Programme Specification: Post Graduate Taught

For Academic Year 2026/27

1. Course Summary

Names of programme and award title(s)	MSc Computer Science MSc Computer Science with Artificial Intelligence MSc Computer Science with Data Analytics MSc Computer Science with Cyber Security MSc Computer Science with Data Science
Award type	Taught Masters
Mode of study	Part-time
Framework of Higher Education Qualification (FHEQ) level of final award	Level 7
Normal length of the programme	2 years
Maximum period of registration	The normal length as specified above plus 3 years
Location of study	Online
Accreditation (if applicable)	N/a
Regulator	Office for Students (OfS)
Tuition Fees	Each module taken is individually costed. The fees for 2026/27 are: a standard 15-credit module costs £620, the 45-credit dissertation module costs £1,860 and the full fee for the programme is £7,440*

How this information might change: *Please read the important information at http://www.keele.ac.uk/student-agreement/. This explains how and why we may need to make changes to the information provided in this document and to help you understand how we will communicate with you if this happens.*

** We reserve the right to increase fees in subsequent years of study by an inflationary amount. Please refer to the accompanying Student Terms & Conditions for full details. Further information on fees can be found at http://www.keele.ac.uk/studentfunding/tuitionfees/*

2. Overview of the Programme

This is an online MSc with five programmes: MSc Computer Science, MSc Computer Science with Artificial Intelligence, MSc Computer Science with Data Analytics, MSc Computer Science with Data Science, and MSc Computer Science with Cyber Security. The programmes will create professional computer specialists of the future by providing them with a flexible study environment that they can fit around their personal needs and career aims.

The courses will develop and extend the practical skills that are necessary for the designing, building, deployment and evaluation of software and computer applications in a variety of industrial contexts. The MSc Computer Science is for students who wish to gain a broad understanding of computer science and software development without taking a specialist route; the MSc Computer Science with Artificial Intelligence provides a more in-depth study of artificial intelligence and machine learning; the MSc Computer Science with Data Analytics is for those looking to specialise and pursue a career in the rapidly growing area of data analytics and data science; MSc Computer Science with Cyber Security equips students with a solid foundation in core cyber security principles, enabling them to apply this expertise effectively in industry-relevant roles; and MSc Computer Science with Data Science provides students with a comprehensive grounding in data science fundamentals, preparing them to harness analytical techniques and computational tools in real-world applications across diverse sectors.

It is expected that graduates from these programmes will be able to pursue a wide variety of careers ranging from roles as software developers and engineers, programming analysts, system designers and web developers through to IT management roles, business intelligence, and consultancy amongst others. The courses recognise the importance of computer science and use compulsory modules to deliver key skills and enable students to obtain the required knowledge for such roles.

3. Aims of the programme

The broad aims of the programmes are to:

- cover a range of topics made accessible to people with any university study background and not requiring any previous experience in studying computer science or mathematics.
- deliver to the students knowledge which allows them to fully participate in the development of modern software systems and to apply an approach to the management and control of such activities;
- provide students with the research and scholarship skills to undertake independent research and to develop software applications;
- develop critical, analytical and problem based learning skills;

- develop student-centred independent active learning;
- improve students' communication, numeracy, time management, self-management and advance professional development;
- foster skills for team working needed in the creation of modern systems.

In addition:

- MSc Computer Science programme is for students who wish to gain a broad understanding of computer science and software development in an industrial context.
- MSc Computer Science with Artificial Intelligence programme is for students who wish to gain an advanced understanding of artificial intelligence techniques and the applications of artificial intelligence, covering the machine learning and the application of AI to data science.
- MSc Computer Science with Data Analytics programme is for students who are looking for an in-depth understanding of data analytics, data visualisation and data science topics and the practical applications of these techniques.
- MSc Computer Science with Data Science programme is for students seeking an in-depth understanding of machine learning, artificial intelligence, and advanced data-driven modelling, with a focus on developing and deploying intelligent systems for realworld applications.
- MSc Computer Science with Cyber Security programme is for students seeking an in-depth understanding of cybersecurity principles, secure system design, and threat analysis, with a focus on protecting digital systems and managing security risks in real-world organisational contexts.

4. What you will learn

The intended learning outcomes of the programmes (what students should know, understand and be able to do at the end of the programmes), can be described under the following headings:

- Subject knowledge and understanding
- Subject specific skills
- Key or transferable skills (including employability skills)

Subject knowledge and understanding

Successful students will be able to demonstrate:

LO 1.1 An ability to evaluate the technical, societal and management dimensions of computer systems.

LO 1.2 A knowledge and understanding of advanced aspects of computer systems and their use.

LO 1.3 A combination of theory and practice, with practice being guided by theoretical considerations.

LO 1.4 A strong understanding of the underlying discipline and/or its applications.

LO 1.5 The mastery of the practical methodology of the relevant areas of computing, whether for general application in software development or in specialised applications relating to the storing, processing and communication of information.

LO 1.6 An understanding of, and attention to, the many and varied aspects of quality and security within the framework of the design and development of computer programs and software.

LO 1.7 An understanding of professional, legal, social, cultural and ethical issues related to computing and an awareness of societal and environmental impact.

LO 1.8 The ability to design, implement, and critically evaluate machine learning and data-driven models using real-world datasets, considering issues of performance, interpretability, and responsible AI.

LO 1.9 The ability to analyse cybersecurity threats and vulnerabilities, design secure computing solutions, and evaluate risk mitigation strategies within realistic organisational and network environments.

Subject specific skills

Successful students will be able to show:

LO 2.1 An ability to engage in a peer review process that involves the critical review of papers, software and proposals, coupled with positive advice for improvement and innovation.

LO 2.2 The ability to assess systems (which may include software, devices, people, and so on), to recognise the individual components and to understand their interaction, to improve systems, to replace them and to create them; this includes socio-technical systems such as those relevant to aspects of healthcare and also computing systems used in specialised applications such as bioinformatics, e-science, virtual environments, financial services, and transport.

LO 2.3 Familiarity with codes of ethics and codes of practice specific to the specialism of the degree programme, relevant industrial standards and principles underpinning the development of high integrity systems (for safety, security, trust, privacy, and so on), while keeping in focus the benefits of, approaches to and opportunities offered by innovation.

LO 2.4 Entrepreneurship, which tends to involve acquiring resources to ensure the success of some technically sound endeavour.

LO 2.5 Translational skills which involve the necessary communication between technical and non-technical audiences.

Additionally, successful students of the MSc Computer Science with Artificial Intelligence will be able to show:

LO 2.6 Advanced understanding of artificial intelligence techniques and applications of artificial intelligence.

In addition to the learning outcomes of the MSc Computer Science, successful students of the MSc Computer Science with Data Analytics will be able to develop:

LO 2.7 Advanced understanding of data visualisation and data science topics and their practical applications.

Key or transferable skills (including employability skills)

Successful students will develop:

LO 3.1 An ability to set goals and identify resources for the purpose of learning.

LO 3.2 An ability to critically review the literature, which includes identifying all of the key developments in a particular area of study, critically analysing them and identifying limitations and avenues for further development or explanation.

LO 3.3 An ability to recognise and respond to opportunities for innovation.

LO 3.4 Leadership skills, which tend to be characterised by acquiring a vision (based on sound technical insights) coupled with the ability to encourage others to share in that vision and to ensure that this will not be to their detriment.

Keele Graduate attributes

The Keele Graduate Attributes are the qualities (skills, values and mindsets) which you will have the opportunity to develop during your time at Keele through both the formal curriculum and also through co- and extra-curricular activities (e.g., work experience, and engagement with the wider University community such as acting as ambassadors, volunteering, peer mentoring, student representation, membership and leadership of clubs and societies). Our Graduate Attributes consist of four themes: **academic expertise, professional skills, personal effectiveness, and social, environmental and ethical responsibility.** You will have opportunities to engage actively with the range of attributes throughout your time at Keele: through your academic studies, through self-assessing your own strengths, weaknesses, and development needs, and by setting personal development goals. You will have opportunities to discuss your progress in developing graduate attributes with, for example, Academic Mentors, to prepare for your future career and lives beyond Keele.

5. How is the programme taught?

Students entering the programme will first complete the 15-credit module CSC-40076 Design and Programming. Following completion of this entry module, students are expected to complete seven additional 15-credit modules selected from the programme's module carousel. The carousel includes modules that support the different programme pathways, including modules tailored to specific degree specialisms. Students and their peers may not enter the carousel at the same point, as the starting module depends on the time at which the student begins the programme.

All carousel modules must be completed before students attempt the MSc project component. The project stage consists of the 15-credit module CSC-44142 Preparing for the MSc Project, which focuses on literature review and project definition, followed by the 45-credit CSC-40098 MSc Project, which is dedicated to the implementation, evaluation, and writing of the final project report.

The programme is designed as a conversion MSc for students with a degree in any discipline who wish to gain a Master's level qualification in Computer Science. The School has extensive experience in supporting students from non-computing backgrounds in postgraduate study. Academic support for subject-specific questions is provided by online module tutors, while broader academic and pastoral support is available through the Student Success Co-ordinator.

The entry module CSC-40076 Design and Programming introduces students with no programming experience to the core computing concepts required for the programme. Subsequent modules build upon this foundational knowledge and are designed to be taken independently of one another, requiring no prior knowledge beyond that provided in the entry module.

Teaching and learning on the programme are delivered through a structured online environment that combines asynchronous materials with scheduled synchronous engagement. Lectures introduce core concepts, theoretical principles, and methodological foundations through pre-recorded videos, narrated presentations, and occasional live online sessions. Laboratory sessions (labs) focus on practical application, where students complete guided computing activities such as programming tasks, data analysis exercises, and cyber security simulations. For cyber security modules, practical training is supported through the TryHackMe platform, enabling students to develop hands-on skills within controlled virtual environments. Tutorials and discussion sessions complement lectures and labs by supporting problem solving, concept clarification, and peer interaction.

The programmes are delivered through the Canvas Virtual Learning Environment (VLE), which provides access to learning materials, activities, and communication tools. Students engage with a variety of learning resources, including video lectures, guided exercises, discussion boards, quizzes, and independent study materials. The principal method for introducing new knowledge is through online lecture content, supported by structured self-study using both provided resources and materials identified through independent research.

Learning activities are organised into weekly units, each representing a distinct learning block with specific learning materials, tasks, and deadlines. While much of the learning is asynchronous, weekly deadlines help maintain a consistent pace of study and ensure that students progress through the modules together. Canvas tools such as discussion forums, quizzes, and collaborative activities allow students to demonstrate their progress and engage with both peers and tutors. This structure also enables tutors to provide timely feedback, support, and intervention where necessary.

Students studying on the programme will develop programming and analytical skills using languages that may include (but are not limited to) HTML, JavaScript, Java, MATLAB, R, and Python. These tools are used for software development, data analysis, and the handling of complex datasets commonly encountered in areas such as computing, data science, artificial intelligence, and cyber security.
Most required software is freely available and can be downloaded from the internet, with installation guidance provided within the modules. Where software is not freely available, licences will be provided by the School. Additional tools, such as integrated development environments (IDEs) used for compiling, running, and testing code, will also be made available through the University where required.

Students are expected to have access to a laptop that meets the required software specifications in order to participate fully in the programme. A reliable internet connection is also required to access the Canvas VLE, engage with learning materials, and participate in online activities.

To ensure that learning activities and assessments reflect contemporary professional practice, the programme incorporates applied and industry-relevant tasks. Assessments are designed to evaluate not only technical competence but also professional judgement and contextual decision-making. Core modules therefore include activities such as realistic cryptography and secure system design scenarios, incident response investigations, analytical reporting tailored to senior management audiences, risk and governance documentation, and responsible AI evaluation within organisational contexts.

Authentic learning is further supported through the structured use of industry-style datasets, scenario-based exercises, project-based assessments, and portfolio development. Students engage with simulated enterprise environments, real-world data and threat models, and governance case studies that reflect contemporary professional practice. Within the Cyber Security pathway, students undertake tasks such as analysing simulated security breaches, producing both technical and executive-level reports, designing secure systems within realistic business constraints, and evaluating organisational risk and mitigation strategies. Practical activities may also involve hands-on cyber security environments such as the TryHackMe platform.

Within the Data Science pathway, students work with real-world datasets to develop and evaluate analytical and machine learning models. Assessments emphasise model interpretation, justification of methodological choices, ethical and governance considerations, and the communication of analytical findings to non-technical audiences. Across the programme, selected module assessments and the MSc project support the development of a portfolio of applied work, enabling students to demonstrate practical capability aligned with industry expectations.

The programme includes pathways that reflect different orientations within data-driven computing.

6. Teaching Staff

The modules will be overseen by a Programme Leader with relevant experience and knowledge in the subject area and will be delivered by online module tutors. Student Success Coordinators (SSC) provide regular focus on key areas of the non-academic aspects of the student learning journey ensuring the progression and wellbeing of the student and providing 'signposting' to relevant support functions. The Student Success Coordinator will be the first point of contact for the majority of student queries and will provide proactive contact to support the student in pastoral and the majority of administrative matters. The SSC is not in a position to answer academic questions or give academic guidance. The online module tutor is the first point of contact for academic queries.

More information about some of the Computer Science staff involved in this course is available at http://www.keele.ac.uk/scm/staff/

The University will attempt to minimise changes to our core teaching teams, however, delivery of the programmes depends on having a sufficient number of staff with the relevant expertise to ensure that the programmes are taught to the appropriate academic standard.

Staff turnover, for example where key members of staff leave, fall ill or go on research leave, may result in changes to the programme's content. The University will endeavour to ensure that any impact on students is limited if such changes occur.

7. What is the structure of the programme?

All programmes will be delivered based on a carousel model. This means that programmes have multiple intakes. Upon enrolment a student will select CSC-40076 Design and Programming from Table A as their first module. This module is delivered for each cohort and is available throughout the academic year for new students to select.

On completion of CSC-40076 Design and Programming students normally complete 7 modules (105 credits) from Table B.

On completion of all Modules in table A and B students then take CSC-40086 Research and Consultancy Skills from Table C. This module is delivered for each cohort and is available throughout the academic year.

On completion of all Modules in table A, B and C students then proceed to take CSC-40098 Project Literature & Problem Formulation from Table D. The Project Literature & Problem Formulation module is delivered for each cohort and is available throughout the academic year.

On completion of all Modules in table A, B , C and D students are then proceed to take CSC-44142 Preparing for the MSc Project (formally CSC-40100) from Table E. The MSc Project module is delivered for each cohort and is available throughout the academic year.

Please note if you apply for a study break or leave of absence this will delay your original intended completion date. Modules in Table B are only delivered at specific points within the academic year so please bear in mind you will only be able to study a missed module at the next opportunity.

Students may request to transfer between programme pathways before beginning pathway-specific modules, subject to approval by the Programme Director. This flexibility allows students to make an informed decision about their preferred specialisation after completing the initial core modules. Transfers will be considered where the student's completed modules remain compatible with the target pathway and where the change does not adversely affect academic progression.

Finally, we should note that the MSc Computer Science programmes are designed as a conversion programme that supports students without a prior background in Computer Science. The curriculum introduces fundamental computing concepts and skills through a structured progression of modules before progressing to more specialised topics.

All programmes: compulsory modules:
CSC-40076 Design & Programming
CSC-40086 Research & Consultancy Skills
CSC-40082 Web Technologies & Securities
CSC-44140 Principles of Software Engineering
CSC-40080 Statistical Data Analytics & Databases
CSC-40078 User Interaction Design
CSC-44142 Preparing for the MSc Project
CSC-40098 MSc Project

Additional modules per route:

Computer Science

- CSC-40088 Fundamentals of Computer Science
- CSC-40074 Advanced Programming Techniques

Computer Science with AI

- CSC-40092 Mathematics for AI & Data Science
- CSC-40094 Applications of AI & Data Science

Computer Science with Data Analytics

- CSC-40092 Mathematics for AI & Data Science
- CSC-40096 Visualisation for Data Analytics

Computer Science with Data Science

- CSC-44136 Data Ethics and Governance
- CSC-40094 Applications of AI & Data Science

Computer Science with Cyber Security

- CSC-44132 Network Security and Cryptographic Systems
- CSC-44134 Systems Security - Analytics and Management

Module Carousel Table A

	Module Start Date	Module Name	Module Code	Credits
	For all students CSC-40076 Design and Programming is the first module to be taken on joining their programme			
All Years	*Delivered in all periods* - September, October, January, March, April, June	Design and Programming	CSC-40076	15

Module Carousel Table B

	Module Start Date	Module Name	Module Code	Credits
	After completion of CSC-40076 students are able to take the other core programme modules as and when delivered			
2024/25 Year	29 October 2024	User Interaction Design	CSC-40078	15
	07 January 2025	Web Technologies and Security	CSC-40082	15
	04 March 2025	Fundamentals of Computer Science	CSC-40088	15
	04 March 2025	Mathematics for AI and Data Science	CSC-40092	15
	29 April 2025	Advanced Programming Techniques	CSC-40074	15
	29 April 2025	Applications of AI and Machine Learning	CSC-40094	15
	29 April 2025	Visualisation for Data Analytics	CSC-40096	15
	24 June 2025	Software Engineering and Group Project	CSC-40084	15
2025/26 Year	02 September 2025	Statistical Data Analytics and Databases	CSC-40080	15
	28 October 2025	User Interaction Design	CSC-40078	15
	06 January 2026	Web Technologies and Security	CSC-40082	15
	03 March 2026	Fundamentals of Computer Science	CSC-40088	15
	03 March 2026	Mathematics for AI and Data Science	CSC-40092	15
	03 March 2026	Data Ethics and Governance	CSC-44136	15
	03 March 2026	Network Security and Cryptographic Systems	CSC-44132	15
	28 April 2026	Advanced Programming Techniques	CSC-40074	15
	28 April 2026	Applications of AI and Machine Learning	CSC-40094	15
	28 April 2026	Visualisation for Data Analytics	CSC-40096	15
	28 April 2026	Systems Security - Analytics and Management	CSC-44134	15
	23 June 2026	Software Engineering and Group Project	CSC-40084	15
2026/27 Year	01 September 2026	Statistical Data Analytics and Databases	CSC-40080	15

Module Carousel Table C

	Module Start Date	Module Name	Module Code	Credits
	All students must complete CSC-40086 Research and Consultancy Skills prior to commencing CSC-40098 MSc Project Literature Review and Problem Formulation			
All Years	*Delivered in all periods* - September, October, January, March, April, June	Research and Consultancy Skills	CSC-40086	15

Module Carousel Table D

	Module Start Date	Module Name	Module Code	Credits
	All students must complete CSC-40098 Project Literature Review and Problem Formulation prior to commencing their Project			
All Years	*Delivered in all periods* - September, October, January, March, April, June	Preparing for the MSc Project	CSC-44142	15

Module Carousel Table E

	Module Start Date	Module Name	Module Code	Credits
All Years	*Delivered in all periods* - September, October, January, March, April, June	MSc Project	CSC-40098	45

Learning Outcomes

The table below sets out what students learn in the programme and the modules in which that learning takes place. Details of how learning outcomes are assessed through these modules can be found in module specifications.

Subject Knowledge and Understanding	
Learning Outcome	**Module in which this is delivered**
An ability to evaluate the technical, societal and management dimensions of computer systems.	All modules
A knowledge and understanding of advanced aspects of computer systems and their use.	MSc Project User Interaction Design Web Technologies and Security Fundamentals of Computer Science
A combination of theory and practice, with practice being guided by theoretical considerations.	User Interaction Design MSc Project MSc Project Literature Review and Problem Formulation Software Engineering with Group Project Advanced programming techniques Fundamentals of Computer Science System Design and Programming Web Technologies and Security User Interaction Design Statistical Data Analytics and Databases
A strong understanding of the underlying discipline and/or its applications	User Interaction Design Fundamentals of Computer Science Software Engineering with Group Project Web Technologies and Security
The mastery of the practical methodology of the relevant area of computing, whether for general application in software development or in specialised applications relating to the storing, processing and communication of information.	User Interaction Design Fundamentals of Computer Science Statistical Data Analytics and Databases Software Engineering with Group Project Web Technologies and Security Advanced Programming Techniques MSc Project MSc Project Literature Review and Problem Formulation
An understanding of, and attention to, the many and varied aspects of quality and security within the framework of the design and development of computer programs and software.	All modules
An understanding of professional, legal, social, cultural and ethical issues related to computing and an awareness of societal and environmental impact.	MSc Project User Interaction Design Research and Consultancy Skills Software Engineering with Group Project
Upon completion of the MSc Computer Science with Cyber Security, students will be able to demonstrate a thorough understanding of core cyber security principles and apply them to assess, design, and implement secure computing solutions in professional and industry-relevant contexts.	Network Security and Cryptographic Systems Systems Security - Analytics and Management
Upon completion of the MSc Computer Science with Data Science, students will be able to apply core data science principles including statistical analysis, machine learning, and data-driven decision-making to extract insights from complex datasets and develop intelligent solutions for real-world challenges. They will also critically evaluate the ethical implications of data collection, analysis, and deployment, ensuring responsible use of data in alignment with legal standards, societal values, and professional integrity.	Data Ethics and Governance

Subject Specific Skills	
Learning Outcome	**Module in which this is delivered**
An ability to engage in a peer review process that involves the critical review of papers, software and proposals, coupled with positive advice for improvement and innovation.	MSc Project MSc Project Literature Review and Problem Formulation Research and Consultancy Skills
The ability to assess systems (which may include software, devices, people, and so on), to recognise the individual components and to understand their interaction, to improve systems, to replace them and to create them; this includes socio-technical systems such as those relevant to aspects of healthcare and also computing systems used in specialised applications such as bioinformatics, e-science, virtual environments, financial services, and transport.	All modules
Familiarity with codes of ethics and codes of practice specific to the specialism of the degree programme, relevant industrial standards and principles underpinning the development of high integrity systems (for safety, security, trust, privacy, and so on), while keeping in focus the benefits of, approaches to and opportunities offered by innovation.	All modules
Entrepreneurship, which tends to involve acquiring resources to ensure the success of some technically sound endeavour.	MSc Project User Interaction Design Research and Consultancy Skills
Translational skills which involve the necessary communication between technical and non-technical audiences.	All modules
Advanced understanding of artificial intelligence techniques and applications of artificial intelligence.	Mathematics for AI and Data Science Applications of AI and Machine Learning
Advanced understanding of data visualisation and data science topics and their practical applications.	Mathematics for AI and Data Science Visualisation for Data Analytics

Key or Transferable Skills (graduate attributes)	
Learning Outcome	**Module in which this is delivered**
Ability to set goals and identify resources for the purpose of learning.	MSc Project MSc Project Literature Review and Problem Formulation Research and Consultancy Skills Software Engineering with Group Project
An ability to critically review the literature, which includes identifying all of the key developments in a particular area of study, critically analysing them and identifying limitations and avenues for further development or explanation.	MSc Project MSc Project Literature Review and Problem Formulation Research and Consultancy Skills
An ability to recognise and respond to opportunities for innovation.	MSc Project User Interaction Design
Leadership skills, which tend to be characterised by acquiring a vision (based on sound technical insights) coupled with the ability to encourage others to share in that vision and to ensure that this will not be to their detriment.	MSc Project Software Engineering with Group Project

8. Final and intermediate awards

MSc Computer Science **MSc Computer Science with Artificial Intelligence** **MSc Computer Science with Data Analytics** **MSc Computer Science with Data Science** **MSc Computer Science with Data Science**	180 credits	MSc Computer Science - This must include credits in the following modules: CSC-40088 Fundamentals of Computer Science; CSC-40074 Advanced Programming Techniques; CSC-44142 Preparing for the MSc Project; CSC-40098 MSc Project. The award of the Master's Degree may be at merit or distinction level based on the marks achieved. MSc Computer Science with Artificial Intelligence - This must include credits in the following modules: CSC-40092 Mathematics for AI and Data Science; CSC-40094 Applications of AI and Machine Learning; CSC-44142 Preparing for the MSc Project; CSC-40098 MSc Project. The award of the Master's Degree may be at merit or distinction level based on the marks achieved. MSc Computer Science with Data Analytics - This must include credits in the following modules: CSC-40092 Mathematics for AI and Data Science; CSC-40096 Visualisation for Data Analytics; CSC-40098 MSc Project; CSC-44142 Preparing for the MSc Project. The award of the Master's Degree may be at merit or distinction level based on the marks achieved. MSc Computer Science with Data Science - This must include credits in the following modules: CSC-New Data Ethics and Governance; CSC-40094 Application of AI & Data Science; CSC-40098 MSc Project; CSC-44142 Preparing for the MSc Project. The award of the Master's Degree may be at merit or distinction level based on the marks achieved. MSc Computer Science with Data Science - This must include credits in the following modules: CSC-New Cryptography and Network Security; CSC-40094 Usable Cyber Security, Analytics & Management; CSC-40098 MSc Project; CSC-44142 Preparing for the MSc Project. The award of the Master's Degree may be at merit or distinction level based on the marks achieved.
Postgraduate Diploma in Computer Science **Postgraduate Diploma in Computer Science with Artificial Intelligence** **Postgraduate Diploma in Computer Science with Data Analytics** **Postgraduate Diploma in Computer Science with Data Analytics** **Postgraduate Diploma in Computer Science with Data Analytics**	120 credits	Postgraduate Diploma in Computer Science - This must include credits in the following modules: CSC-40088 Fundamentals of Computer Science; CSC-40074 Advanced Programming Techniques. Postgraduate Diploma in Computer Science with Artificial Intelligence - This must include credits in the following modules: CSC-40092 Mathematics for AI and Data Science; CSC-40094 Applications of AI and Machine Learning. Postgraduate Diploma in Computer Science with Data Analytics - This must include credits in the following modules: CSC-40092 Mathematics for AI and Data Science; CSC-40096 Visualisation for Data Analytics. Postgraduate Diploma in Computer Science with Data Analytics - This must include credits in the following modules: CSC-New Data Ethics and Governance; CSC-40094 Application of AI & Data Science. Postgraduate Diploma in Computer Science with Data Analytics - This must include credits in the following modules: CSC-New Cryptography and Network Security; CSC-40094 Usable Cyber Security, Analytics & Management.
Postgraduate Certificate in Computer Science	60 credits	You will require 60 credits at Level 7.

9. How is the Programme Assessed?

The wide variety of assessment methods used on these programmes at Keele reflects the broad range of knowledge and skills that are developed as you progress through the programme. Teaching staff pay particular attention to specifying clear assessment criteria and providing timely, regular and constructive feedback that helps to clarify things you did not understand and helps you to improve your performance.

The function of the assessments on the programmes is to test students' achievement of the learning outcomes of the MSc Computer Science, MSc Computer Science with Artificial Intelligence, MSc Computer Science with Data Analytics, MSc Computer Science with Data Science, and MSc Computer Science with Cyber Security. The goal is to make best use of assessment practices that similarly meet the needs of students in this context.

All assessment will be online: there is no need to attend Keele's campus for assessments. Possible assessments that students will engage in include online quizzes/tests, assessments, case studies, programming and application design tasks, written reports and essays, reflective reports and surveys, online projects and presentations. Online quizzes and class tests are taken during the course of a module and are intended to assess a student's current understanding and subject knowledge in a structured and focused manner. Assessments normally consists of regular short assignments designed to assess, in more depth than online quizzes and tests, a student's knowledge and understanding of the course material. Some of these assignments may be computer based; others take the form of individual reports, essays or group projects.

The MSc project module is assessed by dissertation. Dissertations are formal reports of work carried out by students undertaking a project. Projects involve the integration and application of theoretical knowledge and problem-solving skills to an identified programming need and/or research problem within the discipline. Dissertations describe product and process in extended detail.

Students who do not successfully complete a module will be offered the opportunity for reassessment in accordance with University regulations. Module tutors will provide guidance and feedback to support students in preparing for reassessment. As the programme is delivered through the Canvas VLE, students continue to have access to relevant learning materials and resources to support their preparation. Students returning from a leave of absence will receive academic guidance from the Programme Director and module tutors to support their reintegration into the programme.

Marks are awarded for all summative assessments designed to assess the student's achievement of learning outcomes. Students are also assessed formatively (no marks awarded) to enable them to monitor their own progress and reflect on their learning. Formative assessment encourages students to take ownership of their learning and simultaneously provides academic staff with information enabling them to identify any specific learning needs. Feedback is also provided on regular summative assessments throughout the Programme.

10. Accreditation

These programmes do not currently have accreditation from an external body.

11. University Regulations

The University Regulations form the framework for learning, teaching and assessment and other aspects of the student experience. Further information about the University Regulations can be found at: http://www.keele.ac.uk/student-agreement/

If this programme has any exemptions, variations or additions to the University Regulations these will be detailed in an Annex at the end of this document titled 'Programme-specific regulations'.

12. What are the typical admission requirements for the Programme?

See the relevant course page on the website for the admission requirements relevant to this programme: https://www.keele.ac.uk/study/

13. How are students supported on the programme?

Students with a diagnosed disability will be entitled to a range of reasonable adjustments. For more details please see: https://www.keele.ac.uk/students/lifeoutsideofstudy/disabilityanddyslexiasupport/supportforcurrentstudents/reasonableadjustments/

Students will have access to Keele University's IT Services via https://www.keele.ac.uk/it/ to support with systems used at the university. An induction module is in development to support students with online learning resources which will dovetail with a wider university project on induction.

In order to help support students to engage in study through their programme, all students on the programmes are provided with a named Student Success Co-ordinator (SSC). The Student Success Coordinators (SSCs) will work to provide and support:

- motivation and encouragement
- enrolment and preparing for modules
- frequent check ins
- high risk contact strategies and reminders of key dates
- triage to direct students with academic questions of issues requiring contact with other university departments.

The SSC will be a student's first point of contact and students can expect to be in regular contact with their SSC by phone or email.

The SSC cannot advise on academic queries but can advise students on contacting the module tutor on specific queries or will suggest to post queries on a message board if it is common, enabling module leaders and fellow students to engage in discussions to help to address any matters arising. If required, they will also assist students in directing them to relevant services within the University.

Each student will be provided academic tutoring by the Online Tutor for each module and the Online Tutor will be the key contact for all academic matters within the module. Online Tutors will be able to answer queries raised of a subject specific nature on all modules taught.

Online Tutors, leading modules on the programmes, will work directly with students on a weekly basis, and will provide information on activities and summarise weekly activities. They will regularly monitor discussions, feedback and assist in the completion of formative and summative assessments. Usually, two to three times in the module they will provide feedback and grades on assessments.

The Programme Leader will monitor the running of the programme as a whole, which includes ensuring that personal and academic

issues raised by students and module leaders/tutors are addressed. Students should contact their Programme Leader in the event they are unable to resolve issues raised with their SSC and Online Tutors/module leaders.

14. Learning Resources

- The relevant Course Handbook will provide students with key information and guidance on structure, content and assessment.
- Students may contact the online tutors, the Programme Director and the School Office via e-mail at all times on weekdays and may expect a response to their communications within seven working days.
- Students will have access to material in the courses' on-line learning resources.
- Students will have access to Keele's Library Information Services on campus and via the Internet.

15. Additional Costs

As to be expected there will be additional costs for inter-library loans and potential overdue library fines, print and graduation. We do not anticipate any further costs for these programmes.

16. Quality management and enhancement

The quality and standards of learning in this programme are subject to a continuous process of monitoring, review and enhancement.

- The School Education Committee is responsible for reviewing and monitoring quality management and enhancement procedures and activities across the School.
- Individual modules and the programme as a whole are reviewed and enhanced every year in the annual programme review which takes place at the end of the academic year.
- The programmes are run in accordance with the University's Quality Assurance procedures and are subject to periodic reviews under the Revalidation process.

Student evaluation of, and feedback on, the quality of learning on every module takes place every year using a variety of different methods:

- The results of student evaluations of all modules are reported to module leaders and reviewed by the Programme Committee as part of annual programme review.
- Findings related to the programme from the annual Postgraduate Taught Experience Survey (PTES), and from regular surveys of the student experience conducted by the University, are subjected to careful analysis and a planned response at programme and School level.
- Feedback received from representatives of students on the programme is considered and acted on at regular meetings of the Student Staff Voice Committee.

The University appoints senior members of academic staff from other universities to act as external examiners on all programmes. They are responsible for:

- Approving examination questions
- Confirming all marks which contribute to a student's degree
- Reviewing and giving advice on the structure and content of the programme and assessment procedures

Information about current external examiner(s) can be found here:
http://www.keele.ac.uk/qa/externalexaminers/currentexternalexaminers/

17. The principles of programme design

The programme described in this document has been drawn up with reference to, and in accordance with the guidance set out in, the following documents:

a. UK Quality Code for Higher Education, Quality Assurance Agency for Higher Education: http://www.qaa.ac.uk/quality-code
b. QAA Subject Benchmark Statement for Master's Degrees in Computing, Quality Assurance Agency for Higher Education, 2019. https://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/subject-benchmark-statement-computing-(masters).pdf
c. Keele University Regulations and Guidance for Students and Staff: http://www.keele.ac.uk/regulations

18. Annex - Programme-specific regulations

Programme Regulations: Computer Science, Computer Science with Artificial Intelligence, Computer Science with Data Analytics, MSc Computer Science with Data Science and MSc Computer Science with Cyber Security

Final Award and Award Titles	MSc Computer Science MSc Computer Science with Artificial Intelligence MSc Computer Science with Data Analytics MSc Computer Science with Data Science MSc Computer Science with Cyber Security
Intermediate Award(s)	Postgraduate Diploma in Computer Science Postgraduate Diploma in Computer Science with Data Analytics Postgraduate Diploma in Computer Science with Artificial Intelligence Postgraduate Diploma in Computer Science with Data Science Postgraduate Diploma in Computer Science with Cyber Security Postgraduate Certificate in Computer Science
Last modified	July 2021
Programme Specification	https://www.keele.ac.uk/qa/programmespecifications

The University's Academic Regulations which can be found on the Keele University website (https://www.keele.ac.uk/regulations/)[1] apply to and regulate the programme, other than in instances where the specific programme regulations listed below over-ride them. These programme regulations list:

- *Exemptions* which are characterised by the omission of the relevant regulation.
- *Variations* which are characterised by the replacement of part of the regulation with alternative wording.
- *Additional Requirements* which set out what additional rules that apply to students in relation to this programme.

The following **exemptions, variations** and **additional requirements** to the University regulations have been checked by Academic Services and have been approved by the Faculty Education Committee.

A) EXEMPTIONS

The clause(s) listed below describe where an exemption from the University's Academic Regulations exists:

For the whole duration of their studies, students on this Programme are exempt from the following regulations:

Exemption 1: Academic Warnings

Students on this programme are not covered by the University's Academic Warnings process.

B) VARIATIONS

The clause(s) listed below describe where a variation from the University's Academic Regulations exists:

Variation 1: This programme varies from Regulation C7.11

Progression rules for this programme:

There are two formal progression points in the programme. Firstly, students must successfully complete the entry module, CSC-40076 Design and Programming, before progressing to the taught module carousel. Secondly, students may only embark on the project modules with a maximum of three taught module marks (up to 45 credits) outstanding and with assessment attempts remaining.

Variation 2: from Regulation C.7.5.4
The programme includes a dissertation stage consisting of a 45-credit dissertation module.

Variation 3: from D1.12.1.5
You will be required to take one or more study break if the School advises you that you carry outstanding assessment attempts for previous modules to the equivalent of 45 credits or more. If you have already embarked on a further module, you may be placed on a compulsory study break to attempt your outstanding assessments before you are allowed to resume your studies at the next opportunity. Any compulsory study break will count towards your total allocation of study break time available on the programme. You will be allowed to resume your studies after your study break once you carry no more than 15 credits worth of outstanding assessment.

Variation 4: from Deviation D1
The module 'CSC-40076 Design and Programming' normally has to be passed before the next module can be attempted. If you are informed that you have to be assessed or reassessed in this module while you are already enrolled on a subsequent module, you are required to complete the subsequent module and attempt the assessment for CSC-40076 Design and Programming either alongside that module or take a study break to undertake assessment and pass the CSC-40076 Design and Programming module. Any study break will count towards your total allocation of study break time available on the programme.

Additional Requirements

The programme requirements listed below are in addition to the University's Academic Regulations:

Additional requirement 1: Study Breaks
Part-time students: You are entitled to take a maximum of six breaks in your study between the modules you enrol on. A study break is an absence for the duration of one module. You cannot take more than two consecutive study breaks in succession. Longer periods of absence require a formal leave of absence.

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[1] References to University Regulations in this document apply to the content of the University's Regulatory Framework as set out on the University website here https://www.keele.ac.uk/regulations/.

Version History

This document

Date Approved: 11 June 2026

Previous documents

Version No	Year	Owner	Date Approved	Summary of and rationale for changes
2	2025/26	AMIRREZA KHODADADIAN		Programme director updated
1	2025/26	THEO KYRIACOU	19 June 2025	
1.1	2024/25	THEO KYRIACOU	26 July 2024	Amendments to module carousel to add latest period
1	2024/25	THEO KYRIACOU	10 June 2024	
1	2023/24	THEO KYRIACOU	15 May 2023	
1	2022/23	THEO KYRIACOU	22 August 2022	
1.1	2021/22	MARK TURNER	22 August 2022	Amended the normal length of the programme from '1.5 to 2 years' to '2 years'
1	2021/22	MARK TURNER	27 July 2021	Variations 3 and 4 relating to study breaks and module CSC-40076 Design and Programming have been added to the Annex: Programme Specific Regulations.
1	2020/21	MARK TURNER	02 October 2020	