

KEY PROGRAMME INFORMATION

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| Originating institution(s) Bournemouth University | Faculty responsible for the programme Faculty of Science and Technology |
| Final award(s), title(s) and credit MSc Human Centred Artificial Intelligence for Games Development – 180 (90 ECTS) | |
| Intermediate award(s), title(s) and credits PGDip Human Centred Artificial Intelligence for Games Development – 120 credits (60 ECTS) PGCert Data Science and Artificial Intelligence – 60 credits (60 ECTS) PGCert Digital Technologies – 60 credits (60 ECTS) | |
| UCAS Programme Code(s) (where applicable and if known) | HECoS (Higher Education Classification of Subjects) Code and balanced or major/minor load. 100359 - balanced 100736 – balanced 101267 - balanced |
| External reference points <ul style="list-style-type: none"> • The UK Quality Code for Higher Education; • Chapter A1: The National Level (incorporating the Framework for Higher 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 (FT) Part-time (PT) | Language of delivery English |
| Typical duration PGT September start (12-month F/T) PGT January start (16-month F/T) | |
| Date of first intake September 2023 | 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 September 2024 | |
| Version number 1.1-0925 | |
| Approval, review or modification reference numbers E222310 FST 2425 02, approved 17/09/2024, previous version 1.0 -0925 | |
| Author Dr Vegard Engen | |

PROGRAMME STRUCTURE

| Programme Award and Title: MSc Human Centred Artificial Intelligence for Games Development | | | | | | | | |
|---|-----------------|-------------------|-------------------------------|----------|----------|--|------------------------|--|
| Stage 1/Level 7 Students are required to complete all 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 | | | |
| Applied Programming for Data Science | Core | 20 | | 100% | | 30 | 1.0 | 100956 (major) 100359 (minor) |
| Mixed Reality | Core | 20 | | 100% | | 30 | 1.0 | 100368 (balanced) 100358 (balanced) |
| Human Computer Interaction | Core | 20 | | 100% | | 30 | 1.0 | 100736 |
| Ludonarrative Design | Core | 20 | | 100% | | 30 | 1.0 | 101268 (balanced) 101019 (balanced) |
| Explainable and Ethical Artificial Intelligence | Core | 20 | | 100% | | 30 | 1.0 | 100359 (major) 100793 (minor) |
| Industrial Skills and Professional Issues | Core | 20 | | 100% | | 30 | 1.0 | 100812 (balanced) 101088 (balanced) |
| Individual Masters Project | Core | 60 | | 100% | | 10 | 1.0 | 100367 (major) 100962 (minor) |
| Progression requirements: There are no progression requirements Exit qualification: Postgraduate Diploma Human Centred Artificial Intelligence requires 120 credits at Level 7. Students must pass all taught units excluding the practical Masters Dissertation/Project. Postgraduate Certificate Data Science and Artificial Intelligence requires 60 credits at Level 7. Students must pass two subject specific units (Applied Programming for Data Science, Explainable and Ethical Artificial Intelligence). Postgraduate Certificate Digital Technologies requires 60 credits at Level 7 when the conditions for PG Cert Data Science and Artificial Intelligence is not satisfied. | | | | | | | | |

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

MSc in Human Centred Artificial Intelligence (AI) for Games Development aims to prepare students from diverse backgrounds to meet the growing market demands to adopt and use ethical and responsible AI-powered computer games and mixed reality applications to support day-to-day business activities and critical decision making.

AI-driven innovations have great potentials for achieving economic and societal impact but such technologies can also be used in unethical ways, whether intentionally or not, leading to social and legal challenges to individuals, organisations and the community. This programme will provide students with core knowledge and skills to design and build trustworthy AI-powered computer games and mixed reality applications which may be shared between multiple users.

As a student on this programme, you can expect the following:

- develop and hone programming skills for data science, utilising state-of-the-art programming languages and tools, as well as game development using state-of-the-art game engines.
- develop technical skills and competences for working with data; storing, processing, extracting business insights, as well as how data can be used for, e.g., machine learning, game users' experience analysis.
- understand the role of human factors and apply human-centric design processes for developing AI-based solutions.
- understand different types of AI; how they work, how they can be ethically and responsibly applied, and how to select appropriate AI models for a range of real-world scenarios.
- explore how AI can be used for the creation of narrative-based games, and other procedural game content, develop industrial and professional skills to prepare you for applying the knowledge and skills gained in this programme in the industry.
- develop transferrable skills, including critical thinking, effective communication, independent research, and planning and managing an independent Human Centric AI project.

ALIGNMENT WITH THE UNIVERSITY'S STRATEGIC PLAN

MSc Human Centred Artificial Intelligence for Games Development is informed by and well aligned with Bournemouth University's 2025 strategic plan and the fusion of excellent teaching, world-class research and professional practice that is at the heart of the institution's visions and values.

This programme complements the broad range of human computer interaction, data science and artificial intelligence and games development related expertise already spread across the University, and it forms an important component of the BU 2025 vision that indicates it can be used to support/inform/improve sustainable social, environmental and economic growth and development.

Students are supported by academics with a wealth of industry experience, many of whom are actively engaged in various data-related projects with several external organisations. Academics delivering the programme are actively engaged in cutting edge research, while students are encouraged to participate in a range of co-creation and co-publication projects.

Programme Specification - Section 2

The programme's innovative pedagogic approach offers students the opportunity to learn by engaging in a series of practical, industry focused tasks which are supported by industry collaborations. These are aimed at equipping students with the full range of skills necessary to succeed in the contemporary ICT environment and are informed by the academic team's own industrial experience as well as by a network of industry contacts, who may also contribute directly to the programme by delivering guest lectures and contributing to assessment.

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 are 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).

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. The word count for these assignments is 5,000 words per 20 credits, recognising that undertaking an in-depth piece of original research as the capstone to a degree is pedagogically sound.

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

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| 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 programme/level learning outcomes: |
| A1 Principles and techniques of data science and AI A2 Technologies for data science and AI applications, including for game development A3 Vigorous engineering approaches to investigating and solving data science and AI problems in business contexts; A4 The human-centred factors involved in design, application and adoption of data science and AI solutions, including for game development A5 The social, professional, legal & ethical responsibilities of data science and AI personnel within the organisational, technical and global contexts in which data science and AI are applied. | Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes): <ul style="list-style-type: none"> lectures (A1 – A5); seminars (A1 – A5); directed reading (A1 – A5); use of the VLE (A1 – A5); independent research (for project/dissertation) (A1 – A5). Assessment strategies and methods (referring to numbered Intended Learning Outcomes): <ul style="list-style-type: none"> coursework design and implementation (A1 – A5); coursework essays (A1 – A5); dissertation (A1 – A5). |
| B: Intellectual skills This programme provides opportunities for students to: | The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the programme outcomes: |
| B1 Develop and apply critical thinking, problem-solving and decision-making to solve data science and AI problems; B2 Analyse, interpret, synthesise 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 data science and AI, including computer games project involving original contributions; B5 Communicate findings to professional and academic standards. | Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes): <ul style="list-style-type: none"> lectures (B1 – B5); seminars (B1 – B5); directed reading (B1 – B5); use of the Virtual Learning Environment (VLE) (B1 – B5); independent research (for project/dissertation) (B1 – B5). Assessment strategies and methods (referring to numbered Intended Learning Outcomes): <ul style="list-style-type: none"> coursework essays (B1 – B5); project/dissertation (B1 – B5). |
| C: Practical skills This programme provides opportunities for students to: | The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the programme learning outcomes: |
| C1 Retrieve, store, select and evaluate information from a variety of sources; C2 Analyse, specify, design and implement data science and AI applications for computer games to meet business goals; C3 Select appropriate methods and tools for solving data science and AI for computer | Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes): <ul style="list-style-type: none"> lectures (C1 – C4); coursework essays (C1 – C4); independent research for empirical dissertation (C1 – C4); |

Programme Specification - Section 2

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| <p>games problems;</p> <p>C4 Plan, monitor and evaluate the ethical application of human centric data science and AI solutions for computer games.</p> | <ul style="list-style-type: none"> project/dissertation supervision (C1 – C4). <p>Assessment strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> examinations (C1 – C4); coursework essays (C1 – C4); coursework design and implementation (C1 – C4) project/dissertation (C1 – C4). |
| <p>D: Transferable skills This programme provides opportunities for students to:</p> | <p>The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the programme learning outcomes:</p> |
| <p>D1 Demonstrate problem solving skills and the application of knowledge across the discipline areas.</p> <p>D2 Gather, select, and analyse a range of data, and present professionally using appropriate media.</p> <p>D3 Structure and communicate ideas professionally and effectively to appropriate professional and academic standards.</p> <p>D4 Demonstrate initiative and self-direction, exercising personal responsibility for management of own learning.</p> <p>D5 Distill, synthesise and critically analyse alternative approaches and methodologies to problems and research results reported in literature and elsewhere.</p> | <p>Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> lectures (D1 – D5); seminars (D1 – D5); use of the VLE (D1 – D5); directed reading (D1 – D5). independent research (for project/dissertation) (D1 – D5). <p>Assessment strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> coursework essays (D1 – D5); coursework design and implementation (D1 – D5); dissertation (D1 – D5). |

PG Dip INTENDED LEVEL OUTCOMES

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| <p>A: Knowledge and understanding This level provides opportunities for students to develop and demonstrate knowledge and understanding of:</p> | <p>The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level learning outcomes:</p> |
| <p>A1 Principles and techniques of data science and AI</p> <p>A2 Enabling technologies for data science and AI applications including for game development</p> <p>A4 The human-centred factors involved in design, application and adoption of data science and AI solutions including for game development</p> <p>A5 The professional, legal and ethical responsibilities of data science and AI personnel within the organisational, technical and global contexts in which data science and AI are applied.</p> | <p>Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> lectures (A1, A2, A4, A5); seminars (A1, A2, A4, A5); directed reading (A1, A2, A4, A5); use of the VLE (A1, A2, A4, A5). <p>Assessment strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> coursework essays/presentations (A1, A2, A4, A5); coursework design and implementation (A1, A2, A4, A5). |

Programme Specification - Section 2

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| 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 Critically thinking, problem-solving and decision-making to solve data science and AI problems; B2 Analyse, interpret, synthesise and critically evaluate information from current research; B3 Critically evaluate and justify alternative approaches to solutions development; B5 Communicate findings to professional and academic standards. | Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes): <ul style="list-style-type: none"> lectures (B1 – B3, B5); seminars (B1 – B3, B5); directed reading (B1 – B3, B5) use of the VLE (B1 – B3, B5). |
| | Assessment strategies and methods (referring to numbered Intended Learning Outcomes): <ul style="list-style-type: none"> coursework essays/presentations (B1 – B3, B5). coursework design and implementation (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 demonstrate the level learning outcomes: |
| C1 Retrieve, store, select and evaluate information from a variety of sources; C2 Analyse, specify, design and implement data science and AI applications for computer games to meet business goals; C3 Select appropriate methods and tools for solving data science and AI problems for computer games; | Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes): <ul style="list-style-type: none"> lectures (C1 – C3); seminars (C1 – C3); group exercises (C1 – C3). |
| | Assessment strategies and methods (referring to numbered Intended Learning Outcomes): <ul style="list-style-type: none"> coursework design and implementation (C1 – C3). |
| 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 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 (referring to numbered Intended Learning Outcomes): <ul style="list-style-type: none"> lectures (D1 – D4); seminars (D1 – D4); use of the VLE (D1 – D4); group exercises (D1 – D4). directed reading (D1 – D4). |
| | Assessment strategies and methods (referring to numbered Intended Learning Outcomes): <ul style="list-style-type: none"> coursework essays/presentations (D1 – D4). coursework design and implementation (D1 – D4). |

PG Cert INTENDED LEVEL OUTCOMES

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| 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 A4 The human-centred factors involved in design, application and adoption of data science and AI solutions including for game development A5 The professional, legal and ethical responsibilities of data science and AI personnel within the organisational, technical and global contexts in which data science and AI are applied. | Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes): <ul style="list-style-type: none"> lectures (A1, A4, A5); seminars (A1, A4, A5); directed reading (A1, A4, A5). |
| | Assessment strategies and methods (referring to numbered Intended Learning Outcomes): <ul style="list-style-type: none"> coursework essays/presentations (A1, A4, A5). coursework design and implementation (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 Critically thinking, problem-solving and decision-making to solve data science and AI problems; B2 Analyse, interpret, synthesise and critically evaluate B5 Communicate findings to professional and academic standards. | Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes): <ul style="list-style-type: none"> lectures (B1, B2, B5); seminars (B1, B2, B5); directed reading (B1, B2, B5). |
| | Assessment strategies and methods (referring to numbered Intended Learning Outcomes): <ul style="list-style-type: none"> coursework essays/presentations (B1, B2, B5). coursework design and implementation (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, store, select and evaluate information from a variety of sources; C3 Select appropriate methods and tools for solving data science and AI problems for computer games; | Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes): <ul style="list-style-type: none"> lectures (C1, C3); seminars (C1, C3); group exercises (C1, C3). |
| | Assessment strategies and methods (referring to numbered Intended Learning Outcomes): <ul style="list-style-type: none"> coursework essays/presentations (C1, C3). coursework design and implementation (C1, C3). |

Programme Specification - Section 2

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| 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 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 (referring to numbered Intended Learning Outcomes): <ul style="list-style-type: none"> • lectures (D2 – D4); • seminars (D2 – D4); • use of the VLE (D2 – D4); • directed reading (D2 – D4). |
| | Assessment strategies and methods (referring to numbered Intended Learning Outcomes): <ul style="list-style-type: none"> • coursework essays/presentations (D2 – D4). • coursework design and implementation (D2 – D4). |

Programme Specification - Section 2

Programme Skills Matrix

| Units | | Programme Intended Learning Outcomes | | | | | | | | | | | | | | | | | | |
|---------|---|--------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | 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 |
| LEVEL 7 | Applied Programming for Data Science | X | X | | | | | | | | X | | X | X | | X | | X | X | |
| | Mixed Reality | | X | | X | X | | X | | X | X | X | X | X | | X | X | X | X | X |
| | Human Computer Interaction | | X | | X | X | X | X | X | X | X | | X | X | | X | | X | X | X |
| | Ludonarrative Design | | X | | X | X | X | | X | X | X | X | X | X | | X | X | X | X | X |
| | Explainable and Ethical Artificial Intelligence | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| | Industrial Skills and Professional Issues | | X | | X | X | X | X | X | X | X | | | X | X | X | X | X | X | X |
| | Practical MSc Dissertation/Project | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |

A – Subject Knowledge and Understanding

This programme provides opportunities for students to develop and demonstrate knowledge and understanding of:

1. Principles, concepts and techniques of data science and AI
2. Enabling technologies for data science and AI applications
3. A rigorous engineering approach to investigating and solving data science and AI problems in business context;
4. The human-centred factors involved in design, application and adoption of data science and AI solutions for computer games;
5. The professional, legal & ethical responsibilities of data science and AI personnel within the organisational, technical and global contexts in which data science and AI for computer games are applied.

C – Subject-specific/Practical Skills

This programme provides opportunities for students to:

1. Retrieve, store, select and evaluate information from a variety of sources;
2. Analyse, specify, design and implement data science and AI applications to meet business goals for computer games;
3. Select appropriate methods and tools for solving data science and AI problems for computer games;
4. Plan, monitor and evaluate the ethical application human centric of a data science and AI solutions.

Programme Specification - Section 2

B – Intellectual Skills

This programme provides opportunities for students to:

1. Critically thinking, problem-solving and decision-making to solve data science and AI problems for computer games;
2. Analyse, interpret, synthesise and critically evaluate information from current research;
3. Critically evaluate and justify alternative approaches to solutions development;
4. Formulate, plan, execute, and report on a data science and AI for computer games project involving original contributions;
5. Communicate findings to professional and academic standards.

D – Transferable Skills

This programme provides opportunities for students to:

1. Demonstrate problem solving skills and the application of knowledge across the discipline areas.
2. Gather, select, and analyse a range of data, and present professionally using appropriate media.
3. Structure and communicate ideas professionally and effectively to appropriate professional and academic standards.
4. Demonstrate initiative, self-direction and exercise personal responsibility for management of own learning.
5. Distill, synthesise and critically analyse alternative approaches and methodologies to problems and research results reported in literature and elsewhere.

ADMISSION REGULATIONS

Please refer to the BU website for further information regarding admission regulations for this programme: www.bournemouth.ac.uk/courses

PROGRESSION ROUTES

N/A

ASSESSMENT REGULATIONS

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

WORK BASED LEARNING (WBL) AND PLACEMENT ELEMENTS

N/A