Programme Specification

Computer Science {Foundation} [GCET]

Version: 2023-24, v1.0, 26 Jan 2023

Contents

Section 1: Key Programme Details

Part A: Programme Information

Programme title: Computer Science {Foundation} [GCET]

Highest award: DipHE Computer Science

Interim award: CertHE Computer Science

Awarding institution: UWE Bristol

Affiliated institutions: Global College of Engineering and Technology (GCET)

Teaching institutions: Global College of Engineering and Technology (GCET)

Study abroad: No

Year abroad: No

Sandwich year: No

Credit recognition: No

Department responsible for the programme: FET Dept of Computer Sci & Creative Tech, Faculty of Environment & Technology

Contributing departments: Not applicable

Professional, statutory or regulatory bodies: Not applicable

Apprenticeship: Not applicable

Mode of delivery: Full-time

Entry requirements: Applicants holding the following qualifications are eligible to apply for entry to Level 0 of the programme:
Thanawiya amma (General Secondary School Certificate) or the one year certificate with an overall mark of 70%, or above
Thanawiya amma (General Secondary School Certificate) with an overall mark of 65% or above PLUS a mark of over
60% in each stage of the GCET Foundation Studies Programme PLUS a minimum overall score of IELTS 5.5, or equivalent

Further details of entry requirements for applicants holding the IB Diploma or A Levels can be found at http://www1.uwe.ac.uk/whatcanistudy/applyingtouwe/undergraduateapplications/entryrequirements.aspx.

Applicants holding more advanced qualifications may be considered for entry to the programme with advanced standing on an individual basis.

For implementation from: 01 October 2023

Programme code: G50S00

Section 2: Programme Overview, Aims and Learning Outcomes

Part A: Programme Overview, Aims and Learning Outcomes

Overview: This programme provides a flexible, employer-facing education in Computer Science.
Through modern teaching methods the programme supports students to use variety of algorithms, implement software on state of the art platforms and explore data technologies. Suitably designed and selected modules offer students the opportunity to specialise their knowledge.

All our graduates will leave with familiarity of the basic tools and concepts of modern AI. Our graduates will be ready to enhance their skills in a wide variety of computer science specialities including AI, data analytics and smart devices in order to meet the worldwide skills shortage in these areas; making this programme valuable for the home and the overseas educational market.

Educational Aims: This programme aims to:

Develop able and enabled graduates who contribute to their profession and society.

Develop competent software developers who can explore and make use of new technologies as they emerge.

Develop graduates who have the skills and habits of thinking that allow for life-long learning.

Develop graduates who are equipped to make a contribution to the discipline either through research or practice.

Develop graduates who recognise their ethical and professional responsibilities.

Prepare students for progression to bachelors level study and/or research into computer science / software engineering or related disciplines.

Programme Learning Outcomes:
On successful completion of this programme graduates will achieve the following learning outcomes.

Programme Learning Outcomes

PO1. Apply Artificial Intelligence concepts and techniques to offer innovative solutions to problems or to enhance the efficiency and effectiveness of existing systems.

PO2. Be able to use technical knowledge and skills to contribute to and deliver solutions through evidence-based enquiry.

PO3. Be able to recognise security threats and their implications, plan actions and design systems to manage them.

PO4. Be competent software developers, with excellent problem solving skills and the ability to adapt to different development environments.

PO5. Be able to make a significant contribution as a member of a team in the development of computer based systems, offering solutions in a range of application areas.

PO6. Respond to, and act upon the ethical, legal and professional implications of situations which they may encounter during their professional lives.

PO7. Be equipped to understand and respond to the changing needs of industry and society.

Part B: Programme Structure

Year 1

The student must take 120 credits from the modules in Year 1.

Year 1 Compulsory Modules

The student must take 120 credits from the modules in Compulsory Modules.

Module Code	Module Title	Credit
UFCFQN-30-0	Computational Thinking and Practice 2023-24	30
UFCFPN-30-0	Information Practitioner Foundations 2023-24	30
UFCE4A-15-0	Introduction to Creative Technologies 2023-24	15
UFME49-15-0	Introduction to Digital Design 2023-24	15
UFCFTN-30-0	Web Foundations 2023-24	30

Year 2

The student must take 120 credits from the modules in Year 2.

Year 2 Compulsory Modules

The student must take 120 credits from the modules in Compulsory Modules.

Module Code	Module Title	Credit
UFCFGS-15-1	Artificial Intelligence I 2024-25	15
UFCFDS-15-1	Computer Systems Architecture 2024-25	15
UFCFFS-30-1	Foundations of Computing 2024-25	30
UFCFHS-30-1	Principles of Programming 2024-25	30

UFCFES-30-1	Web Development and Databases 2024-25	30

Year 3
The student must take 120 credits from the modules in Year 3.

Year 3 Compulsory Modules
The student must take 120 credits from the modules in Compulsory Modules.

Module Code	Module Title	Credit
UFCFYR-15-2	Advanced Algorithms 2025-26	15
UFCF8S-30-2	Advanced Software Development 2025-26	30
UFCF9S-15-2	Artificial Intelligence II 2025-26	15
UFCFVK-15-2	Internet of Things 2025-26	15
UFCFWK-15-2	Operating Systems 2025-26	15
UFCF7S-30-2	Systems Development Group Project 2025-26	30

Part C: Higher Education Achievement Record (HEAR) Synopsis

A graduate of this programme will be equipped with excellent technical and thinking skills thus enabling them to be an innovative problem solver. They will be familiar with a and practised in a range of programming languages and deployment environments. They will be familiar with tools, techniques and methods in Artificial Intelligence. They will have experienced a rich teaching environment and will be practised in professional skills. They will have connected with industry and will be equipped to respond to the future. They will understand their ethical, legal and professional responsibilities as practising technologists.

Part D: External Reference Points and Benchmarks

The QAA Computing Benchmark Statement The latest QAA Subject Benchmark Statement for Computing was published in October 2019, and is applicable to this proposal. The design team has considered it in drawing up the structure of the

programme, and is of the view that the proposal falls clearly within the scope of the benchmarks, as regards curriculum, teaching and learning, and the benchmarking standards
themselves. The benchmark describes the discipline of Computer Science in some detail and this
programme falls squarely within the expressed characteristics. For example, the statement (p 5.) states that, “Computer science provides the necessary knowledge to understand and build computational systems“ and states that its main characteristics include, “fundamental computational concepts and algorithmic thinking, including recursive, distributed and parallel possibilities and attention to the benefits and the limitations of these; the role of these in devising approaches to areas of system design, problem solving, artificial intelligence, simulation and computational modelling recognition of the relationships between the concepts of requirements, specification, design, programme and data (in all its forms) validation and maintenance, as
well as the power of transformation and proof, and the place of these in computing understanding the power behind abstraction, the potential of multiple levels of abstraction and the role this plays in computing.

Understanding the opportunities for and the potential of automation, but also the proper balance between automation and how humans effectively interact with computers, recognising the role of redundancy, diversity and separation of concerns in achieving reliable, usable and secure systems, often in the presence of uncertainty recognising simplicity and elegance as useful concepts and principles” All of the above is covered by this programme. The benchmark also addresses subject-specific skills and teaching, learning and assessment.

The principles embodied with these sections of the benchmark statement have been incorporated into the design of this programme The benchmarks also contain (section 6) statements of the standards expected of graduates at threshold, typical and excellent levels. The team is of the view that the programme is structured in such a way that graduates will meet the required standards. In designing this programme we have made reference to the SEEC credit level descriptors for HE, 2016 http://www.seec.org.uk/wp- content/uploads/2016/07/SEEC-descriptors-

2016.pdf and the QAA FHEQ descriptors to ensure that module and programme learning outcomes are expressed in a way that is appropriate to their level.

The UWE Enhancement Framework has helped to frame our thinking in terms of the context in which the students will learn, as has UWE 2030 strategy document.

Part E: Regulations

A: Approved to University Regulations and Procedures

https://www1.uwe.ac.uk/about/departmentsandservices/professionalservices/studentandacademicservices/regulationspoliciesquality/regulationsandprocedures.aspx