

## KEY PROGRAMME INFORMATION

<b>Originating institution(s)</b> Bournemouth University	<b>Faculty responsible for the programme</b> Faculty of Science and Technology
<b>Final award(s), title(s) and credits</b> BSc (Hons) Data Science and Artificial Intelligence – 120 (60 ECTS) Level 4 / 120 (60 ECTS) Level 5 / 120 (60 ECTS) Level 6 credits	
<b>Intermediate award(s), title(s) and credits</b> Dip HE Data Analytics – 120 (60 ECTS) Level 4 / 120 (60 ECTS) Level 5 credits Cert HE Computing – 120 (60 ECTS) Level 4 credits	
<b>UCAS Programme Code(s) (where applicable and if known)</b> 38F2	<b>HECoS (Higher Education Classification of Subjects) Code and balanced or major/minor load.</b> 100358, 100359 (balanced)
<b>External reference points</b> <ul style="list-style-type: none"> <li>• The UK Quality Code for Higher Education;</li> <li>• Chapter A1: The National Level (incorporating the Framework for Higher Qualifications (FHEQ) in England, Wales and Northern Ireland);</li> <li>• Chapter A2: The Subject and Qualification Level (incorporating the Subject benchmark statements for Computing (2022));</li> <li>• BCS – The Chartered Institute for IT guidelines</li> <li>• United Nations Sustainable Development Goals (SDGs)</li> </ul>	
<b>Professional, Statutory and Regulatory Body (PSRB) links</b> <a href="#">Click here to enter text.</a>	
<b>Places of delivery</b> Bournemouth University, Tablot Campus	
<b>Mode(s) of delivery</b> Full-time/Full-time sandwich	<b>Language of delivery</b> English
<b>Typical duration</b> UG September start (3 years full time with or 4 years full time with 30 weeks sandwich placement)	
<b>Date of first intake</b> September 2023	<b>Expected start dates</b> September 2023
<b>Maximum student numbers</b> N/A	<b>Placements</b> 30 weeks, optional
<b>Partner(s)</b> N/A	<b>Partnership model</b> N/A
<b>Date of this Programme Specification</b> July 2022	
<b>Version number</b> 1.0-0924	

## Programme Specification – Section 1

**Approval, review or modification reference numbers**

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FST 1819 21, approved 04/09/19. Previously v1.1-0919

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## Programme Specification – Section 1

### PROGRAMME STRUCTURE

Programme Award and Title: BSc (Hons) Data Science and Artificial Intelligence								
Year 1/Level 4								
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			
Computer Fundamentals	Core	20	50%	50%		36	3.0	100734 100735
Mathematics for Computing	Core	20	50%	50%		36	1.0	100400
Programming	Core	20	50%	50%		36	1.0	100956
Data Management	Core	20	50%	50%		36	1.0	100754 100755
Introduction to Business Analytics	Core	20		100%		36	1.0	100360 100992
Computing and Society	Option	20		100%		36	1.0	100367 100631
<b>Progression requirements:</b> Requires 120 credits at Level 4								
<b>Exit qualification:</b> Cert HE Computing (requires 120 credits at Level 4)								

**Programme Specification – Section 1**

<b>Year 2/Level 5</b>								
<b>Unit Name</b>	<b>Core/Option</b>	<b>No. of Credits</b>	<b>Assessment Element Weightings</b>			<b>Expected Contact hours per unit</b>	<b>Unit Version No.</b>	<b>HECoS Code</b> (plus balanced or major/ minor load)
			<b>Exam 1</b>	<b>Cwk 1</b>	<b>Cwk 2</b>			
Big Data Engineering and Analytics	Core	20		100%		36	1.0	100754 100755
Machine Learning	Core	20		40%	60%	36	2.0	100992
System Analysis and Design	Core	20	50%	50%		36	1.0	100753
Data Structures and Algorithms	Core	20	30%	70%		36	1.0	100956
Technological Innovations in Business Analytics	Core	20	30%	70%		36	1.0	100360 100373
Software Business	Option	20		100%		36	1.0	100360
<b>Progression requirements:</b> Requires 120 credits at Level 5								
<b>Exit qualification:</b> Dip HE Data Analytics (requires 120 credits at Level 4 and 120 credits at Level 5)								
<b>Optional placement year in industry/business:</b> Students who successfully complete the one-year placement will be awarded a degree in sandwich mode.								
<b>Progression requirements:</b> Satisfactory completion of a minimum 30-week (up to a year) placement in industry/business and placement report.								

## Programme Specification – Section 1

<b>Year 3/Level 6</b>								
Students are required to complete 2 core, 1 option, and one unit from the University open curriculum offering.								
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			
Data Visualisation and Storytelling	Core	20		100%		36	1.0	100632 100755
Deep Learning and Applications	Core	20		100%		36	1.0	100992 100359
Computability and Complexity	Option	20		100%		36	1.0	100366 101029
Human Computer Interaction	Option	20		100%		36	1.0	100736
Software Quality Assurance	Option	20		100%		36	1.0	100374
Systems Development	Option	20		100%		36	1.0	100374 100956
Digital Futures	Option	20		100%		36	1.0	100373 100440
Individual Project	Core	40		100%		21	1.0	100358 (major) 100812 (minor)
<b>Exit qualification:</b> BSc (Hons) Data Science and Artificial Intelligence								
<b>Sandwich UG award:</b> Requires 120 credits at Level 4, 120 credits at Level 5, 120 credits at Level 6 and successful completion of a placement year.								
<b>Full-time UG award:</b> Requires 120 credits at Level 4, 120 credits at Level 5 and 120 credits at Level 6.								

### 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

Our digital universe held an estimated 44 zetabytes of data by 2020 which is expected to raise up to 175 zetabytes by 2025. Research in traditionally qualitative disciplines is fundamentally changing due to the availability of this “Big Data” and data-intensive computing has been named as the fourth paradigm of scientific discovery. The commercial world is also undergoing a similar transformation, with data science emerging as one of the key competitive dimensions. According to the Royal Society report from 2019, the number of jobs in data Science and analytics area has increased by 231%, with demand for “Data Scientist” job title increasing by 1,287% from the years 2013 to 2018, compared to 36% increase in the same period for overall job market. Other data-related occupations, such as Data Engineer and Advanced Analyst enjoy similar demand rates. According to the 2020 UK Government report, there is a shortage of data science and AI skills and a shortage of professionals in the area; 49% of firms were affected by a lack of candidates with technical skills, and 69% of companies recruiting for data science and AI roles, found at least one vacancy hard to fill.

Accordingly, this programme is a response to the great and immediate need for people with data science and artificial intelligence expertise acknowledged by industry and governmental bodies. Capitalising on the expertise and strong research portfolio of the Data Science and Artificial Intelligence Research Group, we are offering an attractive undergraduate level course in the area of data science which aims at producing graduates:

- with deep analytical skills able to pursue both industrial and academic careers;
- understanding the foundations of machine learning and statistics;
- familiar with the stack of recently developed technologies enabling fast processing of large amounts of data (or Big Data);
- able to develop software with focus on business applications;
- aware of relevant application areas of these technologies and methods;
- able to efficiently communicate the results of whatever analysis they perform, to various audiences.

### ALIGNMENT WITH THE UNIVERSITY’S STRATEGIC PLAN

The BSc (Hons) Data Science and Artificial Intelligence programme 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. 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. 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. Staff, students and graduates will enrich society as active citizens in their communities. The programme is aligned with BU Strategic Plan for supporting the development of attributes such as global outlook and citizenship as well as to contribute society by having a significant impact on challenges worldwide through fusion.

## **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).

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 6 INTENDED PROGRAMME/LEVEL OUTCOMES**

<p><b>A: Subject knowledge and understanding</b></p> <p>This programme/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 programme/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</p> <p>A3 A rigorous engineering approach to investigating and solving data science and AI problems in business context;</p> <p>A4 The management and development of IT solutions to address data science and AI or other problems;</p> <p>A5 The professional, legal &amp; 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"> <li>• lectures (A1-A5);</li> <li>• seminars (A1-A5);</li> <li>• directed reading (A1-A5);</li> <li>• use of the VLE (A1 – A5);</li> <li>• independent research (for dissertation) (A1-A5).</li> </ul> <p>Assessment strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> <li>• coursework design and implementation (A1-A5);</li> <li>• coursework essays (A1-A5);</li> <li>• dissertation (A1-A5).</li> </ul>
<p><b>B: Intellectual skills</b></p> <p>This programme/level 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/level outcomes:</p>
<p>B1 Critically thinking, problem-solving and decision-making to solve data science and AI problems;</p> <p>B2 Analyse, interpret, synthesise and critically evaluate information from current research;</p> <p>B3 Critically evaluate and justify alternative approaches to solutions development;</p>	<p>Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> <li>• lectures (B1 – B5);</li> <li>• seminars (B1 – B5);</li> <li>• directed reading (B1 – B5);</li> <li>• use of the VLE (B1 – B5);</li> <li>• independent research (for dissertation) (B1 – B5).</li> </ul>



## Programme Specification - Section 2

<p>B4 Formulate, plan, execute, and report on a data science and AI project involving original contributions;</p> <p>B5 Communicate findings to professional and academic standards.</p>	<p>Assessment strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> <li>• coursework essays (B1 – B5);</li> <li>• dissertation (B1 – B5).</li> </ul>
<p><b>C: Practical skills</b></p> <p>This programme/level/stage 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/level learning outcomes:</p>
<p>C1 Retrieve, select and evaluate information from a variety of sources;</p> <p>C2 Analyse, specify, design and implement data science and AI applications to meet business goals;</p> <p>C3 Select appropriate methods and tools for solving data science and AI problems;</p> <p>C4 Plan, monitor and evaluate the progress of a data science and AI solution.</p>	<p>Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> <li>• lectures (C1 – C4);</li> <li>• coursework essays (C1 – C4);</li> <li>• independent research for empirical dissertation (C1 – C4);</li> <li>• Individual Project Supervision (C1 – C4).</li> </ul> <p>Assessment strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> <li>• examinations (C1 – C4);</li> <li>• coursework essays (C1 – C4);</li> <li>• coursework design and implementation (C1 – C4)</li> <li>• Individual Project/dissertation (C1 – C4).</li> </ul>
<p><b>D: Transferable skills</b></p> <p>This programme/level/stage 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/level 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 experimental and fieldwork data and present professionally using appropriate media.</p>	<p>Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> <li>• lectures (D1 – D5);</li> <li>• seminars (D1- D5);</li> <li>• use of the VLE (D1 – D5);</li> <li>• directed reading (D1- D5).</li> </ul>

## Programme Specification - Section 2

<p>D3 Structure and communicate ideas professionally and effectively to appropriate professional and academic standards.</p> <p>D4 Demonstrate initiative, self direction and exercise 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>Assessment strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> <li>• coursework essays (D1 – D5);</li> <li>• coursework design and implementation (D1 – D5);</li> <li>• examinations (D1 – D5);</li> <li>• dissertation (D1- D5).</li> </ul>
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### LEVEL 5/DipHE INTENDED LEVEL OUTCOMES

<p><b>A: Knowledge and understanding</b></p> <p>This programme/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/stage learning outcomes:</p>
<p>A1 Principles and techniques of data science and AI</p> <p>A2 Enabling technologies for data science and AI applications</p> <p>A4 The management and development of IT solutions to address data science and AI or other problems;</p> <p>A5 The professional, legal &amp; 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"> <li>• lectures (A1, A2, A4, A5);</li> <li>• seminars (A1, A2, A4, A5);</li> <li>• directed reading (A1, A2, A4, A5);</li> <li>• use of the VLE (A1, A2, A4, A5).</li> </ul> <p>Assessment strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> <li>• examinations (A1, A2, A4, A5);</li> <li>• coursework essays/presentations (A1, A2, A4, A5);</li> <li>• coursework design and implementation (A1, A2, A4, A5).</li> </ul>
<p><b>B: Intellectual skills</b></p> <p>This programme/level/stage 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 level/stage learning outcomes:</p>

**Programme Specification - Section 2**

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

## Programme Specification - Section 2

<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 experimental and fieldwork 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, self direction and exercise personal responsibility for management of own learning.</p>	<p>Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> <li>• lectures (D1 – D4);</li> <li>• seminars (D1 – D4);</li> <li>• use of the VLE (D1 – D4);</li> <li>• group exercises (D1 – D4).</li> <li>• directed reading (D1 – D4).</li> </ul>
	<p>Assessment strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> <li>• examinations (D1 – D4);</li> <li>• coursework essays/presentations (D1 – D4).</li> <li>• coursework design and implementation (D1 – D4).</li> </ul>

### LEVEL 4/Cert HE INTENDED LEVEL OUTCOMES

<p><b>A: Knowledge and understanding</b></p> <p>This programme/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/stage learning outcomes:</p>
<p>A1 Principles and techniques of data science and AI</p> <p>A4 The management and development of IT solutions to address data science and AI or other problems;</p> <p>A5 The professional, legal &amp; 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"> <li>• lectures (A1, A4, A5);</li> <li>• seminars (A1, A4, A5);</li> <li>• directed reading (A1, A4, A5).</li> </ul>
	<p>Assessment strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> <li>• examinations (A1, A4, A5);</li> <li>• coursework essays/presentations (A1, A4, A5).</li> </ul>

## Programme Specification - Section 2

	<ul style="list-style-type: none"> <li>coursework design and implementation (A1, A4, A5).</li> </ul>
<p><b>B: Intellectual skills</b></p> <p>This programme/level 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 level/stage learning outcomes:</p>
<p>B1 Critically thinking, problem-solving and decision-making to solve data science and AI problems;</p> <p>B2 Analyse, interpret, synthesise and critically evaluate</p> <p>B5 Communicate findings to professional and academic standards.</p>	<p>Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> <li>lectures (B1, B2, B5);</li> <li>seminars (B1, B2, B5);</li> <li>directed reading (B1, B2, B5).</li> </ul>
	<p>Assessment strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> <li>examinations (B1, B2, B5);</li> <li>coursework essays/presentations (B1, B2, B5).</li> <li>coursework design and implementation (B1, B2, B5).</li> </ul>
<p><b>C: Practical skills</b></p> <p>This programme/level 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 level/stage learning outcomes:</p>
<p>C1 Retrieve, select and evaluate information from a variety of sources;</p> <p>C3 Select appropriate methods and tools for solving data science and AI problems;</p>	<p>Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> <li>lectures (C1, C3);</li> <li>seminars (C1, C3);</li> <li>group exercises (C1, C3).</li> </ul>
	<p>Assessment strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> <li>examinations (C1, C3);</li> <li>coursework essays/presentations (C1, C3).</li> </ul>

**Programme Specification - Section 2**

	<ul style="list-style-type: none"> <li>• coursework design and implementation (C1, C3).</li> </ul>
<p><b>D: Transferable skills</b></p> <p>This programme/level 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 level/stage learning outcomes:</p>
<p>D2 Gather, select, and analyse a range of experimental and fieldwork 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, self direction and exercise personal responsibility for management of own learning.</p>	<p>Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> <li>• lectures (D2 – D4);</li> <li>• seminars (D2- D4);</li> <li>• use of the VLE (D2 – D4);</li> <li>• directed reading (D2- D4).</li> </ul> <p>Assessment strategies and methods (referring to numbered Intended Learning Outcomes):</p> <ul style="list-style-type: none"> <li>• coursework essays/presentations (D2 – D4).</li> <li>• coursework design and implementation (D2 – D4).</li> <li>• examinations (D2 – D4).</li> </ul>

## 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
<b>L E V E L  6</b>	Data Visualisation and Storytelling	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Deep Learning and Applications	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Systems Development	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Computability and Complexity	X	X	X	X	X	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	X	X	X	X	X
	Software Quality Assurance		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Individual Project	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Digital Futures (Elective)		X		X	X		X	X		X	X				X	X	X	X	X
<b>L E V E L  5</b>	Machine Learning	X	X		X	X	X	X		X	X	X	X		X	X	X	X		
	Big Data Engineering and Analytics	X	X		X	X	X	X		X	X	X	X		X	X	X	X		
	System Analysis and Design		X		X	X	X	X		X	X	X	X		X	X	X	X		
	Technological Innovations in Business Analytics	X	X		X	X	X	X		X	X	X	X		X	X	X	X		
	Data Structures and Algorithms	X	X		X	X	X	X		X	X	X	X		X	X	X	X		
	Software Business (Elective)		X		X	X	X	X		X	X	X	X		X	X	X	X		
<b>L E V E L  4</b>	Programming	X			X	X	X	X		X	X		X			X	X	X		
	Computer Fundamentals	X			X	X	X	X		X	X		X			X	X	X		
	Data Management	X			X	X	X	X		X	X		X			X	X	X		
	Mathematics for Computing	X			X	X	X	X		X	X		X			X	X	X		
	Introduction to Business Analytics	X			X	X	X	X		X	X		X			X	X	X		
	Computing and Society (Elective)	X			X	X	X	X		X	X		X			X	X	X		

## Programme Specification - Section 2

<p><b>A – Subject Knowledge and Understanding</b></p> <p>This programme provides opportunities for students to develop and demonstrate knowledge and understanding of:</p> <ol style="list-style-type: none"><li>1. Principles, concepts and techniques of data science and AI</li><li>2. Enabling technologies for data science and AI applications</li><li>3. A rigorous engineering approach to investigating and solving data science and AI problems in business context;</li><li>4. The management and development of IT solutions to address data science and AI or other problems;</li><li>5. The professional, legal &amp; ethical responsibilities of data science and AI personnel within the organisational, technical and global contexts in which data science and AI are applied.</li></ol>	<p><b>C – Subject-specific/Practical Skills</b></p> <p>This programme provides opportunities for students to:</p> <ol style="list-style-type: none"><li>1. Retrieve, select and evaluate information from a variety of sources;</li><li>2. Analyse, specify, design and implement data science and AI applications to meet business goals;</li><li>3. Select appropriate methods and tools for solving data science and AI problems;</li><li>4. Plan, monitor and evaluate the progress of a data science and AI solution.</li></ol>
<p><b>B – Intellectual Skills</b></p> <p>This programme provides opportunities for students to:</p> <ol style="list-style-type: none"><li>1. Critically thinking, problem-solving and decision-making to solve data science and AI problems;</li><li>2. Analyse, interpret, synthesise and critically evaluate information from current research;</li><li>3. Critically evaluate and justify alternative approaches to solutions development;</li><li>4. Formulate, plan, execute, and report on a data science and AI project involving original contributions;</li><li>5. Communicate findings to professional and academic standards.</li></ol>	<p><b>D – Transferable Skills</b></p> <p>This programme provides opportunities for students to:</p> <ol style="list-style-type: none"><li>1. Demonstrate problem solving skills and the application of knowledge across the discipline areas.</li><li>2. Gather, select, and analyse a range of experimental and fieldwork data and present professionally using appropriate media.</li><li>3. Structure and communicate ideas professionally and effectively to appropriate professional and academic standards.</li><li>4. Demonstrate initiative, self direction and exercise personal responsibility for management of own learning.</li><li>5. Distill, synthesise and critically analyse alternative approaches and methodologies to problems and research results reported in literature and elsewhere.</li></ol>



## **ADMISSION REGULATIONS**

The regulations for this programme are Bournemouth University's Standard Undergraduate Admission Regulations: [BSc \(Hons\) Data Science and Artificial Intelligence](#)

## **PROGRESSION ROUTES**

Partnership arrangements provide formally approved progression routes through which students are eligible to apply for a place on a programme leading to a BU award. Please find information on Global Partnerships here: [Global partnerships | Bournemouth University](#)

## **ASSESSMENT REGULATIONS**

The regulations for this programme are Bournemouth University's Standard Undergraduate [Assessment Regulations](#).

## **WORK BASED LEARNING (WBL) AND PLACEMENT ELEMENTS**

Students, under the guidance of lecturers and the Placement Office, are required to complete a sandwich year with a 30 week minimum placement requirement before Level 6.

The placement is assessed on a pass/fail basis using the log book and employer appraisal. The 30 week sandwich placement must be completed between Levels 5 and 6 and is a requirement for progression to Level 6 for the successful completion of the sandwich mode award.

Placement draws on some or all of the units studied on the first two levels of the programme. It provides the opportunity for the student to develop their abilities and understanding of software engineering related subjects, as well as providing a platform for successful entry into the profession following graduation. It applies and develops understanding and skills acquired in Levels 4 and 5, makes a major contribution to the understanding of the final level units, further develops final projects or dissertation research by utilising the context of the work experience as appropriate and enhances students' prospects of future employment.