Programme Specification

1.	Programme title	MSc Computer Science
		MSc Computer Science with Integrated Placement (15 months)
		MSc Computer Science with Integrated Placement (24 months)
2.	Awarding institution	Middlesex University
3a	Teaching institution	Middlesex University: London
3b	Language of study	English
4a	Valid intake dates	September / February
4b	Mode of study	Full-time & Part-time
4c	Delivery method	☒ On-campus/Blended
		☐ Distance Education
5.	Professional/Statutory/Regulatory body	N/A
6.	Apprenticeship Standard	N/A
7.	Final qualification(s) available	MSc Computer Science
		MSc Computer Science with Integrated Placement (15 months)
		MSc Computer Science with Integrated Placement (24 months)
		PGDip Computer Science
		PGCert Computer Science
8.	Academic year effective from	**2024/25**

9.	Criteria for admission to the programme

Applicants should normally have one of the following:

- A second class or higher honours degree in a computing discipline awarded by a UK university or a qualification deemed by the University to be equivalent.

- A second class or higher honours degree in an appropriate mathematical or engineering discipline with relevant knowledge of computing and significant industrial experience pertaining to a relevant role (such as a software developer or computer programmer role) within the computing sector (with a minimum of five years' full-time postgraduate employment in that role).

International students whose first language is not English or who have not been taught in the English medium throughout, and whose first degree is not from a British university, must achieve an IELTS score of 6.5 with a minimum score of 6.0 in each band.

University policies supporting students with disabilities apply, as described in the University Regulations, 'Information for Students with Disabilities'.

10.	Aims of the programme

The programme aims to:

- Provide a balance of advanced computer science theory with the opportunity to gain practical, hands-on experience.

- Direct postgraduate students to relevant strands of contemporary research activity as appropriate and the knowledge and skills to undertake further research.

- Develop postgraduate students' critical thinking, enabling reflection on, and evaluation of, a range of advanced topics in computer science.

- Facilitate the necessary skills and knowledge to analyse and choose from a range of software development technologies and paradigms, and to plan and develop software in the chosen paradigm.

- Promote an ability to critically appraise the professional, legal, and ethical framework applicable to careers in computing.

- Convey the values, attitudes, and competence to apply the principles and concepts learnt in the programme when undertaking continual professional development and self-directed learning throughout their careers.

11.	Programme outcomes*

A. Knowledge and understanding	**Teaching/learning methods**
On completion of this programme the successful student will have knowledge and understanding of: 1. The ideas and concepts underlying a selected set of advanced topics in computer science.	Students gain knowledge and understanding through a combination of traditional lecture delivery, seminar discussions, small group and individual exercises and assignments, lab sessions, and the individual project. Throughout their studies, students are encouraged to undertake independent study both to supplement and consolidate what is being learned, and to broaden their individual knowledge and understanding of

2. Appropriate computer science techniques to apply to a given problem. 3. How to analyse, reason about and implement complex software systems. 4. How to appraise the professional, legal, and ethical framework within which a computing professional must operate.	the subject. Critical evaluation and selection of techniques and solutions engage the students in relating theory to practice. **Assessment methods** Students' knowledge and understanding is assessed by a combination of coursework, in-class tests, and an individual dissertation. Coursework may comprise group and individual assignments, online formative assessment via the University virtual learning (i.e., e-learning) environment, and presentations. The dissertation is assessed by a thesis report and a viva-voce examination.
B. Skills On completion of this programme the successful student will be able to: 1. Plan and apply appropriate techniques for the solution of problems in computer science. 2. Utilise a range of modelling and abstraction techniques for the specification and design of software systems. 3. Analyse complex problems systematically and implement effective solutions. 4. Communicate effectively in writing, verbally and by presentation. 5. Display effective team working skills to make a positive contribution, as a member or leader, to the work of a group. 6. Plan and execute a challenging and substantial computing project by application of appropriate research methods.	**Teaching/learning methods** Students learn cognitive and practical skills through the teaching and learning strategy indicated in Section A. These abilities are nurtured by self-directed learning, small group teaching and discussions, small group and individual formative exercises and assessments, laboratory sessions, and the individual project. Seminar sessions provide an opportunity to address questions, queries, and problems. **Assessment methods** Students' skills are assessed by practical assignments, such as individual and group assignments to design and develop a range of software artefacts mapping to the topics presented in the taught modules. These assignments comprise (in addition to the prototype software artefacts) written design reports, with several assessments involving presentations (both individual and group presentations).

12. Programme structure (levels, modules, credits and progression requirements)

12.1 Structure of the programme

The programme is structured to accommodate both full-time study, which may include an industrial placement for 3 months and 12 months, and part-time enrolment. The standard University academic year consists of 24 weeks, divided into two semesters of approximately 12 weeks each. Students have the flexibility to commence the program either in the Autumn semester (September) or the Winter semester (January).

The programme comprises 120 credits of compulsory taught modules and a 60-credit postgraduate project module. For an MSc award a total of 180 credits must be attained. For a PGDip (exit) award, 120 credits must be attained, i.e., all taught modules. For a PGCert (exit) award, a minimum of 60 credits must be attained and there is no restriction on which taught modules must be completed to make up those 60 credits. All taught modules are compulsory. Full-time students study the taught modules over a period of 24 weeks. Following the completion of the taught modules, students undertake the project module (60 credits) over the next semester to complete the programme in approximately one calendar year. The full-time programme structure is illustrated below.

MSc Computer Science (full-time)				
Level 7 Semesters 1 & 2	CST4040 Advanced Topics in Computer Science (30 credits)	CST4010 Software Development (30 credits)	CST4125 Blockchain Development (30 credits)	CST4135 Cyber and Information Security (30 credits)
Level 7 Semester 3	CST4444 Individual Project (60 credits)			

Part-time students typically study 60 credits of taught modules in their first academic year of study followed by a further 60 credits of taught modules in the following academic year. In this case, students are expected to study CST4840 in their second year as it includes content that is preparation for the dissertation. It is acceptable within the regulations of the learning framework for part-time students to study 30 credits in a given academic year provided the overall programme is completed within the specified timescale for part-time registration. This will require a module registration schedule to be designed with, and approved by, the programme leader.

Students may advance to the project stage with a 30-credit deficit but must successfully complete all taught modules before registering for the placement. The duration of the postgraduate project is one semester for full-time and two semesters for part-time students. Assessments for taught modules occur at the end of Winter and Spring semesters, with reassessment before the Autumn semester begins.

The full-time programme structure for the programme with Integrated Placements is illustrated below.

MSc Computer Science with Integrated Placement (full-time)				
Year 1 Level 7 Semesters 1 & 2	CST4040 Advanced Topics in Computer Science (30 credits)	CST4010 Software Development (30 credits)	CST4125 Blockchain Development (30 credits)	CST4135 Cyber and Information Security (30 credits)
Year 1 Level 7 Semester 3	CST4444 Individual Project (60 credits)			
Year 2 Semester 1 (3 months) or All Year (12 months)	CST4840 PG Work Placement (3 months) (0 credits)		CST4850 PG Work Placement (12 months) (0 credits)	

12.2 Levels and modules		
Level 7		
Compulsory	**Optional**	**Progression requirements**
CST4040 Advanced Topics in Computer Science CST4010 Software Development CST4125 Blockchain Development CST4135 Cyber and Information Security	There are no optional modules on this programme	Students may advance to the project stage with a maximum of a 30-credit deficit. Before progressing to the placement module, students are required to successfully pass all taught modules.

CST4444 Individual Project		
All modules are FHEQ Level 7		
Full-time students registered on the placement programmes must additionally take the relevant placement module as follows:		
Either CST4840 – Postgraduate Work Placement (3 months)		
Or CST4850 – Postgraduate Work Placement (12 months)		

12.3 Non-compensatable modules	
Module level	**Module codes**
7	CST4010, CST4040, CST4125, CST4135, CST4444

13.   Information about assessment regulations

This programme will run in line with general University Regulations.

Information on how the University formal assessment regulations work, including details of how award classifications are determined, can be found in the University Regulations at

https://www.mdx.ac.uk/about-us/policies/university-regulations

Grades are awarded on the standard University scale of 1–20, with Grade 1 being the highest. To pass a module all components, both coursework and examination, must be passed individually with a minimum grade of 16. Failure in one of the components will result in the failure of the module.

For additional information on assessment and how learning outcomes are assessed please refer to the individual module narratives for this programme.

14.   Placement opportunities, requirements and support (if applicable)

Industrial placement is offered as an optional opportunity for full-time students. Students can choose either a 3-month or 12-month placement duration.

Students are responsible for securing their placement through independent applications, with support available from our employability service, MDXWorks If a suitable placement

opportunity has not been identified before the start of the placement module due to unsuccessful applications or unsuitability, students will be transferred to the non-placement programme title upon successful completion of the project module.

15. Future careers / progression

Successful students will be well placed for a range of roles in the professional computing sector, and the strong research underpinning of the programme provides a platform for further research activity.

16. Particular support for learning

For more information please check this link:

http://unihub.mdx.ac.uk/study

The Department of Computer Science Teaching and Learning Strategy is compliant with those of the University, in seeking to develop learner autonomy and resource-based learning. In support of the students learning experience:

- All new students go through an induction programme and some have early diagnostic numeric and literacy testing before starting their programme. The Learning Enhancement Team (LET) provides one-to-one tutorials and workshops for those students needing additional support in these areas.
- Students are allocated a personal email account, secure networked computer storage and dial-up facilities.
- A programme handbook is made available to students at enrolment (electronic copies for all students are available via virtual learning environment).
- New and existing students are provided with electronic module handbooks for each module they study Web-based learning materials are provided to further support learning.
- Extensive library facilities are available at the base campus.
- Students can access advice and support on a wide range of issues from the Student Services Counter and the Student Information Desk. Student Advisers aligned to subject areas offer confidential one to one advice and guidance on programme planning (if applicable) and regulations.
- High quality specialist laboratories equipped with industry standard software and hardware where appropriate, for formal teaching as well as self-study.
- Tutorial sessions for each module organised for groups of up to 20 students are provided for additional teaching support.
- Feedback is given on completion of all formative assessments.

- Where applicable, past exam papers for all modules (which are assessed by examination) are available for students via Unihub.
- Research activities of academic staff feed into the teaching programme, which can, on some occasions, provide an opportunity for students to work with academics on some aspect of research.

Middlesex University encourages and supports students with disabilities. Some practical aspects of Computer Science programmes may present challenges to students with particular disabilities. You are encouraged to visit our campuses at any time to evaluate facilities and talk in confidence about your needs. If we know your individual needs we'll be able to provide for them more easily. For further information contact the Disability Support Service (email: disability@mdx.ac.uk).

17.	**HECos code(s)**	100366

18.	**Relevant QAA subject benchmark(s)**	Computing

19. Reference points

The following reference points were used in designing the programme:

- QAA computing subject benchmark statement (master's degrees in computing 2011)
- QAA framework for higher education qualifications in England, Wales and Northern Ireland
- QAA Quality code
- CLTE Learning and Quality Enhancement Handbook
- University's regulations for postgraduate taught programmes
- University equality and diversity policy document

20. Other information

Please note programme specifications provide a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve if s/he takes full advantage of the learning opportunities that are provided. More detailed information about the programme can be found in the rest of your programme handbook and the university regulations.

21.   Curriculum map for *MSc Computer Science*

This section shows the highest level at which programme outcomes are to be achieved by all graduates, and maps programme learning outcomes against the modules in which they are assessed.

Programme learning outcomes

Knowledge and understanding	
A1	The ideas and concepts underlying a selected set of advanced topics in computer science.
A2	Appropriate computer science techniques to apply to a given problem.
A3	How to analyse, reason about and implement complex software systems.
A4	How to appraise the professional, legal and ethical framework within which a computing professional must operate.
Skills	
B1	Plan and apply appropriate techniques for the solution of problems in computer science.
B2	Utilise a range of modelling and abstraction techniques for the specification and design of software systems.
B3	Analyse complex problems systematically and implement effective solutions.
B4	Communicate effectively in writing, verbally and by presentation.
B5	Display effective team working skills to make a positive contribution, as a member or leader, to the work of a group.
B6	Plan and execute a challenging and substantial computing project by application of appropriate research methods.

Programme outcomes														
A1	A2	A3	A4	B1	B2	B3	B4	B5	B6					
Highest level achieved by all graduates														
7	7	7	7	7	7	7	7	7	7					

Module Title	Module Code	A1	A2	A3	A4	B1	B2	B3	B4	B5	B6
Advanced topics in computer science	CST4040	√	√	√	√	√		√	√		√
Software Development	CST4010	√	√	√	√	√	√		√	√	
Cyber and Information Security	CST4135	√	√	√		√		√		√	
Blockchain Development	CST4125	√	√	√		√		√			
Individual Project	CST4444	√	√	√	√	√		√	√		√