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 Computer Science – 180 credits (90 ECTS)	
Intermediate award(s), title(s) and credits PGDip Computer Science - 120 Credits (60 ECTS) PGCert Computer Science - 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.** 100366 Computer Science (major) 101029 Computational Mathematics (minor) **CAH Code**: 11-01-01 Computer Science **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	**Language of delivery** English
Typical duration 12 months - September intake 16 months – January intake	
Date of first intake September 2025	**Expected start dates** September, January
Maximum student numbers 50	**Placements** None
Partner(s) N/A	**Partnership model** N/A
Date of this Programme Specification April 2025	
Version number 1.0-0925	
Approval, review or modification reference numbers E242510	
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PROGRAMME STRUCTURE

Programme Award and Title: MSc Computer Science								
Stage 1/Level 7 Students are required to complete 7 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**			
Cyber Threat Intelligence	Core	20		100%		30	1.0	100376 (major), 100755 (minor)
Computational Modelling	Core	20		100%		30	1.0	101029 (major), 100966 (minor)
Quantum Computing	Core	20		100%		30	1.0	101300 (major), 101029 (minor)
Efficient and Edge AI	Core	20		100%		30	1.0	100359
Network Science	Core	20		100%		30	1.0	100365
Research Methods in Computer Science	Core	20		100%		30	1.0	100366 100962 (Balanced)
Individual Masters Project	Core	60		100%		10	2.0	100367 (major), 100962 (minor)
Exit qualification: MSc Computer Science requires 180 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 in Computer Science (CS) programme aims to prepare students from computing, computer science, software engineering, or related backgrounds to meet the growing market demand for adopting and utilizing scientific approaches and emerging technologies to support daily computer science activities and critical decision-making. This programme equips students with core knowledge and skills to design and build reliable computer science solutions that address business, individual, and societal needs.

The UK government has emphasised the importance of Quantum Computing and announced a £45 million investment in the UK's quantum sector. This investment is part of the government's commitment to transforming into a quantum-enabled economy by 2033, leveraging this technology's potential to revolutionize healthcare, energy, transport, and more. Both artificial intelligence and quantum technologies are recognised as two of the government's five critical technologies, as outlined in the UK Science and Technology Framework. Globally, similar initiatives have been undertaken by countries such as the US, China, India, and the EU, where national quantum and AI strategies underscore the significance of these growing technological areas. This advanced MSc programme is designed to respond to these trends, preparing future-ready professionals to meet both national and international needs.

By completing this programme, graduates will be prepared to pursue research and employment opportunities in computer science 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 computer science concepts and principles, with the ability to utilise relevant tools and methods.
- A critical understanding of creating innovative computer science applications and the ability to apply knowledge and skills to develop solutions for real-world problems.
- Technical skills and competencies to design, implement, and maintain secure and effective computer science solutions.
- 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 computer science topics.

ALIGNMENT WITH THE UNIVERSITY'S STRATEGIC PLAN

The MSc Computer Science 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

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

<table>
<tr><td>A: Subject knowledge and understanding

This programme/level provides opportunities for students to develop and demonstrate knowledge and understanding of:</td><td>The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level learning outcomes:</td></tr>
<tr><td rowspan="2">A1 Principles, concepts and techniques of computer science and related research.

A2 Enabling technologies for computer science and its applications.

A3 A rigorous scientific and engineering approach to investigating and solving computer science problems in various contexts.

A4 The management and development of computer science solutions to address computer science or other problems.

A5 The professional, legal, and ethical responsibilities of computer scientists and of</td><td>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).</td></tr>
<tr><td>Assessment strategies and methods:
• coursework (A1 – A5);
• project (A1 - A5).</td></tr>
</table>

computer science personnel within the organisational, technical, and global contexts in which computer science 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 computer science 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 cyber security needs and requirements of computer systems, with analysis of existing best practices and management of risk. C2 Analyse, specify, design, and implement computer science to meet business goals. C3 Select appropriate methods and tools for solving computer science problems. C4 Plan, monitor and evaluate the progress of a computer science solution.	Learning and teaching strategies and methods: • lectures (C1 – C2); • 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); • use of the VLE (D13 - D5); • independent research (for project) (D1 – D5) • directed reading (D1, D2, D4,- D5).

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. D5 Distil, synthesise, and critically analyse alternative approaches and methodologies to problems and research results reported in literature and elsewhere.	Assessment strategies and methods : • 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 computer science and related research. A2 Enabling technologies for computer science and its applications. A4 The management and development of computer science solutions to address computer science or other problems. A5 The professional, legal, and ethical responsibilities of computer scientists and computer science personnel within the organisational, technical, and global contexts in which computer science approaches are applied.	Learning and teaching strategies and methods: • lectures (A1, A2, A4, A5); • seminars (A1, A2, A4, A5); • directed reading (A1, A2, A4, A5). Assessment strategies and methods: • 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 security-related problems. B2 Analyse, interpret, synthesis, 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: • lectures (B1 – B3, B5); • labs/seminars (B1 – B3, B5); • workshops (B1 – B3, B5); • use of the VLE (B1 – B3, B5). Assessment strategies and methods: • 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 demonstrate the level learning outcomes:

C1 Retrieve, select, and evaluate information from a variety of sources towards the cyber security needs and requirements of computer systems, with analysis of existing best practices and management of risk. C3 Select appropriate methods and tools for solving cyber security-related problems and reducing risk. C4 Plan, monitor and evaluate the progress of a computer science solution.	Learning and teaching strategies and methods: • lectures (C1, C3); • 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 computer science and related research. A4 The management and development of computer science solutions to address computer science or other problems. A5 The professional, legal, and ethical responsibilities of computer scientists and computer science personnel within the organisational, technical, and global contexts in which computer science approaches are applied.	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: • 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 security-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 cyber security needs and requirements of computer systems, with analysis of existing best practices and management of risk. C4 Plan, monitor and evaluate the progress of a computer science 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. D4 Demonstrate initiative, self-direction, and exercise personal responsibility for management of own learning.	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).
	Assessment strategies and methods: • coursework (D2 – D4).

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
L7	Cyber Threat Intelligence	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
L7	Computational Modelling	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
L7	Quantum Computing	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	Network Science	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
L7	Research Methods in Computer Science			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 available on the BU Website: Courses | Bournemouth University

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