Leeds Trinity University

PROGRAMME SPECIFICATION

1. General information

Awarding body / institution	**Leeds Trinity University**
Teaching institution	**Leeds Trinity University**
'Parent' Faculty *(ICE / BCDI / SHS)*	**Faculty of Business, Computing and Digital Industries**
'Parent' School	**School of Computer Science**
Professional accreditation body *(if applicable)*	***Application to the British Computer Society (BCS) will be made after the first year of operation of the programme***
Final award *(eg. BA Hons)*	**MSc**
Title of programme(s)	**Computer Science** **Computer Science with Placement**
Subsidiary award(s) *(if any)*	**MSc Computer Science** **PgDip Computer Science with Placement** **PgDip Computer Science** **PgCert Computer Science**
Honours type *(Single / Joint / Combined)*	**NA**
Duration and mode(s) of study	**MSc Computer Science – 12 months (September intake) / 16 months (January intake) Full-time (FT) / 24 months (September intake) Part-time (PT)** **MSc Computer Science with Placement – 24 months (September intake) / 28 months (January intake) Full-time (FT)**
Month/year of approval of programme	**January 2025**
Start date (this version) *(month and year)*	**September 2025**
Periodic review next due *(academic year)*	**TBC**
HECoS subject code(s)	**100% 100366 Computer Science**
UCAS course code & route code **(available from Admissions)**	**NA**
SITS codes *(Course / Pathway / Route)* **(available from Student Administration)**	**MSc Computer Science:** • **Course code –** MSLTUCOMSI • **Route code –** COMPSCI • **Programme** – PTMSN1(FT) & PTMSN2 (PT) **MSc Computer Science with Placement:** • **Course code –** MSLTUCOMSP • **Route code –** COMSCPL
Delivery venue(s)	**Leeds Trinity University City Centre Campus**

2. Aims of the programme

Rationale and general aims, including what is special about this programme
(from the student's and a marketing perspective)

The MSc Computer Science programme enables you to continue with postgraduate studies in a constantly evolving landscape, addressing shortages of IT Professionals in the tech sector. The programme is for graduates with STEM degrees and non-STEM degrees with an interest in the tech sector and is also available to those already working in the sector to upskill and formalise qualifications and specialisation.

Our programme creates skilled software engineers and developers to meet the growing need for responsible and professional experts in computer science. It is designed to welcome applicants from diverse academic backgrounds and builds skills in mathematics, technical specialism and subject expertise. Graduates will have in-demand skills and be highly employable.

The programme contains modern, outward-looking modules, grounded in Computer Science theory and practice, yet suitable for a range of in-demand career paths. Programme aims are:

- to provide an opportunity for the understanding of scientific-technological development, implementation and communication.
- to develop concepts and techniques to analyse real-world problems and develop appropriate solutions.
- to utilise cloud computing and artificial intelligence to develop solutions to benefit businesses, society and environments.
- to assist you to demonstrate leadership skills, apply ethics and be responsible and accountable for your own actions.
- to equip you with reflective skills for lifelong learning in pursuit of personal development and excellence in practice.
- to enable you to be a critical thinker equipped with excellent communication skills to influence areas of a technological transformation such as smart systems, neural analysis, computer vision and language processing.

3. Student learning outcomes of the programme

Learning outcomes in terms of:

- **knowledge and understanding (K)**
- **intellectual / cognitive / 'thinking' skills (I)**
- **practical skills specific to the subject (P)**
- **employability skills (postgraduate) (E) or attributes and skills (undergraduate) (AS)**

The 'K1', etc codes are used in section 7b) and module descriptors to refer to each of these learning outcomes.

On successful completion of the programme, you will have demonstrated:

K1 a systematic understanding and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of computer science or the associated area of professional practice;

K2 a comprehensive understanding of techniques applicable to research or advanced scholarship in computer science;

K3 a conceptual understanding and original application of knowledge gained, used in parallel with a critical evaluation of research methodologies to develop critiques of them and, where appropriate, to propose new hypotheses;

K4 the ability to recognise the inherent variability and diversity of technological and computational functioning, including the contribution of international and cultural differences to this;

K5 understanding of advanced technology and computer science literacy and the contribution that an understanding of computer science can make to the wider community and society and its role in promoting values of equality and social justice;

I1 secure use of analytical techniques, statistics and inference appropriate to solving problems related to computer science;

I2 critical evaluation of approaches to solving complex problem issues both systematically and creatively;

I3 self-direction and originality in tackling and solving problems, recognising ethics and values relevant to professional practice of computer science;

I4 effective and sustained communication of results and arguments to specialist and non-specialist audiences;

I5 understanding of the limits of your knowledge and the consequent influence on your analysis;

I6 autonomous action in planning and implementing tasks at a professional or equivalent level.

Employability skills (postgraduate)

E1 **Self-management** – the ability to plan and manage time; readiness to accept responsibility and improve your own performance based on feedback/reflective learning; the ability to take initiative and be proactive, flexible and resilient;

E2 **Teamworking** – the ability to co-operate with others on a shared task and to recognise and take on appropriate team roles; leading, contributing to discussions and negotiating; contributing to discussions; awareness of interdependence with others;

E3 **Business and sector awareness** – an understanding of the key drivers for business success, including the importance of customer/client satisfaction and innovation; understanding of the market/sector in which an organisation operates; the ability to recognise the external context and pressures on an organisation, including concepts such as value for money, profitability and sustainability;

E4 **Problem-solving** – a capacity for critical reasoning, analysis and synthesis; a capacity for applying knowledge in practice; an ability to retrieve, analyse and evaluate information from different sources;

E5 **Communication** – the ability to present information clearly and appropriately, both orally and in writing, and to tailor messages to specific audiences and purposes;

E6 **Application of numeracy** – a general awareness of mathematics and its application in practical contexts; the ability to carry out arithmetic operations and understand data, to read and interpret graphs and tables and to manage a budget;

E7 **Application of information technology** – the ability to identify the appropriate IT package for a given task; familiarity with word-processing, spreadsheets and file management; the ability to use the internet and email effectively;

E8 **Entrepreneurship/enterprise** – the ability to demonstrate an innovative approach and creativity, to generate ideas and to identify and take opportunities;

E9	**Social, cultural & civic awareness** – embracement of an ethos of community and civic responsibility; an appreciation of diversity and ethical issues; an understanding of cultures and customs in the wider community.

See also the learning outcomes for subsidiary awards set out in section 4 below.

3a External benchmarks

Statement of congruence with the relevant published subject benchmark statements
(including appropriate references to any PSRB, employer or legislative requirements)

The MSc aligns with the Frameworks for HE Qualifications (FHEQ), QAA Computing Subject Benchmark Statement published on 30 March 2022 and British Computer Society (BCS) guidelines for universities.

Subject Benchmark Statement - Computing (including Master's) (qaa.ac.uk)

Qualifications Frameworks (qaa.ac.uk)

Academic accreditation - BCS accredited degree programmes | BCS *(application to BCS after first year of operation of the programme)*

4. Learning outcomes for subsidiary awards

If the programme is not successfully completed, there are two fallback awards:

1) Award of Postgraduate Certificate in Computer Science

On successful completion of 60 credits at Level 7, you will have demonstrated an ability to:

(i) develop new skills to a high level and advance knowledge and understanding in the computer science discipline and/or area of professional practice;

(ii) approach cloud computing challenges in an analytical manner, make decisions and communicate insights derived from cloud-based solutions to diverse audiences;

(iii) develop the qualities and transferable skills necessary for employment including the ability to exercise initiative and personal responsibility.

2) Award of Postgraduate Diploma in Computer Science

On successful completion of 120 credits at Level 7, you will have demonstrated, in addition to the outcomes for a Postgraduate Certificate:

(i) the ability to utilise knowledge that is at, or informed by, the forefront of the computer science discipline and/or area of professional practice to evaluate critically new insights and/or current issues;

(ii) comprehensive knowledge of research techniques and how these can be critically applied to existing knowledge;

(iii) further development of the qualities and transferable skills necessary for employment including autonomous decision-making in complex situations.

5. Content

Summary of content by theme (providing a 'vertical' view through the programme)
Our MSc Computer Science programme comprises modules covering topics from secure software development to machine learning, enterprise cloud computing and responsible computing. **Fundamental Subject Knowledge** You will start with the key fundamentals for computer science to ensure you have the necessary knowledge in relation to key computing concepts and methods. You will also take a module in secure software development to learn how to build secure systems. This will equip you with the necessary programming skills to implement real-life solutions. You will learn the essential principles of Cloud enterprise computing, ensuring you gain the foundational knowledge required in key computing concepts and Cloud-based methods regardless of your academic background. You will develop fundamental AI and machine learning skills and discover related concepts, mainly from a practical, problem-solving perspective – including techniques for scalable predictive modelling in cloud-based ecosystems. **Ethics and Values** You will learn the ethics and legal aspects of computer science and the approaches to develop responsible solutions in the light of existing frameworks including DPA and GDPR. **Research Skills** Finally, you will complete an in-depth, independent research project. With the support of our academic and technical team, you will undertake a piece of research on a topic of your choice in the area of computer science. This will involve designing, implementing and evaluating a substantial piece of software and documenting the research through writing a dissertation. **Personal Development and Future Directions** The programme places a strong emphasis on critical skills, with you taking control of your own learning, aided and supported by academic staff/personal tutors. You will develop a holistic confidence in the discipline, having achieved success across a range of practical and academic assessments. Graduates will have taken their first step towards BCS membership and you will be well-positioned to achieve a successful and rewarding career in computer science. The MSc Computer Science with Placement programme will offer you work experience and employability skills through the Placement Year module.

6. Structure

MSc Computer Science / MSc Computer Science with Placement

September intakes

Duration: 12 months full-time (MSc Computer Science)

Total credit rating: 180

Full time:

Core: Students are required to take:

COM7333	Enterprise Cloud Computing	Term 1	30 credits
COM7033	Secure Software Development	Term 1	30 credits
COM7003	Artificial Intelligence	Term 2	30 credits
COM7023	Responsible Computing	Term 2	30 credits
COM7016	Project	Term 3/Summer	60 credits

Duration: 24 months part-time (MSc Computer Science)

Total credit rating: 180

Part Time:

Year 1: Students are required to take the following modules:

COM7033	Secure Software Development	Term 1	30 credits
COM7023	Responsible Computing	Term 2	30 credits

Year 2: Students are required to take the following modules:

COM7333	Enterprise Cloud Computing	Term 1	30 credits
COM7003	Artificial Intelligence	Term 2	30 credits
COM7016	Project	Term 3/Summer	60 credits

Duration: 24 months full-time (MSc Computer Science with Placement)

Total credit rating: 300

Full time:

Year 1: Students are required to take:

COM7333	Enterprise Cloud Computing	Term 1	30 credits
COM7033	Secure Software Development	Term 1	30 credits
COM7003	Artificial Intelligence	Term 2	30 credits
COM7023	Responsible Computing	Term 2	30 credits
COM7016	Project	Term 3/Summer	60 credits

Year 2: Students are required to take:

COM7120	Professional Placement	Term 1, 2 & 3	120 credits

January intakes

Duration: 16 months full-time (MSc Computer Science)

Total credit rating: 180

Year 1, Term 1 (January-March): Students are required to take:

COM7003	Artificial Intelligence	Term 1	30 credits

COM7023	Responsible Computing	Term 1	30 credits

Year 1, Term 2 (April-May): Students are required to take:
Project module preparation and initial project proposal development (COM7016 Project)

Year 1, Term 2 (September-December): Students are required to take:

COM7333	Enterprise Cloud Computing	Term 2	30 credits
COM7033	Secure Software Development	Term 2	30 credits

Year 2, Term 3 (January-May): Students are required to take:

COM7016	Project	Term 3	60 credits

Duration: 28 months full-time (MSc Computer Science with Placement)

Total credit rating: 300

Year 1, Term 1 (January-March): Students are required to take:

COM7003	Artificial Intelligence	Term 1	30 credits
COM7023	Responsible Computing	Term 1	30 credits

Year 1, Term 2 (April-May): Students are required to take:
Project module preparation and initial project proposal development (COM7016 Project)

Year 1, Term 2 (September-December): Students are required to take:

COM7333	Enterprise Cloud Computing	Term 2	30 credits
COM7033	Secure Software Development	Term 2	30 credits

Year 2, Term 3 (January-May): Students are required to take:

COM7016	Project	Term 3	60 credits

Year 2 and 3 (May-May): Students are required to take:

COM7120	Professional Placement	Term 1, 2 & 3	120 credits

7. Learning, Teaching and Assessment

7a) Statement of the strategy for learning, teaching and academic experience for the programme

The programme meets the requirements of relevant policy documents, particularly the QAA Frameworks for HE Qualifications, relevant QAA Subject Benchmark Statement and the University's Strategic Plan and Learning, Teaching and Academic Experience Strategy.

The learning, teaching and assessment strategy for the programme is centred on principles of active learning, critical reflection and teamwork. We believe that students at this higher level of study should handle their own learning and have a role in supporting the learning of their peers. Learning is a shared experience and you can gain significant benefits from developing skills and knowledge in partnership with others. This prominent level of individual responsibility is embedded into the programme, with you taking the lead in your own learning with the support and facilitation of expert tutors. The programme employs a variety of teaching methods but with an emphasis on student-led activities, supervised small-group work and an approach to teaching and learning which values active learning. All taught modules in this programme will be delivered through a combination of lectures, small group tutorials/seminars and lab exercises.

Module assessments employ a full range of written forms, presentations, portfolios and software artefacts, in order to reflect the academic and employability skills being developed within the programme. Assessments across the programme ensure a good variety and balance of assessment forms and there are opportunities for students to exercise an element of choice in negotiated assessments. All assessments are centred around a real-world scenario where students will need to apply their knowledge of the topics covered to computer science from a specific application area to solve given problems.

You will further develop transferable and employability skills (e.g. critical thinking, teamwork) while engaging with a variety of online resources, including basic statistical packages using Python and popular packages, video tutorials and the Moodle Virtual Learning Environment. Moodle is used to support class sessions, with module information and learning materials posted in advance. We also use Pre-Live-Post to engage students in the learning and teaching material. As emphasised in the University's Learning, Teaching and Academic Experience Strategy, we are committed to increasing the amount of contact time devoted to student-led enquiry. You will engage with programme content and learn in an active fashion and in alignment with the Pre-Live-Post model of delivery, which scaffolds pre and post activities.

Within the Pre-Live-Post structure, we utilise a 'workshop-style' learning and teaching approach to ensure differential learning whilst creating a varied, dynamic and informative teaching experience for all. The Pre-Live-Post structure gives a well-rounded and organised learning experience where you are prepared before class with resources such as readings or videos (pre), actively engaged during teaching sessions through discussions, activities or hands-on learning (live) and supported after the session with follow-up materials, feedback and opportunities to reflect or seek help (post). This structure ensures you have the tools, guidance, and ongoing support needed to succeed and fully understand the material.

Assessment methods will be used to satisfy the learning outcomes for the programme – all of which include internationalisation and a historical perspective of the discipline, while promoting awareness of how computer science can be applied in the workplace and in the community, to the benefit of all.

7b) Programme learning outcomes covered

												Skills development								
Adjust LO codes as necessary. ↓	**K1**	**K2**	**K3**	**K4**	**K5**	**I1**	**I2**	**I3**	**I4**	**I5**	**I6**	**E1**	**E2**	**E3**	**E4**	**E5**	**E6**	**E7**	**E8**	**E9**
Lighter or hatched shading indicates modules that are not core, ie. not all students on this programme will undertake these.	Detailed Knowledge	Comprehensive Understanding	Original Application	Contribution to Differences	Computer Science and AI Literacy	Secure Analytics and Inference	Critical Evaluation	Problem Solving and Ethics	Scientific Communication	Limitations of Knowledge	Planning and Implementation	**Self-management**	**Teamworking**	**Business & sector awareness**	**Problem-solving**	**Communication**	**Application of Numeracy**	**Application of IT**	**Entrepreneurship / Enterprise**	**Social, Cultural and Civic Awareness**
COM7033 Secure Software Development	■	■			■	■		■	■		■	■			■	■	■	■		
COM7003 Artificial Intelligence	■	■	■	■	■	■	■	■	■	■	■	■			■	■	■	■		
COM7333 Enterprise Cloud Computing	■	■	■	■		■	■	■	■		■	■		■	■	■	■	■		■
COM7023 Responsible Computing	■	■	■	■	■	■	■	■	■	■		■	■	■	■	■	■	■	■	■
COM7016 Project	■	■	■	■	■	■	■	■	■	■	■	■		■	■	■	■	■	■	■
COM7120 Professional Placement	■	■	■	■	■	■	■	■	■	■	■	■		■	■	■	■	■	■	■

8. Entry requirements

Do the University's standard entry requirements apply (as outlined within the University's Admissions Policy)?	Yes
Detail of any deviation from and/or addition to the University's standard entry requirements (if applicable)	Applications from all candidates will be considered on their merits. Entry route 1: A 2:2 or above bachelor's degree (or an acceptable equivalent) in a computing related subject, which is considered at least comparable to a UK 2:2 degree, from an institution acceptable to the University. This could include computer science, information systems, software engineering, artificial intelligence, cyber security, health informatics or any other Computer Science related degrees available at ucas.com. Entry route 2: A 2:2 or above bachelor's degree (or an acceptable equivalent) in any subject which is considered at least comparable to a UK second class honours degree, from an institution acceptable to the University **and** relevant work experience. This route will be considered by programme lead or their nominee. Entry route 3: In some countries such as China, 3-year bachelor's degree without honours, **and** with at least one-year professional experience. This route will be considered by programme lead or their nominee. Entry route 4: Students successfully completed a computer science pre-masters programme from an institution acceptable to the University. For all routes, the programme will require prior knowledge of mathematics foundation equivalent to GCSE maths 4 or higher. This is evidenced in having a bachelor's degree for routes 1 & 2, while for route 3, prior mathematical knowledge will need to be evidenced in the work portfolio. The programme will help students refresh their foundation in mathematics and provide students with pre-masters material to help them refresh their knowledge in areas.

9. Progression, classification and award requirements

Details of requirements for student progression between levels and receipt of the award(s) (A certain level of attainment which must be achieved in a specific module; any modules exempted from condonement, any deviation from the standard institutional stipulations for award classification, e.g. exclusion of Level 4 module marks from Foundation Degree classification)
The following University Taught Programme Academic Regulations apply: • General Taught Academic Regulations • Master's Degree Programme Regulations • Additional Regulations for Master's 'with Placement' Degrees

10. Prerequisites

Details of modules students must study and achieve credit for before enrolling on a module at a higher level, or attaining their final programme award
N/A

11. Additional support needs

Arrangements made to accommodate students with additional support needs and any unavoidable restrictions on their participation in the programme/scheme
Students with disabilities or with neurodiversity are welcome and are expected to be able to participate fully in this programme. Arrangements will be made, via the normal University support systems, to accommodate students with additional support needs wherever possible, with reasonable adjustments made to accommodate individual needs.