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Important information regarding the Programme Specification

About this document

Last revised 22 December 2023

The Programme Specification gives a broad outline of the structure and content of the programme, the entry level qualifications, as well as the learning outcomes students will achieve as they progress. Some of the information referred to in this programme specification is included in more detail on the University of London [website](#). Where this is the case, links to the relevant webpage are included.

Where links to external organisations are provided, the University of London is not responsible for their content and does not recommend nor necessarily agree with opinions expressed and services provided at those sites.

For queries about any of the programme information provided, whether here or on the website, registered students should use the *ask a question* button in the [student portal](#). Otherwise, the *Contact Us* link at the bottom of every webpage should be used.

Terminology

The following language is specific to the **Computer Science** programme:

Module: Individual units of the programme are called modules. Each module is a self-contained, formally structured learning experience with a coherent and explicit set of learning outcomes and assessment criteria.

Key revisions made

Programme specifications are revised annually. The quality committee of the member institution providing academic direction, as part of its annual review of standards, confirms the programme structure and the educational aims and learning outcomes, and advises on any development in student support. Where there are changes which may impact on

Award titles may be abbreviated as follows:

Master of Science MSc

Postgraduate Diploma PGDip

Postgraduate Certificate PGCert

Level of the programmes

The Framework for Higher Education Qualifications of UK Degree-Awarding Bodies (FHEQ) forms part of the UK Quality Code for Higher Education of the [Quality Assurance Agency for Higher Education](#) (QAA).

The awards are placed at the following Levels of the Framework for Higher Education Qualifications (FHEQ):

MSc Level 7

PGDip Level 7

PGCert Level 7

Relevant QAA subject benchmarks group

See the [QAA website](#) for information about quality assurance.

[Computing](#)

Awarding body

University of London

Registering body

University of London

Academic direction

Birkbeck, University of London

Accreditation by professional or statutory body

As part of the development of the MSc Computer Science programme, requirements set out by a number of relevant professional bodies are being reviewed.

Language of study and assessment

English

Mode of study

Web supported learning with an online tutor.

Programme structures

The programme has two registration points in the year: October and April. There are four study sessions in a year, each lasting 10 weeks for each 15-credit module. The 30-credit Project module runs over two 10-week study sessions. Study sessions begin in October, January, April and July. Each session is followed by an assessment submission point.

The PGDip Computer Science comprises a total of 120 UK credits (60 ECTS credits) at FHEQ level 7.

The PGCert Computer Science comprises a total of 60 UK credits (30 ECTS credits) at FHEQ level 7.

One UK credit equates to a notional ten hours of study.

Each .



Educational aims and learning outcomes of the programmes

Programme

- commercial, economic, and social implications of computing applications and techniques
- the fundamental models of computation, computer arithmetic and logic
- Information System and Information Technology career paths

B Cognitive skills

- gain experience of applying network and cloud computing technologies
- implement appropriate algorithms and data structures in sequential and parallel environments
- apply allocation techniques in software design and implementation to manage



PGCert Computer Science

For the qualification of PGCert Computer Science, students must pass

Any **four** modules (each worth 15 credits) chosen from:

- Applied Machine Learning (CSM010)
- Cloud Computing (CSM020)
- Computer Systems (CSM030)

Appendix B Module descriptions

Applied Machine Learning (CSM010)

Machine learning is an important topic in both academia and industry these days. There has been growing interest in the practical side of machine learning. This module focuses more on the practical techniques and methods with Python and Scikit-Learn than on the theories or statistics behind these methods. The module enables students to gain hands-on and practical skills for machine learning based analytics tasks, use appropriate Python libraries and tools to analyse data.

Deadlocks: detection and recovery, avoidance, prevention.

Memory storage: cache, internal and external mTQq0.000008870.000oryq0.000008871 0 595.32 84

The module aims to: introduce the notation, terminology, concepts and techniques underpinning the discipline of Computer Science; promote the importance of formal notations as the necessary means of ensuring clarity, precision, and absence of ambiguity; provide an introduction to the concepts and manipulation of the basic finite structures as these arise in Computer Science, e.g., computer arithmetic, strings, graphs, sets, digital circuits, lists, binary trees; introduce basic models of computation, such as finite automata and Turing machines; give students an understanding of the fundamentals of data structures and file organisation: their representation, algorithms for their operation, and the relative merits of different structures and methods; and introduce the design and analysis of algorithms, and their

Object-Oriented Programming (CSM080)

The module further develops the core software engineering skills and knowledge following on from the Principles of Programming module as a key ingredient for students pursuing a qualification in Computer Science. In particular, this module discusses issues specifically related to developing programs for large programming projects and for modern computer hardware architectures.

This module covers object-oriented programming, including the use of subclasses, modules, and library classes to create well-organised programs. The module enhances understanding of making appropriate choices on the selection of algorithms, their implementation together with the required data structures (e.g. arrays,



Designing a software solution and documenting the design using a formal methodology

Selecting an appropriate software methodology process that can deliver this solution

Identifying data protection and ethical issues

Providing a comprehensive implementation of the software design developed

Testing the developed software using an appropriate methodology and establishing