



SECTION 1: KEY PROGRAMME DETAILS

PART A: PROGRAMME INFORMATION	
Highest Award	BSc (Hons) Computing
Interim Award	BSc Computing
Interim Award	DipHE Computing
Interim Award	CertHE Computing

Awarding Institution	UWE Bristol
Teaching Institution	UWE Bristol
Delivery Location	Frenchay Campus
Study Abroad / Exchange / Credit Recognition	Placement X Sandwich Year X Credit Recognition X Year Abroad X
Faculty Responsible For Programme	Faculty of Environment & Technology
Department Responsible For Programme	FET Dept of Computer Sci & Creative Tech
Professional Statutory or Regulatory Body (PSRB) Links	British Computer Society (BCS)
Apprenticeships	
Mode of Delivery	Full-time

ENTRY REQUIREMENTS	UCAS Tariff Points: For the current entry requirements see the UWE public website.
For Implementation From	1 Sep 2020

ISIS Code/s	Programme Code G40113-SEP-FT-FR-G401 Other codes: JACS Computer science HECoS 100000: Undefined UCAS SLC
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SECTION 2: PROGRAMME OVERVIEW, AIMS and LEARNING OUTCOMES

PART A: PROGRAMME OVERVIEW, AIMS and LEARNING OUTCOMES
1. (Programme) Overview (c. 400 words)
<p>Graduates of this programme will be technically competent software designers and developers, fluent in a number of programming languages. They will understand the need to control the software development process and will be able to use software engineering methods to achieve this. They will also have knowledge of the relationship between business requirements and IT and have a sufficient knowledge of computer and network hardware to be able to operate effectively in a new computing environment.</p> <p>A successful graduate will be ready to enter IT, web development, network, database, or any other computing related professions.</p>
2. Educational Aims (c. 4-6 aims)
<p>The BSc in Computing has the following general aims:</p> <ol style="list-style-type: none"> 1. To prepare students for entry into the computing profession and the more general challenges of professional and personal life. 2. To inculcate in students problem-solving and other transferable skills that will be valuable to them in any career. 3. To continue the development of those general study skills that will enable students to become independent, lifelong learners. <p>The BSc in Computing has the following specific aims:</p> <ol style="list-style-type: none"> 1. To provide a broad-based treatment of the fundamental aspects of computing, the development of computer systems, software engineering, and the application of computing to practical problems; 2. To develop sufficient experience, knowledge and understanding to enable students to analyse, model and develop applications in diverse application areas such as internet systems, database applications and modern component-based construction; 3. To prepare students for computing careers in business, industry, and commerce, or in organisations with a significant in-house IT management culture.
3. Programme and Stage Learning Outcomes (c. 6-8 outcomes)

PART A: PROGRAMME OVERVIEW, AIMS and LEARNING OUTCOMES**Programme (Learning) Outcomes (POs)****Knowledge and Understanding**

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|----|---|
| A1 | Concepts, methods and techniques underpinning the systematic engineering of software |
| A2 | Being professional in a technical environment |
| A3 | Programming language concepts; syntax and semantics; top-down development; programming to satisfy designs |
| A4 | Program design concepts, methods, and notations; object-oriented design and other design paradigms; algorithms; design patterns |
| A5 | The concepts of computer science and mathematical tools for computing |
| A6 | The concepts underpinning WorldWide Web technology and web-based application development |
| A7 | The concepts underpinning distributed systems and networks |
| A8 | IT as a support for business |
| A9 | Object-oriented and relational databases; logical and physical database design; database query languages; data schemas |

Intellectual Skills

- | | |
|----|---|
| B1 | Critical Thinking |
| B2 | Analysis |
| B3 | Synthesis of different types of information |
| B4 | Evaluation |
| B5 | Problem Solving |
| B6 | Appreciate problem contexts |
| B7 | Balance conflicting objective |
| B8 | Construction of logical arguments |
| B9 | Discussion and debate about technical subjects with peers |

Subject/Professional Practice Skills

- | | |
|----|---|
| C1 | Write programs that conform to requirements and designs |
| C2 | Create high-level and low-level designs that correspond to stated requirements |
| C3 | Design databases to meet application requirements |
| C4 | Perform adequate tests on programs |
| C5 | Know how to use existing components and frameworks to build new applications |
| C6 | Employ a range of tools and notations to support the activities listed above: e.g. editors, compilers, design workbenches, HTML, CGI, Java etc. |
| C7 | Build web-based programs |
| C8 | Use tools and methods to elicit requirements |

Transferable Skills and other attributes

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|----|--|
| D1 | Communication skills: to communicate orally or in writing. |
| D2 | Self-management skills: to manage one's own time; to meet deadlines; to work with others |
| D3 | IT skills in context: to use software tools in the context of application development |
| D4 | Logical reasoning skills: To undertake analysis and interpretation of information in the context of the Computing discipline |
| D5 | Problem formulation: To express problems in appropriate notations |
| D6 | Progression to independent learning: To gain experience of, and to develop skills in, learning independently of structured class work. For example, to develop the ability to use on-line facilities to further self-study |

PART A: PROGRAMME OVERVIEW, AIMS and LEARNING OUTCOMES

D7	Comprehension of professional literature: to read and to use literature sources appropriate to the discipline to support learning activities.
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PART B: Programme Structure**1. Structure****Year 1****Year 1 Compulsory Modules**

Code	Module Title	Credit	Type
UFCFGS-15-1	Artificial Intelligence I 2020-21	15	Compulsory
UFCFDS-15-1	Computer Systems Architecture 2020-21	15	Compulsory
UFCFFS-30-1	Foundations of Computing 2020-21	30	Compulsory
UFCFHS-30-1	Principles of Programming 2020-21	30	Compulsory
UFCFES-30-1	Web Development and Databases 2020-21	30	Compulsory

Year 2

Year 2 Compulsory Modules

Code	Module Title	Credit	Type
UFCFK4-30-2	C++ Development 2021-22	30	Compulsory
UFCFV4-30-2	Data, Schemas and Applications 2021-22	30	Compulsory
UFCFVK-15-2	Internet of Things 2021-22	15	Compulsory
UFCFWK-15-2	Operating Systems 2021-22	15	Compulsory
UFCFK6-30-2	Software Engineering 2021-22	30	Compulsory

Year 3**Year 3 Compulsory Modules**

Code	Module Title	Credit	Type
UFCFU3-15-3	Advanced Databases 2022-23	15	Compulsory
UFCFR4-45-3	Computing Project 2022-23	45	Compulsory
UFCFB5-15-3	Ethical and Professional Issues in Computing and Digital Media 2022-23	15	Compulsory
UFCFM6-15-3	Requirements Engineering 2022-23	15	Compulsory

Year 3 Optional Modules

Code	Module Title	Credit	Type
UFCFX3-15-3	Advanced Topics in Web Development I 2022-23	15	Optional
UFCFT4-15-3	Cryptography 2022-23	15	Optional
UFCF95-15-3	Entrepreneurial Skills 2022-23	15	Optional
UFCF7H-15-3	Mobile Applications 2022-23	15	Optional
UFCFVJ-15-3	Professional Development 2022-23	15	Optional
UFCFD5-15-3	Technical Writing and Editing 2022-23	15	Optional

PART C: Higher Education Achievement Record (HEAR) Synopsis

Graduates of this programme will be technically competent software designers and developers, fluent in a number of programming languages. They will understand the need to control the software development process and will be able to use software engineering methods to achieve this. They will also have knowledge of the relationship between business requirements and IT and have a sufficient knowledge of computer and network hardware to be able to operate effectively in a new computing environment.

A successful graduate will be ready to enter IT, web development, network, database, or any other computing related professions.

PART D: EXTERNAL REFERENCE POINTS AND BENCHMARKS

QAA subject benchmark statements:

The QAA Subject Benchmark Statement for Computing was revised in 2007, and is applicable to this proposal. The design team has considered them in drawing up the structure of the degree, and is of the view that it falls clearly within the scope of the benchmarks, as regards curriculum, teaching and learning, and the benchmarking standards themselves.

The benchmarks (para. 2.7) recognise that HEIs are likely to offer a range of programmes in computing. In paragraph 2.8 they refer to programmes, at one extreme, which provide "a wide range of topics spanning the entire area of computing" providing great flexibility. At another extreme the benchmarks recognises there will be programmes which "take one very specific aspect of computing and cover it in great depth".

This degree programme is in the middle of these extremes. Nevertheless, it does allow students to recognise the importance of specialty areas, in particular through the choice of a Level 3 module.

The benchmarks (para. 3.1) expects students to develop a wide range of abilities and skills, divided into three broad categories:

1. Computing related cognitive abilities and skills relating to intellectual tasks
2. Computing related practical tasks
3. Transferable skills that may be developed in the context of computing but which are of general value.

This proposal extends these categories into extensively defined learning outcomes.

The benchmarks also contain (section 6) statements of the standards expected of graduates at threshold, typical and excellence levels. The team is of the view that graduates of the proposed programme will be able to meet the threshold standards and are given full opportunities to achieve excellence. This degree programme is fully consistent with University's overarching aims of advancing knowledge, inspiring people and transforming futures. The programme has links with the department's research (see below).

Staff research projects:

The Software Engineering and systems development in the programme have been informed and developed by members of staff who are members of the faculty's Software Engineering Research Group and active in the field of software engineering research for example in research automating business process with service oriented architectures and web services.

PART E: REGULATIONS

Approved to University Regulations and Procedures.