Programme Specification

MSc Advanced Computer Science (full-time)	PFTZADVCOMHM
MSc Advanced Computer Science (flexible-modular)	PPTZADVCOMFM
MSc Advanced Computer Science (part-time)	PPTZADVCOMHM

For students entering in 2020/21

This document sets out key information about your Programme and forms part of your Terms and Conditions with the University of Reading.

Awarding Institution	University of Reading
Teaching Institution	University of Reading
Length of Programme	MSc Advanced Computer Science (full-time) - 12 months MSc Advanced Computer Science (flexible-modular) - 60 months MSc Advanced Computer Science (part-time) - 2 years
Accreditation	British Computer Society (BCS)
Programme Start Dates	September

Programme information and content
The programme is intended for computer science graduates and computer professionals who wish to broaden and deepen their understanding of computer science and in particular, of Data Science and Big Data Analytics. A prior programming experience is required. This programme offers a challenging, flexible scheme of study invigorated by the research interests and expertise of our academics and the unique location of Reading at the heart of the ‘Silicon Valley of Europe'. The programme provides a unique opportunity to develop leading-edge in-depth knowledge of specific computer science disciplines for the analysis of data and covers topics such as modern programming paradigms (e.g., Cloud computing), data-driven knowledge discovery (Big Data, Data Mining and Predictive Analytics) and interdisciplinary applicative domains (Computer Vision, Virtual Reality , etc.). The programme aims to provide students with: An in-depth understanding of modern computing and programming paradigms, such as Distributed Computing (Cloud Computing, MapReduce/Apache Hadoop) and High Performance Computing; An in-depth understanding machine learning and data mining algorithms and practical experience with data analytics tools; A broad training in, and hands-on experience of, knowledge discovery process, machine learning, advanced predictive analytics, Big Data, applications in computer vision and in interdisciplinary domains such as digital marketing; An opportunity to carry out an interdisciplinary research project. The proposed model will be cosupervision of two researchers, one from the Department of Computer Science for the computing aspects and one from another School/Department of the University for a specific application domain; An easier choice for the next step in their career. Students can either continue onto a PhD programme, if they wish to, or join the IT industry immediately after graduation.

Module information
The programme comprises of 180 credits, allocated across a range of compulsory and optional modules. Compulsory modules are listed.

Compulsory modules

Module	Name	Credits	Level
CSMBD16	Big Data Analytics	10	M
CSMCC16	Cloud Computing	10	M
CSMDM16	Data Analytics and Mining	10	M
CSMMA16	Mathematics and Statistics	10	M
CSMML16	Machine Learning	10	M
CSMPR16	MSc Project	80	M
CSMRS16	Research Studies	10	M

The remaining credits will be taken from the list of optional modules from the School of Mathematical, Physical and Computational Sciences, or from an approved list of modules from across the University.

Part-time or flexible modular arrangements

Part-time students will be able to take the taught elements of the MSc in the Autumn and Spring terms over two consecutive academic years. The MSc project for part-time students will start in April of the first year of registration and will end in September of the second year of registration.

In addition to the full-time and two year part-time options, the programme is offered on a flexible modular basis, giving the opportunity to individuals who are in full-time employment to gain an MSc in Advanced Computer Science (180 credits, including a dissertation), a Postgraduate Diploma (120 credits without a dissertation) or a Certificate (60 credits), or to take the taught modules as free-standing CPD courses. Students in the flexible mode will have a maximum of five years to earn up to 180 credits. The award of the Postgraduate Certificate and the Postgraduate Diploma will be dependent upon the successful completion of 60 credits and 120 credits, respectively, of the course at the same pass marks as for the Masters Degree. Because of the nature of the flexible modular option, students may be awarded the Postgraduate Certificate or Diploma at the termination of any appropriate module. The maximum study period of five years will allow candidates considerable flexibility in achieving a postgraduate award while continuing to pursue a full-time career in industry. The flexible modular students will take their choice of modules together with the full-time students over the Autumn and Spring terms of each academic year.

It is also possible to take the taught modules as free-standing training courses and enrol on one of two different bases:

Continuing Professional Development (CPD) undertaking no assessment;
as a module with assessment which would then contribute towards a postgraduate qualification (MSc, Diploma, or Certificate).

Additional costs of the programme

For textbooks and similar learning resources, we recommend that you budget up to £100, depending on your preference to have your own books rather than borrow from the library. Some books may be available second-hand, which will reduce costs. A range of resources to support your curriculum, including textbooks and electronic resources, are available through the library. Reading lists and module specific costs are listed on the individual module descriptions.

Costs are indicative and may vary according to optional modules chosen and are subject to inflation and other price fluctuations.

The estimates were calculated in 2019.

Optional modules

The optional modules available can vary from year to year. An indicative list of the range of optional modules for your Programme is set out in the Further Programme Information. Details of any additional costs associated with the optional modules, will be made available to you prior to the beginning of the programme. Entry to optional modules will be at the discretion of the University and subject to availability. Although the University tries to ensure you are able to take the optional modules in which you have expressed interest this cannot be guaranteed.

Placement opportunities

The University of Reading offers opportunities for multi-disciplinary research projects, industrial internships (http://www.reading.ac.uk/careers/RIS/), and the Erasmus programme enables students to undertake project work at a number of European Universities.

Teaching and learning delivery

You will be taught through lectures, tutorials, and computer laboratory classes. Assessment takes a variety of formats depending on the module: some are 100% continuous assessment, some are 100% end of module/year examination (class test), and others are a mixture.

Total study hours for your programme will be 1800 hours. The contact hours for your programme will depend upon your module combination; an average for a typical set of modules on this programme is 260 hours. In addition to your scheduled contact hours, you will be expected to undertake guided independent study. Information about module contact hours and the amount of independent study which a student is normally expected to undertake for a module is indicated in the relevant module description.

Accreditation details

Accredited by BCS, The Chartered Institute for IT for the purposes of partially meeting the academic requirement for registration as a Chartered IT Professional, and accredited by BCS, The Chartered Institute for IT on behalf of the Engineering Council for the purposes of partially meeting the academic requirement for registration as a Chartered Engineer.

Assessment

Most modules are assessed by a mixture of coursework and formal examination (including class tests). Some modules are assessed only as coursework. Details are given in the relevant module description.

Progression

Classification

Classification

The University's taught postgraduate marks classification is as follows:

Mark Interpretation

70 - 100% Distinction
60 - 69% Merit
50 - 59% Good standard (Pass)

Failing categories:

40 - 49% Work below threshold standard
0 - 39% Unsatisfactory Work

For Masters Degree

To qualify for **Distinction**, students must

i. gain an overall average of 70 or more over 180 credits; and
ii. a mark of 60 or more for the dissertation; and
iii. the total credit value of all modules marked below 50 must not exceed 55 credits; and
iv. students must not have any mark below 40.

To qualify for **Merit**, students must

i. gain an overall average of 60 or more over 180 credits; and
ii. a mark of 50 or more for the dissertation; and
iii. the total credit value of all modules marked below 50 must not exceed 55 credits; and
iv. students must not have any mark below 40.

To qualify for **Passed**, students must

i. gain an overall average of 50 or more over 180 credits; and
ii. a mark of 50 or more for the dissertation; and

iii. the total credit value of all modules marked below 50 must not exceed 55 credits; and
iv. the total credit value of all modules marked below 40 must not exceed 30 credits.

For PG Diploma

To qualify for **Distinction**, students must

i. gain an overall average of 70 or more over 120 credits; and
ii. In addition, the total credit value of all modules marked below 50 must not exceed 55 credits; and
iii. students must not have any mark below 40.

To qualify for **Merit**, students must

i. gain an overall average of 60 or more over 120 credits; and
ii. the total credit value of all modules marked below 50 must not exceed 55 credits; and
iii. students must not have any mark below 40.

To qualify for **Passed**, students must

i. gain an overall average of 50 or more over 120 credits; and
ii. the total credit value of all modules marked below 50 must not exceed 55 credits; and
iii. the total credit value of all modules marked below 40 must not exceed 30 credits.

For PG Certificate

To qualify for a **Postgraduate Certificate**, students must

i. gain an overall average of 50 or more over 60 credits; and
ii. the total credit value of all modules marked below 40 must not exceed 10 credits.

For further information about your Programme please refer to the Programme Handbook and the relevant module descriptions, which are available at http://www.reading.ac.uk/module/. The Programme Handbook and the relevant module descriptions do not form part of your Terms and Conditions with the University of Reading.