Programme Specification

Computer Science and Software Development {Double Degree} {Foundation} [TSI]

Version: 2022-23, v2.0, 16 Aug 2023

Contents

Section 1: Key Programme Details

Part A: Programme Information

Programme title: Computer Science and Software Development {Double Degree} {Foundation} [TSI]

Highest award: BSc (Hons) Computer Science and Software Development

Interim award: BSc Computer Science and Software Development

Interim award: DipHE Computer Science and Software Development

Interim award: CertHE Computer Science and Software Development

Awarding institution: UWE Bristol

Affiliated institutions: Transport and Telecommunication Institute

Teaching institutions: Transport and Telecommunication Institute

Study abroad: No

Year abroad: No

Sandwich year: No

Credit recognition: No

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

Contributing schools: Not applicable

Professional, statutory or regulatory bodies: Not applicable

Apprenticeship: Not applicable

Mode of delivery: Full-time, Part-time

Entry requirements: Applicants holding the following qualifications are eligible to apply for entry to Year 1 of the programme:

• Atestāts par vispārējo vidējo izglītību (Latvian General Secondary School Certificate), with a minimum of 55% in both Mathematics and English Language

• Or the equivalent of 72 UCAS Tariff Points

PLUS

• CEFR (Common English Framework of Reference) English Level B2
• Or an equivalent recognised English Language qualification

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

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

For implementation from: 01 September 2023

Programme code: I1I300

Section 2: Programme Overview, Aims and Learning Outcomes

Part A: Programme Overview, Aims and Learning Outcomes

Overview: The programme will be based on the existing TSI Bachelor of Natural Sciences in Computer Science which is accredited and licenced to run at TSI under the Latvian Government regulatory framework. However, it will also incorporate characteristic elements of the new UWE BSc(Hons) Computer Science programme in the form of key Artificial Intelligence modules, merging the aspirations of both institutions for education in this rapidly changing field.

Educational Aims: The aims of the programme are:

To equip students with professional knowledge and skills in computer science, software engineering, and artificial intelligence, at an international level.

To prepare and enable students to participate in computer system development projects in a variety of roles (including management) and to comply with professional ethics and IT standards.

To prepare students for further study at Masters level.

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

Programme Learning Outcomes

PO1.   Able to apply specialised knowledge and critical understanding of computer science

PO2.   Able to extract, analyse and use information to formulate, explain and reasonably discuss approaches to problem solving

PO3.   Use knowledge and understanding of IT industry regulations and standards to develop practice that operates within an appropriate professional, legal and ethical framework

PO4.   Able to critically analyse and apply essential concepts, principles and practices of computer science in the context of loosely defined scenarios, showing effective judgement in the selection and use of tools and techniques

PO5.   Able to apply organisational skills and time management both as an individual and as a team member

PO6.   Able to structure their learning independently, to guide their own and their subordinates' further learning and professional development

PO7.   Able to take a scientific approach to problem solving, take responsibility and initiative, make decisions and find creative solutions

PO8.   Able to take a scientific approach to problem solving, take responsibility and initiative, make decisions and find creative solutions.

Part B: Programme Structure

Year 1
Full-time students must take 120 credits from the modules in Year 1.
Part-time students must take 96 credits from the modules in Year 1.

Year 1 Foundation
Full-time students must take 120 credits from the modules in Foundation.
Part-time students must take 96 credits from the modules in Foundation.

Year 1 Foundation Compulsory Modules (Full-time)
Full-time students must take 114 credits from the modules in Compulsory Modules (Full-time).

Module Code	Module Title	Credit
UFCFNW-12-0	Academic Skills and Critical Thinking [TSI] 2022-23	12
UFCFCW-24-0	Computer Systems Structures [TSI] 2022-23	24
UFCFDW-30-0	Higher Mathematics [TSI] 2022-23	30
UFCFAW-6-0	Introduction to Specialty [TSI] 2022-23	6
UFCFEW-6-0	Labour Safety, Civil Defence and Environment Protection [TSI] 2022-23	6
UFCFBW-18-0	Programming [TSI] 2022-23	18
UFCFJW-6-0	Programming (Course Project) [TSI] 2022-23	6
UFCFLW-12-0	Programming Languages Concepts [TSI] 2022-23	12

Year 1 Foundation Compulsory Modules (Part-time)
Part-time students must take 90 credits from the modules in Compulsory Modules (Part-time).

Module Code	Module Title	Credit

UFCFNW-12-0	Academic Skills and Critical Thinking [TSI] 2022-23	12
UFCFDW-30-0	Higher Mathematics [TSI] 2022-23	30
UFCFAW-6-0	Introduction to Specialty [TSI] 2022-23	6
UFCFEW-6-0	Labour Safety, Civil Defence and Environment Protection [TSI] 2022-23	6
UFCFBW-18-0	Programming [TSI] 2022-23	18
UFCFJW-6-0	Programming (Course Project) [TSI] 2022-23	6
UFCFLW-12-0	Programming Languages Concepts [TSI] 2022-23	12

Year 1 Foundation Optional Modules (Full-time and Part-time)
Full-time and part-time students must take 6 credits from the modules in Optional Modules (Full-time and Part-time).

Module Code	Module Title	Credit
UFCFFW-6-0	English for IT Professionals [TSI] 2022-23	6
UFCFGW-6-0	Latvian Language [TSI] 2022-23	6

Year 2
Full-time students must take 120 credits from the modules in Year 2.
Part-time students must take 84 credits from the modules in Year 2.

Year 2 Compulsory Modules (Full-time)
Full-time students must take 108 credits from the modules in Compulsory Modules (Full-time).

Module Code	Module Title	Credit
UFCE43-6-1	Business Communication in Professional Activities [TSI] 2023-24	6

UFCFSW-12-1	Data Structures and Algorithms [TSI] 2023-24	12
UFCE3X-24-1	Database Design and Processing [TSI] 2023-24	24
UFCFRW-12-1	Discrete Mathematics [TSI] 2023-24	12
UFCF7X-12-1	Foundations of AI [TSI] 2023-24	12
UFCE84-6-1	Functional Programming [TSI] 2023-24	6
UFCE3W-24-1	Object-Oriented Development [TSI] 2023-24	24
UFCFWW-12-1	Probability Theory and Mathematical Statistics [TSI] 2023-24	12

Year 2 Compulsory Modules (Part-time)
Part-time students must take 84 credits from the modules in Compulsory Modules (Part-time).

There are no current students on the part time structure and no students will be recruited during 2023/24.
(The part-time structure is 24 credits short where students took year 1 in 2022/23 and its proposed that the part-time structure is removed from this version of the programme in CMT).

Module Code	Module Title	Credit
UFCFSW-12-1	Data Structures and Algorithms [TSI] 2023-24	12
UFCE3X-24-1	Database Design and Processing [TSI] 2023-24	24
UFCFRW-12-1	Discrete Mathematics [TSI] 2023-24	12
UFCE3W-24-1	Object-Oriented Development [TSI] 2023-24	24
UFCFWW-12-1	Probability Theory and Mathematical Statistics [TSI] 2023-24	12

Year 2 Optional Modules

Full-time students must take 12 credits from the modules in Optional Modules (Full-time).

Module Code	Module Title	Credit
UFCE4K-12-1	Blockchain Technologies [TSI] 2023-24	12
UFCE4L-12-1	Operating Systems and System Programming [TSI] 2023-24	12

Year 3

Full-time students must take 120 credits from the modules in Year 3.
Part-time students must take 84 credits from the modules in Year 3.

Year 3 Compulsory Modules (Full-time)

Full-time students must take 120 credits from the modules in Compulsory Modules (Full-time).

Module Code	Module Title	Credit
UFCF9X-12-2	Applied Numerical Methods [TSI] 2024-25	12
UFCE5G-12-2	Computer Networks [TSI] 2024-25	12
UFCF8X-12-2	Data Science Fundamentals [TSI] 2024-25	12
UFCE4V-18-2	Intelligent systems [TSI] 2024-25	18
UFCE68-24-2	Software Engineering [TSI] 2024-25	24
UFCFBX-12-2	System Analysis and Modelling [TSI] 2024-25	12
UFCE4W-30-2	Web Development and User Experience [TSI] 2024-25	30

Year 3 Compulsory Modules (Part-time)

Part-time students must take 84 credits from the modules in Compulsory Modules (Part-time).

Module Code	Module Title	Credit

Module Code	Module Title	Credit
UFCF9X-12-2	Applied Numerical Methods [TSI] 2024-25	12
UFCE5G-12-2	Computer Networks [TSI] 2024-25	12
UFCF8X-12-2	Data Science Fundamentals [TSI] 2024-25	12
UFCE7U-12-1	Foundations of AI [TSI] 2024-25	12
UFCE84-6-1	Functional Programming [TSI] 2024-25	6
UFCE4W-30-2	Web Development and User Experience [TSI] 2024-25	30

Year 4
Full-time students must take 120 credits from the modules in Year 4.
Part-time students must take 96 credits from the modules in Year 4.

Year 4 Compulsory Modules (Full-time)
Full-time students must take 114 credits from the modules in Compulsory Modules (Full-time).

Module Code	Module Title	Credit
UFCFQX-12-3	AI Challenges and Research [TSI] 2025-26	12
UFCFMX-30-3	Bachelor's Thesis and its Defence [TSI] 2025-26	30
UFCE5C-12-3	Cloud Computing and Internet of Things [TSI] 2025-26	12
UFCE7A-12-3	Computer Graphics [TSI] 2025-26	12
UFCE6X-12-3	Cyber Security [TSI] 2025-26	12
UFCFRX-12-3	Entrepreneurial Skills for the Information Technology Industry [TSI] 2025-26	12
UFCE5D-6-3	Introduction to Scientific Research [TSI] 2025-26	6
UFCE4X-18-3	Project Management [TSI] 2025-26	18

Year 4 Compulsory Modules (Part-time)
Part-time students must take 90 credits from the modules in Compulsory Modules (Part-time).

Module Code	Module Title	Credit
UFCE43-6-1	Business Communication in Professional Activities [TSI] 2025-26	6
UFCE5C-12-3	Cloud Computing and Internet of Things [TSI] 2025-26	12
UFCE4V-18-2	Intelligent systems [TSI] 2025-26	18
UFCE4X-18-3	Project Management [TSI] 2025-26	18
UFCE68-24-2	Software Engineering [TSI] 2025-26	24
UFCFBX-12-2	System Analysis and Modelling [TSI] 2025-26	12

Year 4 Optional Modules (Full-time and Part-time)
Full-time students must take 6 credits from the modules in Optional Modules (Full-time and Part-time).

Module Code	Module Title	Credit
UFCE5F-6-3	Cloud Services Integration [TSI] 2025-26	6
UFCE5E-6-3	Quantum Computing [TSI] 2025-26	6

Year 5
Part-time students must take 96 credits from the modules in Year 5.

Year 5 Compulsory Modules (Part-time)
Part-time students must take 84 credits from the modules in Compulsory Modules (Part-time).

Module Code	Module Title	Credit
UFCFQX-12-3	AI Challenges and Research [TSI] 2026-27	12

UFCFMX-30-3	Bachelor's Thesis and its Defence [TSI] 2026-27	30
UFCE7A-12-3	Computer Graphics [TSI] 2026-27	12
UFCE6X-12-3	Cyber Security [TSI] 2026-27	12
UFCFRX-12-3	Entrepreneurial Skills for the Information Technology Industry [TSI] 2026-27	12
UFCE5D-6-3	Introduction to Scientific Research [TSI] 2026-27	6

Year 5 Optional Modules (Part-time)

Part-time students must take 12 credits from the modules in Optional Modules (Part-time).

Module Code	Module Title	Credit
UFCE4K-12-1	Blockchain Technologies [TSI] 2026-27	12
UFCE4L-12-1	Operating Systems and System Programming [TSI] 2026-27	12

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 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

UK:

QAA FHEQ level descriptors

Computing Benchmark (2019)

UWE 2030 strategy

Latvia:

EHEA

LQF

Part E: Regulations

Approved variant to University Academic Regulations and Procedures.

Approval to proceed with the joint development leading to a double degree award made for UWE provision alongside TSI Diploma was made by a meeting of Academic Board on 1st July. Academic Board will approve the variant regulations needed to operate the UWE programme.