

Programme Specification for MSc Computer Science



1. Programme title	MSc Computer Science
2. Awarding institution	Middlesex University
3. Teaching institution	Middlesex University
4. Details of accreditation by professional/statutory/regulatory body	
5. Final qualification	MSc
6. Year of validation	
Year of amendment	
7. Language of study	English
8. Mode of study	Full-time or Part-time

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 discipline (e.g. engineering or mathematics) with relevant knowledge of computing and significant industrial experience.

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 or TOEFL 575 (paper based) 233 (computer based).

University policies supporting students with disabilities apply, as described in the Guide and 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.
- Expose postgraduate students to relevant strands of contemporary research activity as appropriate and the knowledge and skills to undertake further research.
- Direct postgraduate students to critically reflect on and evaluate a range of advanced topics in computer science.
- Facilitate the necessary skills and knowledge to analyse and choose from a range of programming 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 CPD and self-directed learning throughout their careers.

11. Programme outcomes

A. Knowledge and understanding

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.
- 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.

Teaching/learning methods

Students gain knowledge and understanding through a combination of traditional lecture delivery, small group discussions, small group and individual exercises, 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 the subject. Critical evaluation and selection of techniques and solutions engage the students in relating theory to practice.

Assessment methods

Students' computing-related cognitive abilities (A1 through A4) are assessed by a combination of coursework, in-class tests and an individual dissertation. Coursework may comprise group and individual assignments, presentations and viva-voce examination.

B. Cognitive (thinking) 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) Critically evaluate a range of programming paradigms.
- 4) Plan and execute a challenging and substantial computing project by application of appropriate research methods.

Teaching/learning methods

Students learn cognitive skills through the teaching and learning strategy indicated in Section A. These abilities are nurtured in particular by self directed learning, small group teaching and discussions, small group and individual exercises, laboratory sessions and the group project. Seminar sessions provide an opportunity to address questions, queries and problems.

Assessment methods

Students' cognitive skills (B1 through B4) are assessed by coursework and an individual dissertation. Coursework may comprise group and individual assignments, tests, presentations and viva-voce examination.

C. Practical skills

On completion of the programme the successful student will be able to:

- 1) Learn effectively and independently to acquire new

Teaching/learning methods

Students learn practical skills through the teaching and learning strategy outlined above. Although not all the skills are explicitly taught, they are nurtured and developed throughout the programme, which is structured and delivered in such a way as to

knowledge and skills for the purpose of continuing professional development throughout their career.

2) Analyse complex problems systematically and implement effective solutions.

3) Communicate effectively in writing, verbally and by presentation.

4) Effectively manage time and other resources.

5) Reflect critically on her, or his, own work and that of colleagues.

6) Display effective team working skills to make a positive contribution, as a member or leader, to the work of a group.

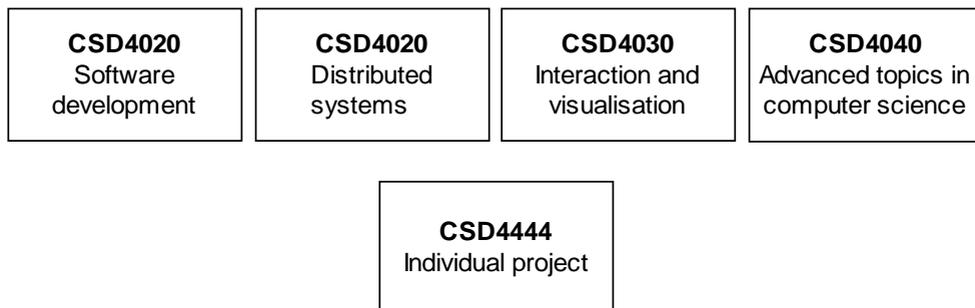
promote this process.

Assessment methods

Students' practical skills (C1 through C6) are assessed by coursework and an individual dissertation. Coursework may comprise group and individual assignments, tests, presentations and viva-voce examination.

requirements)

12. 1 Overall structure of the programme



The programme is available in full-time and part-time mode in the UK.

The programme comprises four 30 credit taught modules and a 60 credit postgraduate project module. All modules are compulsory. The programme commences in the autumn term (October). Full-time students study the four 30-credit modules in parallel over a period of 24 weeks. They then undertake the project module (60 credits) over the spring and summer terms to complete the programme in approximately one calendar year. Part-time students typically study two 30-credit modules in their first academic year of study followed by two further 30-credit modules. It is acceptable within the regulations of the learning framework for part-time students to study 30 credits (i.e., one module) in a given academic year provided the overall programme is completed within the specified timescale for part-time registration.

Details of each module can be found in the Programme Handbook.

Students must successfully complete all the modules of the taught part of the programme before they can register for the Project Module

12.2 Levels and modules		
COMPULSORY	OPTIONAL	PROGRESSION REQUIREMENTS
<p>Students must take all of the following:</p> <p>CSD4010 Software development</p> <p>CSD4020 Distributed systems</p> <p>CSD4030 Interaction and visualisation</p> <p>CSD4040 Advanced topics in computer science</p> <p>And</p> <p>CSD4444 Individual project</p> <p>All modules are FHEQ Level 7</p>		<p>Students must successfully complete CSD4010, CSD4020, CSD4030 and CSD4040 before progressing to the individual project (CSD4444).</p>

12.3 Non-compensatable modules

<i>Module level</i>	<i>Module code</i>
7	CSD4444

13. A curriculum map relating learning outcomes to modules

See Curriculum Map Below

14. Information about assessment 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 <http://www.mdx.ac.uk/aboutus/Strategy/regulations/index.aspx>
- Practical aspects of the programme that are assessed by coursework may be carried out using specialist software and may include lab tests.
- Theoretical material is assessed by coursework and examinations.
- 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.

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

N/A

16. Future careers (if applicable)

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.

17. Particular support for learning

For more information please check this link:

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

The School's 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 Learner Development Unit (LDU) 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 given module handbooks for each module they study. Soft copies of all module handbooks can be found on Unihub. 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.
- Formative feedback is given on completion of student coursework
- 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 School of Science & Technology 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) or contact Sobia Hussain on 020 8411 4945.

18. JACS code (or other relevant coding) G400

system)

19. Relevant QAA subject benchmark group(s)

Computing

20. Reference points

The following reference points were used in designing the programme:

- QAA computing subject benchmark statement
- 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
- British computer society (BCS) guidelines on course accreditation
- University equality and diversity policy document

21. 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 student programme handbook and the University Regulations.

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	Appraise the ideas and concepts underlying a selected set of advanced topics in computer science
A2	Apply appropriate computer science techniques to a given problem
A3	Analyse, reason about and implement complex software systems.
A4	Appraise the professional, legal and ethical framework within which a computing professional must operate
Cognitive 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	Critically evaluate a range of programming paradigms
B4	Plan and execute a challenging and substantial computing project by application of appropriate research methods
Practical skills	
C1	Learn effectively and independently to acquire new knowledge and skills for the purpose of continuing professional
C2	Analyse complex problems systematically and implement effective solutions
C3	Communicate effectively in writing, verbally and by presentation
C4	Effectively manage time and other resources
C5	Reflect critically on her, or his, own work and that of colleagues
C6	Display effective team working skills to make a positive contribution, as a member or leader, to the work of a group

Programme outcomes													
A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	C5	C6

Highest level achieved by all graduates

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Module Title	Module Code by Level	Programme outcomes													
		A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	C5	C6
Software development	CSD4010			√			√	√		√		√		√	√
Distributed systems	CSD4020		√	√		√		√		√	√	√			
Interaction and visualisation	CSD4030		√		√	√				√		√			
Advanced topics in computer science	CSD4040	√	√	√		√		√		√	√			√	
Individual project	CSD4444	√	√		√	√			√	√	√	√	√	√	

