- Webinars and virtual guest lectures: Industry professionals and AI pioneers are invited for onsite and online sessions to showcase the industry applications of AI, bridging the gap between theory and practice.
- Collaborative projects: You may engage in team projects using online collaboration tools, enhancing your teamwork and communication skills in a virtual environment.
- Digital research methods: Tapping into extensive digital libraries, databases, and online publications, you will cultivate strong research and analytical capabilities.

- Interactive report writing tools: You will use online platforms for report submissions. This will allow for timely feedback, collaboration, and proper formatting and referencing guidance.
- Peer review and feedback: You will present your findings and projects. This promotes your ability to communicate ideas effectively, and helps to build a culture of critical thinking, peer review, and open discussion.
- Work-based AI projects: Working with industry partners, you can undertake simulated projects, mimicking real-world AI implementation challenges.

Support throughout the course is channelled through the Blackboard, Virtual Learning Environment (VLE). Blackboard provides a suite of learning resources, interactive content, and community forums. This platform hosts lecture notes, virtual labs, AI tutorials, assessment schedules, feedback, and more, ensuring a seamless learning experience. Activities employed are virtual team activities, group discussions, and collaborative projects, and dedicated online IT support ensures that any technological barriers are addressed in a timely manner to minimise any disruption.

Teaching methods

The course has been developed using an inclusive approach where you will have a learning experience that respects diversity, encourages participation, reduces barriers to learning and considers your varying needs. The course offers a wide range of AI topics blending both practice and theory, different learning and teaching methods, diverse assessment methods, personalised learning through accessible onsite and online resources, and individual support throughout the course. The topics covered in the course focus on essential technical and written communication and interpersonal skills. You will be engaged through problem solving and critical analysis, and where appropriate topics will be studied from different social and cultural contexts providing you with a more robust and rounded approach to the subject. For example, a diverse range of case studies, authors, reading lists and critical perspectives are embedded within the course to provide you with an inclusively designed and diversified curriculum. Together these encourage and enable you to be active, fully participate and tailor your learning according to your career aspirations and individual needs.

This program utilises a diverse range of teaching methods to facilitate a comprehensive learning experience:

- Interactive Lectures: Real-time engagement through live demonstrations, polls, and discussions.
- Problem-Based Learning (PBL): Collaborative problem-solving of real-world AI problems.
- Workshops and Laboratories: Hands-on practice applying theoretical concepts using AI tools.
- Seminars and Discussion Groups: Student-led critical analysis and idea exchange on complex AI topics.
- Case Studies and Simulations: Bridging theory and practice by exploring AI's real-world applications.
- Guest Lectures and Industry Engagement: Gaining insights and networking with AI experts.
- Collaborative Projects: Teamwork and collaboration to solve simulated real-world AI challenges.
- Flipped Classroom: Pre-class preparation with interactive activities in class.
- Formative Assessments and Feedback: Continuous monitoring of student progress and targeted support.
- Individualised Support: Personalised guidance to meet diverse learning needs.

Central to the MSc program is the final project which involves combining and applying all the AI concepts learnt in the course. You will be allowed to choose your project topic, ensuring you can pursue topics that you are passionate about. Each student is paired with a supervisor with expertise in their chosen project area. Supervisors guide you from topic selection to the final report submission, providing feedback, insights, and resources at every stage. In addition to one-on-one meetings with supervisors, online seminars and workshops will guide you in project management, research methodologies, and report writing.

Before commencing, you will receive preparatory material to acclimatise you to the learning environment. The course induction further consolidates this foundation with introductory workshops. Each module offers support in the form of lecture recordings, diverse teaching materials, e-books, discussion boards, and collaboration spaces. Module leaders remain available through email and scheduled meetings, ensuring any query or concern is addressed promptly within agreed response times.

In this digitally connected era, personal touch remains vital. Thus, you will have a dedicated personal tutor to guide you academically and provide support for personal challenges that might arise during your learning journey.

How is Equity, Diversity, and Inclusivity (EDI) addressed in your course

The course design ensures that you will have a learning experience that is flexible, respects diversity, encourages active participation and considers students varying needs, supporting the University of Westminster's Black Lives Matter

Commitment Plan. The course has been developed using an inclusive approach where you will have a learning experience that respects diversity, encourages participation, reduces barriers to learning and considers the varying needs of students.

Within the course, inclusivity has been addressed through a programme that offers a wide range of AI topics blending both practice and theory, different learning and teaching methods, diverse assessment methods, personalised learning through accessible online resources and individual support throughout the course and opportunities for professional development.

The course will encourage and enable you to tailor your learning according to your career ambitions, cultural identity and individual aspirations by allowing you to choose a project specialisation within the area of AI, develop your own practical solutions to a given problem set and select option modules that will enable you to specialise or gain greater confidence in various application areas of AI.

The topics covered in the course focus entirely on essential technical, generic and transferable skills, but where appropriate will be studied from different social and cultural contexts providing you with a more robust and rounded approach to the subject. For example, a diverse range of case studies, authors, reading lists and critical perspectives are embedded within the course to provide an inclusively designed course delivery.

The course will equip you with the technical and employability skills required to work in a changing and diverse world. Above all, you should be reassured that the course team aims to eliminate all arbitrary barriers to your learning and to work with you to achieve your best outcome.

The learning methods employed by the course are underpinned by three key principles. These are:

- Provision of a learning environment, that is equitable, diverse and inclusive and which allows you to learn flexibly with materials that will be available to you in a number of learning context and at any time such as mobile and home environments;
- Provision of a supportive and safe learning environment, based on mutual trust and respect, where students are empowered to act as partners in their transformative learning experiences;
- Provision of a forward-looking course curriculum that is work-place relevant, current and authentic.

Practically, you will see this working in the following ways, for example:

- teaching materials are where possible, designed to be inclusive for all;
- the active development of mutual trust and respect between students and between staff and students;
- emphasis on skill-based learning using a learn-by-practice approach, use of current and industry-standard tools chains and methodologies;
- the teaching of broader concerns, concepts, and skills such as the environment and project management that values inclusivity and diversity;
- a curriculum that is current, global in outlook and targeted at application areas that address real-world challenges.

Assessment methods

Assessment and feedback are crucial components of the learning experience. The university strives for authentic assessments, which can take various forms, such as individual research projects or collaborative tasks that simulate real-world AI challenges. Some specific methods used for assessment include:

- Applied projects: Design, develop, and implement AI models or systems to address real-world challenges. These projects enable you to showcase your technical skills and ability to innovate.
- Portfolios: A collection of various works, reflections, and achievements throughout the course, offering a comprehensive view of your progress and areas of proficiency.
- Technical reports: These could pertain to research findings, analysis of AI algorithms, or critiques of existing systems.
- Oral presentations and vivas: You will need to present your findings or defend your projects using online conferencing tools. This method evaluates both the content and your presentation skills.
- Quizzes: Time-constrained, automated quizzes giving you an opportunity to test your understanding of a broad spectrum of topics while you learn.
- Peer reviews: Encouraging collaborative learning, you will assess and provide feedback on your peers' work, and receive similar feedback from your peers, giving you an alternative perspective that you may not have considered.
- Simulated real-world scenarios: Interactive and immersive AI challenges that test your problem-solving and decision-making skills. These simulations will be conducted in labs or workshop settings, allowing for real-time interaction and collaboration among students.

The guiding principles in selecting these assessment methods include:

- relevance to real-world AI challenges;
- criterion-based evaluation;
- timely and constructive feedback to help you understand areas of improvement, fostering an environment of continuous learning;
- effort and time management.
- sustainability and EDI considerations, ensuring these critical themes are reflected in both the content and assessment of your work.

Assessments are formative or summative, and all are tied directly to the course's learning outcomes. Detailed feedback, provided in various formats, will give you a clear understanding of your performance and aid in your academic progression.

Graduate Attribute	Evident in Course Outcomes
Critical and creative thinker	001, 002, 003, 005, 006, 008
Literate and effective communicator	008, 009
Entrepreneurial	004, 006, 007
Global in outlook and engaged in communities	004, 010
Socially, ethically and environmentally aware	007, 009, 010

Course Structure

This section shows the core and option modules available as part of the course and their credit value. Full-time Postgraduate students study 180 credits per year. Additional free text information on the choices may also be included, for example where students must choose one of two modules.. Course structures can be subject to change each academic year following feedback from a variety of sources.

Modules

Level 7

Module Code	Module Title	Status	PT Year (where applicable)	UK credit	ECTS
7BUIS033W	Applied AI and Industrial Decision Support Systems	Core	Various	20	10
7COSC015W	Deep Learning and Neural Networks	Core	Various	20	10
7COSC013W	Foundations of Artificial Intelligence	Core	Various	20	10
7DATA001W	Machine Learning in Practice	Core	Various	20	10
7COSC017W	MSc Applied AI Project	Core	Various	60	30
7COSC014W	Programming and Maths for AI	Core	Various	20	10
7COSC016W	Applied Computer Vision	Option	Various	20	10
7DATA002W	Big Data and Cloud Computing	Option	Various	20	10

Please note: Not all option modules will necessarily be offered in any one year. In addition, timetabling and limited spaces may mean you cannot register for your first choice of option modules.

Professional body accreditation or other external references

The course has been designed with reference to:

- QAASubject Benchmark for Computing
- Engineering Council Accreditation of Higher Education Programmes (AHEP), fourth edition
- QAAGuidelines for Preparing Programme Specifications
- SEEC Credit Level Descriptors for Further and Higher Education

The British Computer Society (BCS, The Chartered Institute for IT) professional accreditation ensures independent validation that the course meets high standards set by the profession. It also benchmarks the course against those of other institutions both nationally and internationally and supports the continued improvement of the course, highlighting areas of best practice across institutions. For you as a student being on an accredited course provides a pathway to professional registrations such as Chartered IT Professional (CITP), Chartered or Incorporated Engineer (CEng/IEng) and Registered IT Technician (RITTech).

MSc Applied AI is intended to fulfil the educational requirements of BCS for the purposes of partially meeting the academic requirement for registration as a Chartered IT Professional and a Chartered Engineer. Due to the 5-year accreditation timeline the course will be considered for the accreditation in 2027. The accreditation will be backdated to include the first intake from September 2025. On successful completion of this process your course will become accredited in 2027.

Course management

The management structure supporting the course is as follows:

- Course leader: responsible for the running and overall management of the course and development of the curriculum.
- Module Leader: responsible for overall management of the module, coordinating the module team and for the delivery, resourcing and smooth running of the module.
- Course Team: comprises the Course Leader and all the members of staff who teach on the course.
- Personal Tutor: responsible for providing academic and personal support for a student throughout their studies.
- Head of School of Computer Science and Engineering, holds academic responsibility for the course, and for the other courses within the School within the College of Design, Creative and Digital Industries.
- Head of the College of Design, Creative and Digital Industries, holds overall responsibility for the course and for other courses run by the College.

Academic regulations

The current Handbook of Academic Regulations is available at westminster.ac.uk/academic-regulations.

Course specific regulations apply to some courses.

Academic Support

Upon arrival, an induction programme will introduce you to the staff responsible for the course, the campus on which you will be studying, the Library and IT facilities, additional support available and to your Campus Registry. You will be provided with the Course Handbook, which provides detailed information about the course. Each course has a course leader or Director of Studies. All students enrolled on a full-time course and part time students registered for more than 60 credits a year have a personal tutor, who provides advice and guidance on academic matters. The University uses a Virtual Learning Environment called Blackboard where students access their course materials, and can communicate and collaborate with staff and other students. Further information on Blackboard can be found at <https://www.westminster.ac.uk/current-students/studies/your-student-journey/when-you-arrive/blackboard>

The Academic Learning Development Centre supports students in developing the skills required for higher education. As well as online resources in Blackboard, students have the opportunity to attend Study Skills workshops and one to one appointments. Further information on the Academic Learning Development Centre can be found at westminster.ac.uk/academic-learning-development.

Learning support includes four libraries, each holding a collection of resources related to the subjects taught at that site. Students can search the entire library collection online through the Library Search service to find and reserve printed books, and access electronic resources (databases, e-journals, e-books). Students can choose to study in the libraries, which have areas for silent and group study, desktop computers, laptops for loan, photocopying and printing services. They can also choose from several computer rooms at each campus where desktop computers are available with the general and specialist software that supports the courses taught in their College. Students can also securely connect their own laptops and mobile devices to the University wireless network.

Support Services

The University of Westminster Student and Academic Services department provide advice and guidance on accommodation, financial and legal matters, personal counselling, health and disability issues, careers, specialist advice for international students and the chaplaincy providing multi-faith guidance. Further information on the advice available to students can be found at <https://www.westminster.ac.uk/student-advice>

The University of Westminster Students' Union also provides a range of facilities to support students during their time at the University. Further information on UWSU can be found at <https://www.westminster.ac.uk/students-union>

How do we ensure the quality of our courses and continuous improvement?

The course was initially approved by a University Validation Panel. University Panels normally include internal peers from the University, academic(s) from another university, a representative from industry and a Student Advisor.

The course is also monitored each year by the College to ensure it is running effectively and that issues which might affect the student experience have been appropriately addressed. Staff will consider evidence about the course, including the

evidence of student surveys, student progression and achievement and reports from external examiners, in order to evaluate the effectiveness of the course and make changes where necessary.

A Course revalidation takes place periodically to ensure that the curriculum is up-to-date and that the skills gained on the course continue to be relevant to employers. Students meet with revalidation panels to provide feedback on their experiences. Student feedback from previous years is also part of the evidence used to assess how the course has been running.

How do we act on student feedback?

Student feedback is important to the University and student views are taken seriously. Student feedback is gathered in a variety of ways.

- Through student engagement activities at Course/Module level, students have the opportunity to express their voice in the running of their course. Course representatives are elected to expressly represent the views of their peers. The University and the Students' Union work together to provide a full induction to the role of the course representatives.
- There are also School Representatives appointed jointly by the University and the Students' Union who meet with senior School staff to discuss wider issues affecting student experience across the School. Student representatives are also represented on key College and University committees.;
- All students are invited to complete a questionnaire before the end of each module. The feedback from this will inform the module leader on the effectiveness of the module and highlight areas that could be enhanced.
- Final year Undergraduate students will be asked to complete the National Student Survey which helps to inform the national university league tables.

This programme specification provides a concise summary of the main features of the course and the learning outcomes that a student might reasonably be expected to achieve and demonstrate, if they take full advantage of the learning opportunities that are provided. This specification is supplemented by the Course Handbook, Module proforma and Module Handbooks provided to students. Copyright in this document belongs to the University of Westminster. All rights are reserved. This document is for personal use only and may not be reproduced or used for any other purpose, either in whole or in part, without the prior written consent of the University of Westminster. All copies of this document must incorporate this Copyright Notice – 2022©