

DEFINITIVE COURSE RECORD

Course Title	BSc (Hons) Data Science and Artificial Intelligence
Awarding Bodies	University of Suffolk
Level of Award ¹	FHEQ Level 6
Professional, Statutory and Regulatory Bodies Recognition	None
Credit Structure ²	360 Credits Level 4: 120 Credits Level 5: 120 Credits Level 6: 120 Credits
Mode of Attendance	Full-time and Part-time
Standard Length of Course ³	3 years full-time
Intended Award	BSc (Hons) Data Science and Artificial Intelligence
Named Exit Awards	DipHE Data Science and Artificial Intelligence CertHE Data Science and Artificial Intelligence
Entry Requirements ⁴	Typical offer: 112 UCAS tariff points or equivalent and normally GCSE mathematics at Grade C or equivalent
Delivering Institution(s)	University of Suffolk
UCAS Code	I400

This definitive record sets out the essential features and characteristics of the BSc (Hons) Data Science and Artificial Intelligence course. The information provided is accurate for students entering level 4 in the 2021-22 academic year⁵.

Course Summary

This degree provides you with the knowledge and skills required to prepare you for an array of professions within the field of data science and artificial intelligence. This degree offers you the opportunity to develop a wide range of skills including, but not limited to, classical AI, machine learning, big data mining, NoSQL databases, neural networks and deep learning. In addition, students will gain core skills in programming, relational databases, cyber security and cloud computing, transforming you into a well-rounded computing professional.

Course Aims

The course aims are:

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 Undergraduate 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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1. Provide students with a thorough grounding in the practical and theoretical fundamentals of computing that underpin the fields of data science and artificial intelligence.
2. Provide students with comprehensive knowledge of the advanced specialism of data science and artificial intelligence.
3. Ensure students are fully aware of the ethical and privacy dimensions of data science and artificial intelligence.
4. Enable student to demonstrate problem solving and evaluation skills in the specification, design, development and testing of technological solutions.
5. Develop students command over the management of computing projects consistent with industry best practices and methodologies.
6. Develop students ability to successfully communicate their work to diverse audiences through both written and oral formats.
7. Help students develop the interpersonal qualities and professional attributes required by employers including reliability, integrity, ethical approach, dependability, teamwork and reflection.
8. Enable students to become effective independent learners by taking responsibility for their own learning and professional development.

Course Learning Outcomes

The following statements define what students graduating from the BSc (Hons) Data Science and Artificial Intelligence 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 6 awards as set out by the UK Quality Assurance Agency (QAA)⁶.

Knowledge and understanding

1. Expressed and employed detailed knowledge and systematic understanding of essential facts, concepts, principles and theories, both established and emergent, relating to data science, artificial intelligence and relevant specialisms in computing
2. Expressed and employed knowledge and understanding of information security issues in relation to the design, development and the use of information systems
3. Understood, described, and commented upon the literature and cutting-edge research in computing, and appreciated the associated uncertainties, ambiguities, and limits to knowledge at the forefront of the discipline.

Cognitive Skills

1. Applied methods and techniques learned in data science, artificial intelligence and computing to consolidate, extend, and apply knowledge and understanding to extended realistic and real-world projects
2. Applied detailed knowledge, systematic understanding, and mastered techniques to initiate and execute their final-year project and multiple minor projects in different topic areas
3. Critically evaluated arguments, concepts, requirements, constraints and data in order to make rational judgements 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

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

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4. Presented ideas, information, analyses, designs, implementations, tests and results relating to data science, artificial intelligence and computing, critically, comprehensibly and succinctly to both specialist and non-specialist audiences

Subject-specific skills

1. Deployed appropriate established and/or cutting-edge theory, practices and tools for the successful design, development, deployment and maintenance of computer-based systems
2. Recognised the legal, social, ethical and professional issues involved in the exploitation of computer technology and be guided by the adoption of appropriate professional, ethical and legal practices
3. Researched, designed, implemented, tested, utilised and documented solutions to address specific problems, using their knowledge, understanding and technical skills in data science, artificial intelligence and computing

Key/transferable skills

1. Developed an understanding of a specialist subject or problem area in computing to a level where they can effectively evaluate it, analyse possible solutions, design an appropriate solution 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
2. Evidenced the qualities and transferable skills necessary for graduate level employment requiring the exercising of initiative, personal responsibility, and decision making, through working individually and in groups on mini-projects, extended case studies and scenarios, and their major project

Course Design

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

1. The QAA 2019 Computing subject benchmark (https://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/subject-benchmark-statement-computing.pdf?sfvrsn=ef2c881_10)
2. The 2014 Framework for Higher Educations Qualifications (<https://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf>)
3. 2020 BCS, The Chartered Institute for IT (<https://www.bcs.org/media/1209/accreditation-guidelines.pdf>)

Course Structure

The BSc (Hons) Data Science and Artificial Intelligence comprises modules at levels 4, 5 and 6.

Module Specifications for each of these modules is included within the course handbook, available to students on-line at the beginning of each academic year.

	Module	Credits	Module Type ⁷
Level 4			
	Platforms	20	Requisite
	Introduction to AI and Machine Learning	20	Requisite

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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	Python Programming for Data Science	20	Requisite
	Network Overview	20	Requisite
	Introduction to Programming	20	Requisite
	Operating Systems	20	Requisite
Level 5			
	Computing Research Skills, Professional Practice and Ethics	20	Mandatory
	Software Design, Development and Engineering	20	Requisite
	Data Mining and Statistics	20	Requisite
	Introduction to Relational Databases	20	Requisite
	NoSQL Databases	20	Requisite
	Data Structures, Algorithms and Advanced Programming	20	Requisite
Level 6			
	Project and Dissertation	40	Mandatory
	Neural Networks and Deep Learning	20	Requisite
	AI and Data Science Applications	20	Requisite
	Distributed Systems	20	Requisite
	Cyber Security: Attack and Defence	20	Requisite

Awards

On successful completion of the course, students will be awarded a BSc (Hons) Data Science and Artificial Intelligence. Students who leave the course early may be eligible for a DipHE Data Science and Artificial Intelligence on successful completion of 240 credits including all mandatory modules at levels 4 and 5, or a CertHE Data Science and Artificial Intelligence on successful completion of 120 credits including all mandatory modules at level 4.

Course Delivery

The course is delivered at the University of Suffolk Ipswich Campus and the DigiTech Centre located at Adastral Park. Students studying full-time on BSc (Hons) Data Science and Artificial Intelligence are likely to have approximately 240 contact hours for level 4, 240 contact hours for level 5 and 172 contact hours for level 6. The contact hours will be a mix of lectures, seminars, practical classes and tutorials. Students will normally be expected to undertake 30 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. The assessment methods used will be appropriate to assess each module's intended learning outcomes. Assessment on the course overall will be mainly coursework (including assignments, dissertations, essays, reports, presentations, group work, reflective learning journals and research projects), with four examinations and practical time-constrained assessments.

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Course Team

The academic staff delivering this course are drawn from a team that includes teaching specialists and current practitioners. All staff are qualified in their subjects with their own specialist knowledge to contribute.

Course Costs

Students undertaking BSc (Hons) Data Science and Artificial Intelligence will be charged tuition fees as detailed below.

Student Group	Tuition Fees
Full-time UK	£9,250 per year
Part-time UK	£1,454 per 20 credit module
Full-time International/EU	£13,725 per year
Part-time International/EU	£2,287 per 20 credit module

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

Students may choose to enrol onto certification exams – details of the costs of these will be advised when available. Taking certification exams is not a mandatory part of the degree.

There is no regular requirement for students to pay additional course fees. Where supplementary activities are offered there may be a small charge to cover their cost (for example, for transport).

Academic Framework and Regulations

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