

DEFINITIVE COURSE RECORD

Course Title	MSc Advanced Computing
Awarding Bodies	University of Suffolk
Level of Award ¹	FHEQ Level 7
Professional, Statutory and Regulatory Bodies Recognition	None
Credit Structure ²	180 credits at Level 7
Mode of Attendance	Full-time and Part-time
Standard Length of Course ³	1 year full-time
Intended Award	MSc Advanced Computing MSc Advanced Computing (Artificial Intelligence) MSc Advanced Computing (Cyber Security) MSc Advanced Computing (Software Engineering)
Named Exit Awards	PgD Advanced Computing
Entry Requirements ⁴	Standard Entry Requirements of undergraduate degree 2.2 Honours, in computing, computer science or a related subject.
Delivering Institution(s)	University of Suffolk
UCAS Code	TBC

This definitive record sets out the essential features and characteristics of the MSc Advanced Computing course. The information provided is accurate for students entering level 7 in the 2024-25 academic year⁵.

Course Summary

The MSc Advanced Computing course is a taught postgraduate course aimed at students with a substantial background in computing who would like to study advanced computing concepts and technologies, covering a wide variety of topics in-depth with dedicated experts teaching on each of the three pathways. Graduates of this degree are likely to take up roles in industry and commerce as Artificial Intelligence Experts, Cyber Security Specialists and Software Engineers but could also progress to undertake PhD study in an area of computing or computer science.

¹ For an explanation of the levels of higher education study, see the [QAA Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies \(2014\)](#)

² All academic credit awarded as a result of study at the University adheres to the [Higher education credit framework for England](#).

³ Where the course is delivered both full-time and part-time, the standard length of course is provided for the full-time mode of attendance only. The length of the part-time course is variable and dependent upon the intensity of study. Further information about mode of study and maximum registration periods can be found in the [Framework and Regulations for Taught Postgraduate Awards](#).

⁴ Details of standard entry requirements can be found in the [Admissions Policy](#) and further details about Disclosure and Barring Checks (DBS) can be found on the [University's DBS webpage](#).

⁵ The University reserves the right to make changes to course content, structure, teaching and assessment as outlined in the [Admissions Policy](#).

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Course Aims

The course aims are to:

1. Enable students to gain an advanced understanding of topics common to many areas of computing while allowing students to gain in-depth knowledge and systematic understanding of a chosen computing specialism.
2. Enable students to apply the theory in practice, designing and developing robust quality architectures and computational solutions to solve technical problems.
3. Enable students to critically evaluate knowledge, concepts, tools and techniques to deliver effective and appropriate computer systems.
4. Ensure that students are fully aware of the ethical, privacy, sustainability, equality, diversity and inclusion (EDI), and information security dimensions of advanced areas of computing.

Course Learning Outcomes

The following statements define what students graduating from the MSc Advanced Computing course will have been judged to have demonstrated in order to achieve the award. These statements, known as learning outcomes, have been formally approved as aligned with the generic qualification descriptor for level 7 awards as set out by the UK Quality Assurance Agency (QAA)⁶.

Students who successfully complete this **level 7** course will have:

Knowledge and Understanding	Cognitive Skills	Subject Specific Skills	Key/transferable skills
A1. Expressed and employed exceptional knowledge and systematic understanding of concepts, principles and theories, both established and emergent, relating to areas of advanced computing.	B1. Applied methods and techniques learned to extend knowledge and understanding to realistic and real-world projects, developed critiques of them and, where appropriate, proposed new hypotheses.	C1. Deployed appropriate established and/or cutting-edge theory, practices and tools for the successful design, development, deployment and maintenance of complex computing systems.	D1. Developed a comprehensive ability to perform across several areas of computing to an advanced level where they can critically evaluate and analyse possible solutions, design novel solutions and bring that solution to a successful conclusion in a defined time-frame, showing by doing so their capabilities and readiness for lifelong learning and professional training.
A2. Expressed and employed exceptional knowledge and systematic understanding of issues in relation to the design,	B2. Applied comprehensive knowledge, systematic understanding, and mastered techniques to initiate and execute their	C2. Recognised the legal, social, ethical and professional issues involved in different areas of advanced computing and be	D2. Evidenced and demonstrated the ability to work in a highly proactive and accomplished manner, necessary for

⁶ As set out in the [QAA Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies \(2014\)](#)

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<p>development and the use of technology systems.</p>	<p>masters project and multiple minor projects in different topic areas.</p>	<p>guided by the adoption of appropriate professional, ethical and legal practices, with core considerations for their equality, diversity and inclusion (EDI) and sustainability.</p>	<p>postgraduate level employment requiring the exercising of initiative, personal responsibility, creativity and decision making, through working individually and in groups on mini-projects, extended case studies and scenarios, and their major project.</p>
<p>A3. Conceptual understanding of current research and advanced scholarship in areas of advanced computing, that enables a critical evaluation of the literature and that facilitates an appreciation of the associated uncertainties, ambiguities, and limits to knowledge at the forefront of the discipline.</p>	<p>B3. Critically evaluated arguments, concepts, requirements, constraints and data to make insightful and sophisticated judgement on appropriate algorithms, designs, methods, and configurations leading to the necessary analysis, design, implementation, and/or testing of a solution or identification of a class of solutions to significant problems.</p>	<p>C3. Researched, designed, implemented, tested, utilised and documented solutions to address specific problems, using their knowledge, understanding and technical skills with a high degree of autonomy across complex and unpredictable circumstances.</p>	
	<p>B4. Presented ideas, information, analyses, designs, implementations, tests and results relating to advanced computing topics, critically, comprehensibly and succinctly to both specialist and non-specialist audiences.</p>		
	<p>B5. Demonstrated originality in the application of knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in areas of advanced computing covered in</p>		

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	the curriculum and to go beyond what has been taught in classes.		
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Course Design

The design of this course has been guided by the following QAA Benchmarks / Professional Standards:

1. The QAA 2022 Computing subject benchmark
(https://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/subject-benchmark-statement-computing.pdf?sfvrsn=ef2c881_10)
2. QAA Subject Benchmark Statement for Computing (Masters) 2019

Course Structure

The MSc Advanced Computing courses comprises a structure of mandatory, requisite, and optional modules at level 7.

Module Specifications for each of these modules is included within the course handbook, available to students online at the beginning of each academic year in the Computing Hub.

Module Title	Credits	Module Type ⁷	Timing
Level 7 Modules			
Topics in Emerging Technologies	20	Requisite	Block 1
DevOps	20	Requisite	Block 2
Managing Projects and Teams	20	Requisite	Block 3
Masters Project	60	Mandatory	Block 4
Advanced Software Engineering	20	Optional	Block 2
HCI and User Experience	20	Optional	Block 1
Cloud Computing	20	Optional	Block 3
Cryptography and Applications	20	Optional	Block 1
Cyber Detection and Forensic Investigation	20	Optional	Block 3
Network and IoT Security	20	Optional	Block 2
Neural Networks and Reinforcement Learning	20	Optional	Block 2
Applied AI	20	Optional	Block 1
Computer Vision	20	Optional	Block 3

Awards

On successful completion of the course, students will be awarded one of four available MSc Advanced Computing awards, depending on the module selection taken. Students who leave the course early may be eligible for a Postgraduate Diploma in Advanced Computing on successful completion of 120 credits.

⁷ Modules are designated as either mandatory (M), requisite (R) or optional (O). For definitions, see the [Framework and Regulations for Undergraduate Awards](#)

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This course provides students with a level of flexibility, enabling them to enrol on modules aligned with their interests and career aspirations. Of the total 180 credits available, 60 are dedicated to their final Masters Project, 60 are for requisite modules and the remaining 60 are for optional modules. Students that wish to receive a specialist award must follow one of three pathways when choosing the modules they wish to undertake. All other students will receive a MSc Advanced Computing award upon completion of the degree. The module selections required for a specialist award can be found below.

<p>1. MSc Advanced Computing (Cyber Security)</p> <p>Block 1: Cryptography and Applications Block 2: Network and IoT Security Block 3: Cyber Detection and Forensic Investigation</p>	<p>2. MSc Advanced Computing (Artificial Intelligence)</p> <p>Block 1: Applied AI Block 2: Neural Networks and Reinforcement Learning Block 3: Computer Vision</p>
<p>3. MSc Advanced Computing (Software Engineering)</p> <p>Block 1: HCI and User Experience Block 2: Advanced Software Engineering Block 3: Cloud Computing</p>	

Course Delivery

Most sessions will be held at the University of Suffolk's main Waterfront Campus. Some more specialist modules (for example in data science and artificial intelligence), may be held in the University of Suffolk's DigiTech Centre at Adastral Park. Students studying full-time on MSc Advanced Computing are likely to have approximately 250 tutor structured learning hours. Tutor structured learning will be a mix of 216 class hours of lectures, seminars and practical workshops and 34 hours of individual tutorials. Students will normally be expected to undertake 18 hours of independent study in an average week but should be prepared for this to vary based on assignment deadlines and class exercises.

Course Assessment

A variety of assessments will be used on the course to enable students to experience and adapt to different assessment styles. With the exception of the Masters Project, each module will typically have several short summative assessments (which is graded and contributes to the overall classification) that will gradually build skills on a particular module, followed by a longer piece of summative assessment that will make use of the knowledge that has been built steadily. Summative assessment will be a mix of coursework, practical assessments and time-constrained assessments. Each module also has several opportunities for formative feedback which will focus on both strengths and areas for improvement in a given module (formative assessment does not count towards the degree classification). Group activities (non-assessed) will encourage peer learning and collaboration skills.

Course Team

The academic staff delivering this course are drawn from a team that includes teaching

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specialists and current practitioners. All staff are qualified in their subjects with their own specialist knowledge to contribute.

Course Costs

Students undertaking the MSc Advanced Computing course will be charged tuition fees as detailed below.

Student Group	Tuition Fees
Full-time UK	£9,870 per year
Part-time UK	£1,097 per 20 credits
Full-time EU/International	£15,300 per year
Part-time EU/International	£1,700 per 20 credits

Payment of tuition fees is due at the time of enrolment and is managed in accordance with the Tuition Fee Policy.

Academic Framework and Regulations

This course is delivered according to the Framework and Regulations for Postgraduate Awards and other academic policies and procedures of the University and published on the [website](#).