

KEY PROGRAMME INFORMATION

Originating institution(s) Bournemouth University	Faculty responsible for the programme Faculty of Science and Technology
Final award(s), title(s) and credit MSc Data Science and Artificial Intelligence – 180 credits (90 ECTS)	
Intermediate award(s), title(s) and credits PGDip Data Science and Artificial Intelligence - 120 Credits (60 ECTS) PGCert Data Science and Artificial Intelligence - 60 Credits (30 ECTS)	
UCAS Programme Code(s) (where applicable and if known) N/A	HECoS (Higher Education Classification of Subjects) Code and balanced or major/minor load. 100359 Artificial Intelligence CAH Code: 11-01-05 Artificial Intelligence Does this programme require ATAS: NO
External reference points The UK Quality Code for Higher Education (https://www.qaa.ac.uk/the-quality-code/) Chapter A1: The National Level (incorporating the Framework for Higher Education Qualifications (FHEQ) in England, Wales and Northern Ireland) Chapter A2: The Subject and Qualification Level (incorporating the Subject benchmark statements for Computing (2022)) United Nations Sustainable Development Goals (SDGs)	
Professional, Statutory and Regulatory Body (PSRB) links N/A	
Places of delivery Bournemouth University, Talbot Campus	
Mode(s) of delivery Full-time Part-time	Language of delivery English
Typical duration 12 months full-time, 24 months part-time – September intake 16 months full time, 32 months part-time – January intake	
Date of first intake September 2025	Expected start dates September, January
Maximum student numbers N/A	Placements None
Partner(s) N/A	Partnership model N/A
Date of this Programme Specification April 2025	
Version number 2.0-0925	
Approval, review or modification reference numbers E242510 E242508, approved 09/04/2025 EC2425 24, approved 28/04/2025	
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PROGRAMME STRUCTURE

Programme Award and Title: MSc Data Science and Artificial Intelligence								
Stage 1/Level 7								
Students are required to complete 6 core units								
Unit Name	Core/ Option	No. of Credits	Assessment Element Weightings			Expected Contact hours per unit	Unit Version No.	HECoS Code (plus balanced or major/ minor load)
			Exam 1	Cwk 1	Cwk 2			
Computational Modelling	Core	20		100%		30	1.0	101029 (major), 100966 (minor)
Machine Learning and Applications	Core	20		100%		30	1.0	100992
Language Models and NLP	Core	20		100%		30	1.0	100961
Computer Vision	Core	20		100%		30	2.0	100968
Efficient and Edge AI	Core	20		100%		30	1.0	100359
Research Methods in Data Science and AI	Core	20		100%		30	1.0	100359 100962 (Balanced)
Progression requirements: No								
Exit qualification:								
PG Dip Data Science and Artificial Intelligence requires 120 credits at Level 7 (excluding 60 credit Individual Masters Project)								
PG Cert Data Science and Artificial Intelligence requires 60 credits at Level 7								

Stage 2/Level 7								
Students are required to complete the Individual Masters Project. In case of repeating units, students can take up to two units while doing their project.								
Unit Name	Core/ Option	No. of Credits	Assessment Element Weightings			Expected Contact hours per unit	Unit Version No.	HECoS Code (plus balanced or major/ minor load)
			Exam 1	Cwk 1	Cwk 2			
Individual Masters Project	Core	60		100%		10	2.0	100359 (major), 100962 (minor)
Exit qualification:								
MSc Data Science and Artificial Intelligence 180 credits at Level 7								
PG Dip Data Science and Artificial Intelligence 120 credits at Level 7 (excluding 60 credit Individual Masters Project)								
PG Cert Data Science and Artificial Intelligence requires 60 credits at Level 7								

AIMS OF THE DOCUMENT

The aims of this document are to:

- define the structure of the programme;
- specify the programme award titles;
- identify programme and level learning outcomes;
- articulate the regulations governing the awards defined within the document.

AIMS OF THE PROGRAMME

The MSc Data Science and AI programme aims to equip students with knowledge of methods and processes that enable them to analyse, devise, and deploy data science and artificial intelligence solutions for real-world problems. The programme emphasises various aspects of exploratory and confirmatory data science techniques and artificial intelligence algorithms in different contexts, ranging from digital health to fraud detection.

Students learn about recent advances in the fields of data science and artificial intelligence, including state-of-the-art tools to perform analytics and experiments that enable data-driven decision-making and automation. The programme develops students' methodological thinking, research disposition, and communication skills, in addition to the theoretical and practical skills within data science and artificial intelligence.

The programme aligns with the UK Government's National AI Strategy and contributes to all three pillars, including: (1) investing in the long-term needs of the AI ecosystem, (2) ensuring AI benefits all sectors and regions, and (3) governing AI effectively. Artificial Intelligence is also recognised as one of the five critical technologies, as outlined in the UK Science and Technology Framework.

By completing this programme, graduates will be prepared to pursue research and employment opportunities in data science and artificial intelligence related fields with advanced technical skills, scientific knowledge, and ethical responsibility.

The primary aim of this postgraduate programme is to develop Masters-level graduates who possess:

- A critical understanding of data science and AI concepts and principles, with the ability to utilise relevant tools and methods.
- A critical understanding of creating innovative data science and AI applications and the ability to apply knowledge and skills to develop solutions for real-world problems.
- Technical skills and competencies to work across data, operations, analytics, processes, technology & architecture of different industries and segments, such as healthcare, hospitality, transportation and banking.
- Research skills in areas such as literature reviews, critical analysis of research findings, project proposals, planning, experiment design and analysis, and dissemination, with a focus on the application of these skills to data science and AI topics.

ALIGNMENT WITH THE UNIVERSITY'S STRATEGIC PLAN

The MSc Data Science and Artificial Intelligence programme aligns with Bournemouth University's 2025 strategic plan, which emphasizes the fusion of excellent teaching, world-class research, and professional practice. This alignment reflects the institution's core values of Excellence, Inclusivity, Creativity, and Responsibility.

Students in the programme benefit from the support of academics with extensive industry experience, many of whom are actively involved in various computer science related projects with external organisations. These academics are also engaged in cutting-edge research, and students are encouraged to participate in co-creation and co-publication projects.

The programme's pedagogical approach focuses on practical, industry-focused tasks, collaborative learning, and engagement with the industry through guest lectures, industrial events and projects. This approach aims to equip students with the full range of skills necessary to succeed in the contemporary

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ICT environment. The academic team's own industrial experience, as well as their network of industry contacts, informs the programme. These industry contacts may also contribute directly to the programme by delivering guest lectures.

LEARNING HOURS AND ASSESSMENT

Bournemouth University taught programmes are composed of units of study, which are assigned a credit value indicating the amount of learning undertaken. The minimum credit value of a unit is normally 20 credits, above which credit values normally increase at 20-point intervals. 20 credits is the equivalent of 200 study hours required of the student, including lectures, seminars, assessment and independent study. 20 University credits are equivalent to 10 European Credit Transfer System (ECTS) credits.

The assessment workload for a unit should consider the total time devoted to study, including the assessment workload (i.e. formative and summative assessment) and the taught elements and independent study workload (i.e. lectures, seminars, preparatory work, practical activities, reading, critical reflection, *practice (if relevant)*).

Assessment per 20 credit unit should normally consist of 3,000 words or equivalent. Dissertations and Level 6 and 7 Final Projects are distinct from other assessment types. This programme adheres to best practice in both academia and industry. MSc dissertation projects can range from constructing an artefact to professional standards to conducting empirical research. Students will also produce concise reports similar to scientific papers, demonstrating rigorous research, analysis and presentation of results.

STAFF DELIVERING THE PROGRAMME

Students will usually be taught by a combination of senior academic staff with others who have relevant expertise including – where appropriate according to the content of the unit – academic staff, qualified professional practitioners, demonstrators/technicians and research students.

INTENDED LEARNING OUTCOMES – AND HOW THE PROGRAMME ENABLES STUDENTS TO ACHIEVE AND DEMONSTRATE THE INTENDED LEARNING OUTCOMES

PROGRAMME AND LEVEL 7 INTENDED PROGRAMME OUTCOMES

A: Subject knowledge and understanding This programme/level provides opportunities for students to develop and demonstrate knowledge and understanding of:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level learning outcomes:
A1 Principles, concepts and techniques of data science and AI related research.	Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes): - lectures (A1 – A5); - seminars (A1 – A5); - directed reading (A1 – A5); - use of the VLE (A1 - A5); - independent research (for project) (A1 - A5).
A2 Enabling technologies for data science and AI applications.	
A3 A rigorous scientific and engineering approach to investigating and solving data science and AI problems in various contexts.	
A4 The management and development of data science and AI solutions to address data science and AI or other problems.	
A5 The professional, legal, and ethical responsibilities of IT personnel within the organisational, technical, and global	Assessment strategies and methods: - coursework (A1 – A5); - project (A1 - A5).

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contexts in which data science and AI approaches are applied.	
B: Intellectual skills This programme/level/ provides opportunities for students to:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level learning outcomes:
B1 Critical thinking, problem-solving and decision-making to solve complex data science and AI problems. B2 Analyse, interpret, synthesis, and critically evaluate information from current research. B3 Critically evaluate and justify alternative approaches to solutions development. B4 Formulate, plan, execute, and report on a project involving original contributions. B5 Communicate findings to professional and academic standards.	Learning and teaching strategies and methods: - lectures (B1 – B3, B5); - labs/seminars (B1 – B5); - workshops (B1 – B5); - use of the VLE (B1 – B3); - independent research (for project) (B1 - B5). Assessment strategies and methods: - coursework (B1 - B5); - project (B1 - B5).
C: Practical skills This programme/level provides opportunities for students to:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level learning outcomes:
C1 Retrieve, select, and evaluate information from a variety of sources towards the data science and AI needs and requirements, with analysis of existing best practices and management of risk. C2 Analyse, specify, design, and implement data science and AI applications to meet business goals. C3 Select appropriate methods and tools for solving data science and AI problems. C4 Plan, monitor and evaluate the progress of a data science and AI solution.	Learning and teaching strategies and methods: - lectures (C1 – C3); - labs/seminars (C1 – C4); - workshops (C1 – C4); - use of the VLE (C1 – C2); - coursework (C1 – C4); - independent research (for project) (C1 – C4); - group exercises (C1 – C4). Assessment strategies and methods: - coursework (C1 – C4); - project (C1 – C4).
D: Transferable skills This programme/level/ provides opportunities for students to:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level learning outcomes:
D1 Demonstrate problem solving skills and the application of knowledge across the discipline areas. D2 Gather, select, and analyse a range of experimental and fieldwork data, and present professionally using appropriate media.	Learning and teaching strategies and methods: - lectures (D1 - D5); - labs/seminars (D1- D5); - workshops (D1 – D5);

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D3 Structure and communicate ideas professionally and effectively to appropriate professional and academic standards.	• use of the VLE (D3 - D5); • independent research (for project) (D1 – D5) • directed reading (D1, D2, D4, D5).
D4 Demonstrate initiative, self-direction, and exercise personal responsibility for management of own learning.	Assessment strategies and methods:
D5 Distil, synthesise, and critically analyse alternative approaches and methodologies to problems and research results reported in literature and elsewhere.	• coursework (D1 - D5); • project (D1- D5).

PG Dip INTENDED LEVEL OUTCOMES

A: Knowledge and understanding This level provides opportunities for students to develop and demonstrate knowledge and understanding of:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level learning outcomes:
A1 Principles and techniques of data science and AI related research.	Learning and teaching strategies and methods:
A2 Enabling technologies for data science and AI applications.	• lectures (A1, A2, A4, A5); • seminars (A1, A2, A4, A5); • directed reading (A1, A2, A4, A5).
A4 The management and development of data science and AI solutions to address data science and AI or other problems.	Assessment strategies and methods:
A5 The professional, legal, and ethical responsibilities of IT personnel within the organisational, technical, and global contexts in which data science and AI approaches are applied.	• coursework (A1, A2, A4, A5).
B: Intellectual skills This level provides opportunities for students to:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level learning outcomes:
B1 Critical thinking, problem-solving and decision-making to solve complex data science and AI problems.	Learning and teaching strategies and methods:
B2 Analyse, interpret, synthesis, and critically evaluate information from current research.	• lectures (B1 – B3, B5); • labs/seminars (B1 – B3, B5); • workshops (B1 – B3, B5); • use of the VLE (B1 – B3).
B3 Critically evaluate and justify alternative approaches to solutions development.	Assessment strategies and methods:
B5 Communicate findings to professional and academic standards.	• coursework (B1 – B3, B5)
C: Practical skills This level provides opportunities for students to:	The following learning and teaching and assessment strategies and methods enable students to achieve and to

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	demonstrate the level learning outcomes:
C1 Retrieve, select, and evaluate information from a variety of sources towards the data science and AI needs and requirements, with analysis of existing best practices and management of risk. C3 Select appropriate methods and tools for solving data science and AI problems. C4 Plan, monitor and evaluate the progress of a data science and AI solution.	Learning and teaching strategies and methods: - lectures (C1, C3, C4); - labs/seminars (C1, C3, C4); - workshops (C1, C3, C4); - use of VLE (C1); - coursework (C1, C3, C4); - group exercises (C1, C3, C4). Assessment strategies and methods: - coursework (C1, C3, C4);
D: Transferable skills This level provides opportunities for students to:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level learning outcomes:
D1 Demonstrate problem solving skills and the application of knowledge across the discipline areas. D2 Gather, select, and analyse a range of experimental and fieldwork data, and present professionally using appropriate media. D3 Structure and communicate ideas professionally and effectively to appropriate professional and academic standards. D4 Demonstrate initiative, self-direction, and exercise personal responsibility for management of own learning.	Learning and teaching strategies and methods: - lectures (D1 – D4); - labs/seminars (D1- D4); - workshops (D1 – D4); - use of the VLE (D3, D4); - directed reading (D1, D2, D4). Assessment strategies and methods: - coursework (D1 – D4).

PG Cert INTENDED LEVEL OUTCOMES

A: Knowledge and understanding This level provides opportunities for students to develop and demonstrate knowledge and understanding of:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level learning outcomes:
A1 Principles and techniques of data science and AI related research. A4 The management and development of data science and AI solutions to address data science and AI or other problems. A5 The professional, legal, and ethical responsibilities of IT personnel within the organisational, technical, and global	Learning and teaching strategies and methods: - lectures (A1, A4, A5); - seminars (A1, A4, A5); - directed reading (A1, A4, A5); - Independent research (for project) (A1, A4, A5). Assessment strategies and methods:

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contexts in which data science and AI approaches are applied.	• coursework (A1, A4, A5); • project (A1, A4, A5).
B: Intellectual skills This level provides opportunities for students to:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level learning outcomes:
B1 Critical thinking, problem-solving and decision-making to solve complex data science and AI related problems. B2 Analyse, interpret, synthesis, and critically evaluate information from current research. B5 Communicate findings to professional and academic standards.	Learning and teaching strategies and methods: • lectures (B1, B2, B5); • labs/seminars (B1, B2, B5); • workshops (B1, B2, B5); • use of the VLE (B1, B2).
	Assessment strategies and methods: • coursework (B1, B2, B5)
C: Practical skills This level provides opportunities for students to:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level learning outcomes:
C1 Retrieve, select, and evaluate information from a variety of sources towards the data science and AI needs and requirements, with analysis of existing best practices and management of risk. C4 Plan, monitor and evaluate the progress of a data science and AI solution.	Learning and teaching strategies and methods: • lectures (C1); • labs/seminars (C1, C4); • workshops (C1, C4); • use of VLE (C1); • coursework (C1, C4); • group exercises (C1, C4).
	Assessment strategies and methods: • coursework (C1, C4);
D: Transferable skills This level provides opportunities for students to:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level learning outcomes:
D2 Gather, select, and analyse a range of experimental and fieldwork data, and present professionally using appropriate media. D3 Structure and communicate ideas professionally and effectively to appropriate professional and academic standards.	Learning and teaching strategies and methods: • lectures (D2 – D4); • labs/seminars (D2- D4); • workshops (D2 – D4); • use of the VLE (D3, D4); • directed reading (D2, D4).

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D4 Demonstrate initiative, self-direction, and exercise personal responsibility for management of own learning.	Assessment strategies and methods: • coursework (D2 – D4).
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Programme Skills Matrix

Programme Intended Learning Outcomes Units		A 1	A 2	A 3	A 4	A 5	B 1	B 2	B 3	B 4	B 5	C 1	C 2	C 3	C 4	D 1	D 2	D 3	D 4	D 5
L7	Computational Modelling	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
L7	Machine Learning and Applications	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
L7	Natural Language Processing	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
L7	Computer Vision	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
L7	Efficient and Edge AI	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
L7	Research Methods in Data Science and AI			X	X	X	X	X	X		X	X		X	X	X	X	X	X	X
L7	Individual Masters Project	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

ADMISSION REGULATIONS

The regulations for this programme are the University's Standard Postgraduate Admission Regulations.

PROGRESSION ROUTES

Recognition arrangements provide formally approved entry or progression routes through which students are eligible to apply for a place on a programme leading to a BU award. Recognition does not guarantee entry onto the BU receiving programme only eligibility to apply. In some cases, additional entry criteria such as a Merit classification from the feeder programme may also apply. Please see the [recognition register](#) for a full list of approved Recognition arrangements and agreed entry criteria.

ASSESSMENT REGULATIONS

6A – Standard Assessment Regulations: Postgraduate Taught Programmes.

WORK BASED LEARNING (WBL) AND PLACEMENT ELEMENTS

N/A