



**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 of Plymouth

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?

FdSc Software Development

Is the qualification on the Ofqual register?

No

If the qualification is not regulated by Ofqual, the organisation owning the qualification must be OfS regulated. This is typically the case of qualifications from Higher Education Providers. For organisations which are Ofqual regulated, the specific qualification must be on the Ofqual register for the application to be progressed. The form will not prevent continuing if this is not completed, but your application cannot be progressed by the approval managers following submission if the awarding organisation is regulated by Ofqual but the qualification is not.

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?

CITY2118 Systems Analysis ASS2 Task 1 Recommend and justify a systems analysis lifecycle model appropriate for this scenario and briefly discuss the main steps in your chosen model.

CITY2108 Software Development ASS1 Task 1

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?

CITY2118 Systems Analysis ASS1 Task 2

CITY2108 Software Development ASS1 Task 1

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?

CITY2105 Computing Team Project ASS1 Task 1-6

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?

CITY2105 Computing Team Project ASS2 N/A
CITY2109 Human Computer Interaction ASS1 Task 4
CITY2109 Human Computer Interaction ASS2 Task 4

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?

CITY2118 Systems Analysis ASS1 Task 1
CITY2108 Software Development ASS1 Task 1
CITY2105 Computing Team Project ASS1 Task 5

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?

CITY2105 Computing Team Project ASS1 and ASS2 All Tasks

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?

CITY1101 Object Orientated Programming ASS1 Task 2 and Task 3

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?

Partially covered

Where within the qualification is the statement covered?

Covered throughout to a degree

Please provide an explanation for the omission or partial coverage of this statement from the qualification.

Covered within most modules but this would be better evidenced within the workplace

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?

CITY2117 Data Structures And Algorithms Ass 1 T1 and 2 and Ass2

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?

CITY1106 Database Development ASS1 All Tasks

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?

CITY1101 Object Orientated Programming ASS1 All Tasks

CITY2117 Data Structures And Algorithms ASS1 All Tasks

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?

CITY1101 Object Orientated Programming ASS2 Task 2
CITY2109 Human Computer Interaction ASS2 Task 3

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?

CITY1101 Object Orientated Programming ASS2 All Tasks

KSB 14

S2 Develop effective user interfaces.

Is the statement covered within the qualification?

Fully covered

Where within the qualification is the statement covered?

CITY2109 Human Computer Interaction ASS2 All Tasks

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?

CITY2117 Data Structures And Algorithms ASS1 Task 1
CITY1106 Database Development ASS1 Task 1

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?

CITY1101 Object Orientated Programming ASS2 Task 2
CITY2117 Data Structures And Algorithms ASS1 "Task 1
Task 2"

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?

CITY2109 Human Computer Interaction ASS2 "Task 3 and 4

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?

CITY1101 Object Orientated Programming ASS2 Task 2
CITY2109 Human Computer Interaction ASS2 Task 3

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?

"CITY1101 Object Orientated Programming
" ASS2 Task 2
CITY2117 Data Structures And Algorithms ASS1 "Task 1
Task 2"

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?

CITY1101 Object Orientated Programming ASS2
CITY2117 Data Structures And Algorithms ASS1 All Tasks

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?

"CITY1101 Object Orientated Programming ASS1 Task 1

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?

CITY1101 Object Orientated Programming "ASS1 ASS2" All Tasks

CITY2117 Data Structures And Algorithms ASS1 All Tasks

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?

CITY1101 Object Orientated Programming "ASS1

ASS2" All Tasks

CITY2117 Data Structures And Algorithms ASS1 "Task 1

Task 2"

CITY2109 Human Computer Interaction ASS2 All Tasks

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?

CITY1101 Object Orientated Programming "ASS1 ASS2" All Tasks

CITY2117 Data Structures And Algorithms ASS1 "Task 1

Task 2"

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?

CITY1101 Object Orientated Programming ASS2 Task 2

CITY2117 Data Structures And Algorithms ASS1 "Task 1

Task 2"

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?

CITY2105 Computing Team Project ASS1 All Tasks

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?

CITY2105 Computing Team Project ASS2 N/A
CITY2109 Human Computer Interaction ASS1 Task 4
All modules N/A N/A

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?

CITY2117 Data Structures And Algorithms ASS1 "Task 1
Task 2"

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?

CITY1104 Computer Networks Ass 2 Task 3

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?

Throughout Qual. See overall mapping grid for details.

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?

Throughout Qual. See overall mapping grid for details.

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?

Throughout Qual. See overall mapping grid for details.

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?

Throughout Qual. See overall mapping grid for details.

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?

Throughout Qual. See overall mapping grid for details.

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?

Throughout Qual. See overall mapping grid for details.

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?

CITY2105 Computing Team Project ASS2 N/A
CITY2109 Human Computer Interaction ASS1 Task 4
CITY2109 Human Computer Interaction ASS2 Task 4
CITY1106 Database Development ASS2 Task 1

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?

CITY1106 Database Development ASS1 Question 2

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?

Throughout Qual. See overall mapping grid for details.

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?

Throughout Qual. See overall mapping grid for details.

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

CITY1102 - Computer Systems

Please give a short description of the additional content

This module will help learners to understand the fundamental components that are used to form a computer.

Where within the qualification is the additional content covered?

Within that module

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

Candidates will need to understand how to use a computer in order to understand binary.

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

CITY1103 - Mathematics for computing

Please give a short description of the additional content

This module will develop the student's mathematical ability and provide a foundation for computer based algebra, transformations, numerical concepts and relational algebra

Where within the qualification is the additional content covered?

See module number

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

The mathematics unit brings together theory from across the range of other units including networks, software development and databases directly support applications such as sub-netting, set theory, and relational algebra

Item 3

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

CITY1104 - Computer Networks

Please give a short description of the additional content

This module introduces the students to the fundamental technology of networks and the underlying concepts and protocols. The module has a balanced mix of theory and practice

Where within the qualification is the additional content covered?

Within module

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

This module aims to provide students with an introduction to the computer networks and design, implementation and troubleshooting giving students the opportunity to develop a computer networks for a small to medium businesses

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.

A range of assessment types will be employed within the programme, i.e. assignments, reports, portfolios, project outputs, oral assessments and presentations, practical skills assessment, set exercises, as also detailed within the QAA (2011) explanation of contact hours.

Assessment of key/ transferable skills occurs formatively through tutor contact, seminar discussion and formative feedback.

Please attach the following evidence of your assessment:

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 programme was developed in conjunction with local employers and included employer representatives in the final approval meetings.

City College Plymouth has developed strong links with the local digital industry, the industry in which most Computing graduates will eventually be seeking employment. The College encourages active participation of its industry partners in both the development and delivery of its programmes, which enhances the experience and employability of its graduates. Industry selected problems are incorporated into the assessment which are then presented to the client/sponsor and the students are given the opportunity to reflect on work based learning skills gained from this experience. We have active links with the NHS, Babcock, Delt Computer Systems and the Met Office locally, all of which have been engaged in the development of this programme over the years.

City College Plymouth is part of the South West Institute of Technology, with the first IOT learners in the UK, we have strong employer partnerships, pioneering higher level digital and engineering education.