



**Institute for Apprenticeships
& Technical Education**

Higher technical qualification submission form

Awarding body information

Awarding body information

What is the name of the awarding body?

University Centre Somerset, part of Bridgwater & Taunton College (validated and awarded through The Open University)

Is the awarding body a higher education provider?

Yes

Is the awarding body on the Office for Students register?

Yes

Qualification information

Qualification information

You can only submit one qualification for each form. If you are submitting multiple qualifications you must start a new form for each qualification. Please include the name of the qualification as it appears on Ofqual register or UCAS. Include the size of the qualification. e.g. award, certificate, diploma

What is the name of the qualification?

Foundation Degree: FD Computing and Digital Technologies

Is the qualification on the Ofqual register?

No

What is the level of the qualification?

Level 5

Route and occupational standards

Route and occupational standards

Awarding bodies must demonstrate that a qualification will enable a person to demonstrate that they have attained as many of the knowledge, skills and behaviours set out in the standard as may be reasonably expected by undertaking a course of education.

Please note:

- Qualifications will only be considered for approval against occupational standards approved by the

Institute.

If qualifications have optional units or pathways, we will only approve qualifications where every possible combination of units/ pathways ensures that a learner achieves competence in at least one occupation for which there is a standard. Qualifications with optional units that do not ensure this should be redesigned or remove optional units that do not align to occupations.

Awarding bodies must fill out all sections of this form. They must also submit supporting documentation to provide evidence of the following:

- The content of the qualification (for example, the specification of content)
- Evidence of employer engagement in the development and validation of the qualification (for example this could be within the qualification design and validation documentation that was used through the development of the qualification which evidences where and how employers were involved)

Which route does the qualification fall under?

Digital

Which occupational standards are aligned to the qualification?

Software developer/Level: 4

Attach documents

Please attach the following documents:

- The content of the qualification (for example, the specification of content)
- Evidence of employer engagement in the development and validation of the qualification (for example this could be within the qualification design and validation documentation that was used through the development of the qualification which evidences where and how employers were involved)

Software developer

Software developer

Knowledge, skills and behaviours coverage within the qualification

Please identify which knowledge, skill and behaviour statements from the occupational standard are covered within the qualification.

Where knowledge, skill and behaviour statements are covered, please provide a reference to the qualification content. This should be a unit or module reference along with associated page/paragraph/line numbers (as appropriate) in the attached specification. Please be as specific as possible which content in the qualification aligns to the statement in the standard.

Where knowledge, skill or behaviour statements are partially covered or not covered, you will be asked to provide a rationale for the exclusion of this content from the qualification. The employer engagement evidence provided should support this rationale.

The following questions assess how knowledge, skill and behaviour statements from the occupational standards are covered within the qualification.

This page has automatically generated an item for each knowledge, skill and behaviour statement (KSB) contained within the chosen standard. So please do not remove or add any further KSBs, as it requires the exact number.

KSBgenerator

KSB

KSB 1

K1 All stages of the software development life cycle (what each stage contains, including the inputs and outputs).

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 4 - SCDT41 Learning Outcome A1

pg. 34 - SCDT51 Learning Outcome A1

pg. 59 - SCDT56 Learning Outcome A1

KSB 2

K2 Roles and responsibilities within the software development lifecycle (who is responsible for what).

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 29 - SCDT46 Learning Outcome A1

pg. 29 - SCDT46 Learning Outcome B1

pg. 34 - SCDT51 Learning Outcome A1

KSB 3

K3 The roles and responsibilities of the project life cycle within your organisation, and your role.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 29 - SCDT46 Learning Outcome A1
pg. 29 - SCDT46 Learning Outcome A2
pg. 34 - SCDT51 Learning Outcome A1
pg. 59 - SCDT56 Learning Outcome A1
pg. 59 - SCDT56 Learning Outcome A2
pg. 59 - SCDT56 Learning Outcome A3

KSB 4

K4 How best to communicate using the different communication methods and how to adapt appropriately to different audiences.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 10 - SCDT42 Learning Outcome D1
pg. 20 - SCDT44 Learning Outcome D2
pg. 50 - SCDT54 Learning Outcome D1
pg. 55 - SCDT55 Learning Outcome D2
pg. 60 - SCDT56 Learning Outcome D2

KSB 5

K5 The similarities and differences between different software development methodologies, such as agile and waterfall.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 4 - SCDT41 Learning Outcome A1
pg. 29 - SCDT46 Learning Outcome B1
pg. 34 - SCDT51 Learning Outcome A1

KSB 6

K6 How teams work effectively to produce software and how to contribute appropriately.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 29 - SCDT46 Learning Outcome A1
pg. 34 - SCDT51 Learning Outcome A1

pg. 60 - SCDT56 Learning Outcome C1

KSB 7

K7 Software design approaches and patterns, to identify reusable solutions to commonly occurring problems.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 34 - SCDT51 Learning Outcome A1

pg. 35 - SCDT51 Learning Outcome C1

KSB 8

K8 Organisational policies and procedures relating to the tasks being undertaken, and when to follow them. For example, the storage and treatment of GDPR sensitive data.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 19 - SCDT44 Learning Outcome A1

pg. 19 - SCDT44 Learning Outcome A2

pg. 19 - SCDT44 Learning Outcome B1

pg. 49 - SCDT54 Learning Outcome A1

pg. 60 - SCDT56 Learning Outcome C2

KSB 9

K9 Principles of algorithms, logic and data structures relevant to software development for example: arrays, stacks, queues, linked lists, trees, graphs, hash tables, sorting algorithms, searching algorithms, critical sections and race conditions.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 4 - SCDT41 Learning Outcome A1

pg. 4 - SCDT41 Learning Outcome B1

pg. 35 - SCDT51 Learning Outcome C1

KSB 10

K10 Principles and uses of relational and non-relational databases

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 19 - SCDT44 Learning Outcome A1

pg. 19 - SCDT44 Learning Outcome C1

pg. 49 - SCDT54 Learning Outcome A1

KSB 11

K11 Software designs and functional/technical specifications

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 10 - SCDT42 Learning Outcome C1

pg. 24 - SCDT45 Learning Outcome B1

pg. 39 - SCDT52 Learning Outcome A1

pg. 39 - SCDT52 Learning Outcome B1

pg. 40 - SCDT52 Learning Outcome C1

KSB 12

K12 Software testing frameworks and methodologies

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 4 - SCDT41 Learning Outcome A1

pg. 29 - SCDT46 Learning Outcome B1

pg. 35 - SCDT51 Learning Outcome C1

pg. 40 - SCDT52 Learning Outcome C2

KSB 13

S1 Create logical and maintainable codes.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 4 - SCDT41 Learning Outcome B1

pg. 5 - SCDT41 Learning Outcome C1

pg. 10 - SCDT42 Learning Outcome C2

pg. 35 - SCDT51 Learning Outcome C1

pg. 35 - SCDT51 Learning Outcome C2

pg. 35 - SCDT51 Learning Outcome C3

KSB 14

S2 Develop effective user interfaces.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 5 - SCDT41 Learning Outcome C1

pg. 10 - SCDT42 Learning Outcome C2

pg. 35 - SCDT51 Learning Outcome C1

pg. 39 - SCDT52 Learning Outcome A1

pg. 40 - SCDT52 Learning Outcome C1

KSB 15

S3 Link code to data sets.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 5 - SCDT41 Learning Outcome C1

pg. 10 - SCDT42 Learning Outcome C2

pg. 19 - SCDT44 Learning Outcome C1

pg. 35 - SCDT51 Learning Outcome C1

KSB 16

S4 Test code and analyse results to correct errors found using unit testing.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 5 - SCDT41 Learning Outcome C1

pg. 10 - SCDT42 Learning Outcome C2

pg. 35 - SCDT51 Learning Outcome C1

pg. 35 - SCDT51 Learning Outcome C2

pg. 35 - SCDT51 Learning Outcome C3

KSB 17

S5 Conduct a range of test types, such as Integration, System, User Acceptance, Non-Functional, Performance and Security testing.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 5 - SCDT41 Learning Outcome C1

pg. 10 - SCDT42 Learning Outcome C2

pg. 35 - SCDT51 Learning Outcome C1

KSB 18

S6 Identify and create test scenarios.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 35 - SCDT51 Learning Outcome C1

pg. 40 - SCDT52 Learning Outcome C2

KSB 19

S7 Apply structured techniques to problem solving, can debug code and can understand the structure of programmes to identify and resolve issues.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 4 - SCDT41 Learning Outcome B1

pg. 5 - SCDT41 Learning Outcome C1

pg. 10 - SCDT42 Learning Outcome C2

KSB 20

S8 Create simple software designs to effectively communicate understanding of the program.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 5 - SCDT41 Learning Outcome C1

pg. 10 - SCDT42 Learning Outcome C2

pg. 24 - SCDT45 Learning Outcome B2

pg. 35 - SCDT51 Learning Outcome C1

KSB 21

S9 Create analysis artefacts, such as use cases and/or user stories.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 10 - SCDT42 Learning Outcome C2

pg. 35 - SCDT51 Learning Outcome C1

pg. 35 - SCDT51 Learning Outcome C2

KSB 22

S10 Build, manage and deploy code into the relevant environment.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 10 - SCDT42 Learning Outcome C2

pg. 35 - SCDT51 Learning Outcome C1

pg. 35 - SCDT51 Learning Outcome C2

pg. 35 - SCDT51 Learning Outcome C3

KSB 23

S11 Apply an appropriate software development approach according to the relevant paradigm (for example object oriented, event driven or procedural).

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 4 - SCDT41 Learning Outcome B1

pg. 5 - SCDT41 Learning Outcome C1

pg. 35 - SCDT51 Learning Outcome C1

KSB 24

S12 Follow software designs and functional/technical specifications.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 5 - SCDT41 Learning Outcome C1

pg. 10 - SCDT42 Learning Outcome C2

pg. 24 - SCDT45 Learning Outcome B1

pg. 24 - SCDT45 Learning Outcome B2

pg. 34 - SCDT51 Learning Outcome B1

pg. 39 - SCDT52 Learning Outcome B2

KSB 25

S13 Follow testing frameworks and methodologies.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 5 - SCDT41 Learning Outcome C1

pg. 10 - SCDT42 Learning Outcome C2

pg. 35 - SCDT51 Learning Outcome C1

pg. 35 - SCDT51 Learning Outcome C2

pg. 35 - SCDT51 Learning Outcome C2

KSB 26

S14 Follow company, team or client approaches to continuous integration, version and source control.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 5 - SCDT41 Learning Outcome C1

pg. 10 - SCDT42 Learning Outcome C2

pg. 35 - SCDT51 Learning Outcome C1

pg. 35 - SCDT51 Learning Outcome C2

pg. 35 - SCDT51 Learning Outcome C2

pg. 59 - SCDT56 Learning Outcome A1

pg. 59 - SCDT56 Learning Outcome

KSB 27

S15 Communicate software solutions and ideas to technical and non-technical stakeholders.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 10 - SC DT42 Learning Outcome D1

pg. 40 - SC DT52 Learning Outcome D1

pg. 60 - SC DT56 Learning Outcome D2

KSB 28

S16 Apply algorithms, logic and data structures.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 5 - SC DT41 Learning Outcome C1

pg. 35 - SC DT51 Learning Outcome C1

KSB 29

S17 Interpret and implement a given design whilst remaining compliant with security and maintainability requirements.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 5 - SC DT41 Learning Outcome C1

pg. 10 - SC DT42 Learning Outcome C2

pg. 33 - SC DT51 Learning Outcome B1

pg. 35 - SC DT51 Learning Outcome C1

pg. 39 - SC DT52 Learning Outcome B1

KSB 30

B1 Works independently and takes responsibility. For example, has a disciplined and responsible approach to risk, and stays motivated and committed when facing challenges.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 55 - SC DT55 Learning Outcome D1

pg. 45 - SC DT53 Learning Outcome D1

pg. 60 - SC DT56 Learning Outcome D1

KSB 31

B2 Applies logical thinking. For example, uses clear and valid reasoning when making decisions related to undertaking work instructions.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 5 - SCDT41 Learning Outcome D1

pg. 20 - SCDT44 Learning Outcome D1

pg. 25 - SCDT45 Learning Outcome D1

KSB 32

B3 Maintains a productive, professional and secure working environment.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 20 - SCDT44 Learning Outcome D2

pg. 30 - SCDT46 Learning Outcome D1

pg. 60 - SCDT56 Learning Outcome C1

pg. 60 - SCDT56 Learning Outcome C2

KSB 33

B4 Works collaboratively with a wide range of people in different roles, internally and externally, with a positive attitude to inclusion & diversity.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 29 - SCDT46 Learning Outcome A1

pg. 55 - SCDT55 Learning Outcome D1

pg. 60 - SCDT56 Learning Outcome C1

pg. 60 - SCDT56 Learning Outcome D1

KSB 34

B5 Acts with integrity with respect to ethical, legal and regulatory ensuring the protection of personal data, safety and security.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 30 - SCDT46 Learning Outcome D1

pg. 19 - SCDT44 Learning Outcome A2

pg. 49 - SCDT54 Learning Outcome A1

pg. 60 - SCDT56 Learning Outcome C2

KSB 35

B6 Shows initiative for solving problems within their own remit, being resourceful when faced with a problem to solve.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 5 - SCDT41 Learning Outcome D1

pg. 55 - SCDT55 Learning Outcome D1

KSB 36

B7 Communicates effectively in a variety of situations to both a technical and nontechnical audience.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 10 - SCDT42 Learning Outcome D1

pg. 20 - SCDT44 Learning Outcome D2

pg. 40 - SCDT52 Learning Outcome D1

pg. 50 - SCDT54 Learning Outcome D1

pg. 55 - SCDT55 Learning Outcome D2

pg. 60 - SCDT56 Learning Outcome D2

KSB 37

B8 Shows curiosity to the business context in which the solution will be used, displaying an inquisitive approach to solving the problem. This includes the curiosity to explore new opportunities, and techniques; the tenacity to improve methods and maximise performance of the solution; and creativity in their approach to solutions.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 9 - SCDT42 Learning Outcome A1

pg. 9 - SCDT42 Learning Outcome B2

pg. 34 - SCDT51 Learning Outcome B1

pg. 39 - SCDT52 Learning Outcome B1

pg. 60 - SCDT56 Learning Outcome C1

KSB 38

B9 Demonstrates creativity and tenacity in their approach to solutions and the methods used to come to a solution for example, sees the task through to the end by devising new solutions and despite obstacles and problems along the way.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 5 - SCDT41 Learning Outcome D1
pg. 55 - SCDT55 Learning Outcome D1
pg. 60 - SCDT56 Learning Outcome C1

KSB 39

B10 Committed to continued professional development.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

pg. 20 - SCDT44 Learning Outcome D2
pg. 30 - SCDT46 Learning Outcome C1
pg. 30 - SCDT46 Learning Outcome D1

Additional occupationally relevant content

Additional occupationally relevant content

Item 1

As well as the content aligned to the knowledge, skills and behaviours in the occupational standard, the qualification can include additional occupationally relevant content which is deemed of value to employers. Awarding bodies are asked to justify any content that does not directly align to the occupational standard, using evidence from employers.

Content should be identified at a unit or modular level and each item should be added separately by using the Add Item button. If the qualification does not include any additional content, please leave this section blank.

Unit or module containing additional content

SCDT43 Networking and Cyber Security Fundamentals

Please give a short description of the additional content

This module is designed to introduce networking and cyber security fundamentals and their wider role within software applications.

Where within the qualification is the additional content covered?

pg. 13 SCDT43 Module Outline

Please provide an explanation of how the content is relevant to the occupation, including evidence from employers that supports its inclusion in the qualification.

An underpinning knowledge of networking and cyber security is essential for Software Development within any sector.

Item 2

As well as the content aligned to the knowledge, skills and behaviours in the occupational standard, the qualification can include additional occupationally relevant content which is deemed of value to employers. Awarding bodies are asked to justify any content that does not directly align to the occupational standard, using evidence from employers.

Content should be identified at a unit or modular level and each item should be added separately by using the Add Item button. If the qualification does not include any additional content, please leave this section blank.

Unit or module containing additional content
SCDT53 Advanced Networking and Cyber Security

Please give a short description of the additional content
Evaluate vulnerabilities in software and networks in order to effectively mitigate cyber security threats.

Where within the qualification is the additional content covered?
pg. 43 SCDT53 Module Outline

Please provide an explanation of how the content is relevant to the occupation, including evidence from employers that supports its inclusion in the qualification.
An underpinning knowledge of network threats and software vulnerabilities is essential for Software Development within any sector.

Assessment methods

Assessment methods

Please confirm that the assessment covers all of the content relevant to the knowledge, skills and behaviours in the occupational standard.
Yes

Please outline the methods used to assess the content and provide a rationale for why these methods are valid for the qualification.

The programme offers experience in developing a wide-range of software e.g. data-driven web and desktop applications, interactive and virtual reality applications etc all highly relevant to the local industry in Somerset. The curriculum team have embedded into the programme a range of assessment methodologies in order to fully develop and provide feedback to students on a broad spectrum of skills such as case study reports, delivery of presentations, portfolios, technical reports, academic writing, team projects and hands-on practical labs. Although there is broad range of assessment methodologies, the programme has chosen to omit examinations as a method of assessment to maximise hands-on experience and the use of industry-like assessment methods. These methods the most appropriate way of assessing the knowledge, skills and behaviours as they allow for practical experiences of topics and concepts that can be applied through project- based assignments with live briefs. The programme team selects live briefs from local businesses and employers to set as live assessments e.g. <https://www.furnitrust.org.uk>. This gives the students practical experience on real life briefs to add to their portfolios.

All our assessment activities balance validity, manageability, reliability, comparability and minimising bias which conforms with the UCS HE Assessment Policy in line with the QAA guiding principles of assessment.

All teaching resources are accessible via the VLE to support students independent learning. Lectures are also encouraged to incorporate learning technology (interactive formative assessment platforms and online collaborative tools) and flipped / blended learning (online resources such as Cisco NetAcad and self-paced learning with interactive video resources) within their teaching and learning. This allows students to get a more enriched learning experience which encourages further independent learning and reflective practice

outside of face-to-face classroom teaching.

The proposed programme also requires students to develop an on-going professional digital portfolio - <https://portfolio.hecomputing.co.uk>. This digital portfolio starts as a coursework assessment in SCDT46 Professional and Industry Practices and continues until graduation. The purpose of the portfolio is to actively engage students in showcasing their acquired knowledge and skills in a professional format, and to reflect and plan their own professional and personal development. The completed digital portfolio should allow students to professionally showcase their skills and knowledge to potential employers and be the foundation for their continued professional development upon graduation.

Employer engagement

Employer engagement

Please describe how employers and industry practitioners were consulted throughout the development of the qualification, including:

- the process of identifying and recruiting relevant employers
- how employers were involved in the development, review and validation of the qualification materials.

Please describe how employers and industry practitioners were consulted throughout the development of the qualification.

The background of the validation of our Digital HE programme is firmly based in the context of University Centre Somerset's strategic alignment with the Digital sector within the South West. As an institution, we work closely with organisations such as South West Institute of Technology and Heart of South West LEP in order to garner contacts within the Digital Industry and more importantly, lead the way in developing curriculum. The plan for this award came from the initial market research in support of SWIoT objectives and subsequent employer engagement. It is aimed to meet the demands and requirements for computing related developments in Somerset such as Digital Taunton and The Gravity Project with which the College is involved. The college is a key provider of employer-led curriculum. We have been able to harness excellent employer links and approached numerous stakeholders with a vested interest in this provision.

This has included a number of employers (such as: Numatic, EvoSite, UK Hydrographic Office) in the first instance with an outline of our existing programmes of study and the intended outcomes and employment roles in which the course aims to train graduates. The range of feedback we received enabled us to evaluate the individual modules in terms of their scope and depth as an evolution from the former well-established computing programmes running currently at UCS , we were able to then discuss with employers the individual modules of each programme and their content to ensure that we cover all key components that employers look for when recruiting a graduate. It was key for the Course Leader, the teaching team and employers that the content of the programme was forward thinking and relevant, to ensure continued currency of the programme. Employers valued the experience of being involved with the development of this programme and kindly gave up their time to consider with us the modules up for consideration and the ethos of the programme. Employer engagement is much valued by the College team and also serves to assist greatly in supporting successful outcomes for our students on graduation. All research data is fully available. On page 4 of the BTC Computing Validation Report the Validation Panel commended the Computing and Digital Technologies programme on its "dynamic and multifaceted relationship with local employers and industry informed teaching." demonstrating our passion for industry-informed teaching and learning.