Programme specification

1. Overview/ factual information

Programme/award title(s)	FD Computing and Digital Technologies
Teaching Institution	University Centre Somerset
Awarding Institution	The Open University (OU)
Date of first OU validation	March 2019
Date of latest OU (re)validation	March 2019
Next revalidation	N/A
Credit points for the award	120 credits Level 4 120 credits Level 5 Total - 240 credit points – FD
UCAS Code	I160
JACS Code	TBC
Programme start date	September 2019
Underpinning QAA subject benchmark(s)	Honours degree subject benchmark statement – QAA Computing 2016
Other external and internal reference points used to inform programme outcomes	Framework for Higher Education Qualifications (FHEQ) 2014 Foundation Degree Characteristics Statements 2015 SEEC Credit Level Descriptors 2016
Professional/statutory recognition	
Mode(s) of Study (PT, FT, DL, Mix of DL & Face-to-Face)	FT and PT, Face-to-face
Duration of the programme for each mode of study	2 years Full Time 3 years Part Time
Dual accreditation (if applicable)	
Date of production/revision of this specification	June 2019

Please note: This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities that are provided.

More detailed information on the learning outcomes, content, and teaching, learning and assessment methods of each module can be found in student module guide(s) and the students handbook.

The accuracy of the information contained in this document is reviewed by the University and may be verified by the Quality Assurance Agency for Higher Education.

2.1 Educational aims and objectives

- To provide a rigorous study of the theory and principles underlying computing and digital technologies.

- To develop in students an ability to use, compare and critically evaluate a range of formal and informal techniques, theories and methods applied to the development of computing and digital technologies.

- To provide opportunities for understanding of the individual, social, ethical, organisational and economic implications of the application of computer and digital technologies in the computing sector.

- To provide appropriate experience of working in the computing and digital technologies industry and related industries via a work placement and/or by undertaking project work with clients in the region, nationally or internationally.

- To develop in students the ability to carry out a programme of work with minimal supervision and manage time and work load effectively.

- To develop strong interpersonal skills in students to be able to take responsibility for their own professional development

2.2 Relationship to other programmes and awards

(Where the award is part of a hierarchy of awards/programmes, this section describes the articulation between them, opportunities for progression upon completion of the programme, and arrangements for bridging modules or induction)

The programme is accessible as a progression route to students with various qualification pathways within the subject area: Access courses, National Diplomas, A Levels, etc.

Similarly, on successful completion of the FD Computing and Digital Technologies students can elect to continue onto BSc study (subject to meeting course entry requirements at their chosen institution), seek employment in the computing industry or enter into teaching.

2.3 For Foundation Degrees, please list where the 60 credit work-related learning takes place

SCDT42 Web Application Development – 20 Credits (Live Project)
SCDT46 Professional Skills and Industry Practices – 20 Credits
SCDT56 Collaborative Team Project and Industry Experience – 20 Credits

2.4 List of all exit awards
Certificate of Higher Education (CertHE). Requires a minimum of 120 credits at Level 4.

3. Programme structure and learning outcomes

Programme Structure - LEVEL 4 Full Time					
Compulsory modules	**Credit points**	**Optional modules**	**Credit points**	**Is module compensatable?**	**Semester runs in**
SCDT41 Programming and Software Fundamentals	20			Yes	A, B
SCDT42 Web Application Development	20			No	A, B
SCDT43 Networking and Cyber Security Fundamentals	20			Yes	A, B
SCDT44 Databases and Information Systems	20			Yes	A, B
SCDT45 3D Visualisation and Interaction Design (IxD)	20			Yes	A, B
SCDT46 Professional Skills and Industry Practices	20			No	A, B

Level 4 Exit Award: Certificate of Higher Education (CertHE). Requires a minimum of 120 credit points at Level 4.

Programme Structure - LEVEL 5 Full Time					
Compulsory modules	**Credit points**	**Optional modules**	**Credit points**	**Is module compensatable?**	**Semester runs in**
SCDT51 Advanced Programming and Software Engineering	20			Yes	A, B
SCDT52 User Experience (UX) and Full-Stack Development	20			Yes	A, B
SCDT53 Advanced Networking and Cyber Security	20			Yes	A, B
SCDT54 Big Data and Data Science	20			Yes	A, B
SCDT55 Virtual Reality and Immersive Technologies	20			Yes	A, B
SCDT56 Collaborative Team Project and Industry Experience	20			No	A, B

Level 5 Award: Foundation Degree (FD). Requires a total of 240 credit points (minimum of 120 credit points must be at Level 5).

Programme Structure - LEVEL 4 Part-time Yr. 1

Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
SCDT41 Programming and Software Fundamentals	20			Yes	A, B
SCDT43 Networking and Cyber Security Fundamentals	20			Yes	A, B
SCDT45 3D Visualisation and Interaction Design (IxD)	20			Yes	A, B
SCDT46 Professional Skills and Industry Practices	20			No	A, B
					A, B

Programme Structure - LEVEL 4/5 Part-time Yr. 2

Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
SCDT42 Web Application Development	20			No	A, B
SCDT44 Databases and Information Systems	20			Yes	A, B
SCDT53 Advanced Networking and Cyber Security	20			Yes	A, B
SCDT55 Virtual Reality and Immersive Technologies	20			Yes	A, B

Programme Structure - LEVEL 5 Part-time Yr. 3					
Compulsory modules	**Credit points**	**Optional modules**	**Credit points**	**Is module compensatable?**	**Semester runs in**
SCDT51 Advanced Programming and Software Engineering	20			Yes	A, B
SCDT52 User Experience (UX) and Full-Stack Development	20			Yes	A, B
SCDT54 Big Data and Data Science	20			Yes	A, B
SCDT56 Collaborative Team Project and Industry Experience	20			No	A, B

Intended learning outcomes at Level 4 are listed below:

<u>Learning Outcomes – LEVEL 4</u>	
3A. Knowledge and understanding	
Learning outcomes:	**Learning and teaching strategy/ assessment methods**
A1 A broad and critical understanding of the essential facts, concepts, principles and techniques relating to computing and digital technologies;	The curriculum has been designed to offer the opportunity of an orderly academic progression between levels of study within identifiable computer related themes.
A2 An understanding of a range of models, languages and approaches to support the analysis, design, development and evaluation of computing and digital technologies solutions.	At Level 4, modules address the conceptual, technical and scientific underpinnings of the study of computing and digital technologies. A1 and A2 are introduced in contexts relating to digital systems by means of lectures, workshops and laboratories. Students are helped to understand the relevance to the modelling, analysis and development approaches to support the analysis, design and evaluation of computing

Learning Outcomes – LEVEL 4

3A. Knowledge and understanding

	and digital technologies solutions. Set activities are used to engender confidence and proficiency within the particular topics addressed. **Assessment** Formal assessment of knowledge and understanding is through coursework which will include portfolio work and written reports. A1 is directly assessed within SCDT43 Networking and Cyber Security Fundamentals. A2 is directly assessed within SCDT41 Programming and Software Fundamentals..

3B. Cognitive skills	
Learning outcomes:	**Learning and teaching strategy/ assessment methods**
B1 Select, apply and appraise key computing concepts in a range of computing contexts, including specific businesses and the wider industry. **B2** Identify, refine and critically analyse requirements, specifications and designs of computing and digital technologies solutions.	Cognitive skill development within this programme is intended to be progressive across all study levels. A variety of digital systems and programming laboratories and equipment will provide environments and tools for system design, modelling and testing. These are used to foster the development of cognitive skills through a range of laboratory and/or study-based tasks typically relying on learning-in-action. **Assessment**

3B. Cognitive skills	
	Formal assessment of cognitive skills is through coursework which will include practical work and written reports. B1 is directly assessed in SCDT42 Web Application Development. B2 is directly assessed in SCDT45 3D Visualisation and Interaction Design (IxD).

3C. Practical and professional skills	
Learning outcomes:	**Learning and teaching strategy/ assessment methods**
C1 Use a range of tools and techniques effectively for designing, developing, testing and evaluating computing and digital technologies solutions. **C2** Demonstrate the development of professional capabilities and achievements in order to keep up to date with the computing and digital technologies industry.	Practical and professional skills are developed initially at Level 4 where communication skills, basic research skills and skills in using core principles and concepts are developed. At Level 4 students become involved in many different activities and are supported by regular and frequent formative feedback in laboratories and coursework. **Assessment** Formal assessment of practical and professional skills is through coursework which will include portfolio work, case study reports and presentations. C1 is directly assessed in SCDT44 Databases and Information Systems. C2 is directly assessed in SCDT46 Professional Skills and Industry Practices. Students will always be required to provide a demonstration of any practical work or software artefacts.

3D. Key/transferable skills	
Learning outcomes:	**Learning and teaching strategy/ assessment methods**
D1 Apply logical thinking and a creative approach to tasks requiring problem solving. **D2** Learn effectively for life-long personal and professional development and reflect and record progress of learning.	During the course of the programme, assessed and non-assessed work encourages the learner to develop a wide range of transferable skills. Students acquire transferrable skills through presentations, lab-based tasks including independent and group project work. At Level 4, this starts with closely defined and directed assignments. **Assessment** Formal assessment of key transferable skills will be undertaken via a combination of written coursework and presentations as well as practical work and recorded verbal and written feedback and production of a professional portfolio. D1 is directly assessed in SCDT41 Programming and Software Fundamentals. D2 is directly assessed in SCDT46 Professional Skills and Industry Practices.

Intended learning outcomes at Level 5 are listed below:

Learning Outcomes – LEVEL 5

3A. Knowledge and understanding

Learning outcomes:	Learning and teaching strategy/ assessment methods
A3 Critical understanding of the core principles, processes and methods of development and how to apply these in the production of specific computing and digital technologies solutions. **A4** Critical understanding of the use, management and deployment of computing and digital technologies solutions within specific businesses and the wider industry, and the limitations of such solutions.	The curriculum has been designed to offer the opportunity of an orderly academic progression between levels of study within identifiable computer related themes. At Level 5, there is significant horizontal integration of learning materials; for example advanced programming concepts and terminology are introduced in one module, and in another real life scenarios (such as cyber security case studies) are used to deepen and refine understanding. Progressively increasing levels of appreciation of quality (A3) and performance aspects of products and processes is also encouraged and expected in practical work and coursework at Level 5. **Assessment** Formal assessment of knowledge and understanding is through coursework which will include case study reports and project work. A3 is directly assessed within SCDT51 Advanced Programming and Software Engineering. A4 is directly assessed within SCDT56 Collaborative Team Project and Industry Experience .

3B. Cognitive skills	
Learning outcomes:	**Learning and teaching strategy/ assessment methods**
B3 Select and critically evaluate a range of tools, methods and techniques for modelling, solving, designing and testing computer-related problems. **B4** Critically analyse the extent to which a computing and digital technologies solution meets the criteria defined for its current use and future development.	Cognitive skill development within this programme is intended to be progressive across all study levels. At Level 5 a new range of topics are introduced which typically involve an increasingly systems-level content and orientation as modules progress and there is an increasing emphasis on design, problem solving and analysis. A variety of networking and programming laboratories and equipment will continue to provide environments and tools for system design, simulation and testing. **Assessment** Formal assessment of cognitive skills is through coursework which will include practical work, case study and written reports. B3 is directly assessed in SCDT54 Big Data and Data Science. B4 is directly assessed in SCDT55 Virtual Reality and Immersive Technologies.

3C. Practical and professional skills	
Learning outcomes:	**Learning and teaching strategy/ assessment methods**
C3 Analyse, design, test and evaluate a computing and digital technologies solutions, using simulation and modelling tasks. **C4** Employ professional, ethical and industry practices to plan and manage a computing and digital technologies project within the constraints of requirements, timescale and budget.	At Level 5 the development of practical and professional skills is progressed, especially in the contexts of group project work and coursework where the emphasis is placed on autonomous application of digital systems analysis, modelling and design skills as well as reflection on such practices. **Assessment** Formal assessment of practical and professional skills is through coursework which will include practical work, work placement and team project work. C3 is directly assessed in SCDT53 Advanced Networking and Cyber Security. C4 is directly assessed SCDT56 Collaborative Team Project and Industry Experience. Students will always be required to provide a demonstration of any practical work or software artefacts.

3D. Key/transferable skills	
Learning outcomes:	**Learning and teaching strategy/ assessment methods**
D3 Work effectively both autonomously in independent activity, and co-operatively as a member of a group or project-team and manage time and other resources. **D4** Communicate information, arguments, ideas and issues effectively using a variety of media, and a range of methods	At Level 5 students will continue to acquire key transferrable skills through presentations, lab-based tasks including independent and group project work. However, the amount of instructional material will decrease as the programme progresses, with students being expected to take an increasing responsibility for developing their own skills and identifying resources to support this development.

3D. Key/transferable skills	
appropriate to a given type of audience and the communication objective.	During Level 5 this support will be reduced and far more open tasks will be set. Students will be exposed to, and expected to utilise, a variety of technologies such as operating environments, programming languages, applications and specific design techniques. Students will be expected to follow appropriate ethical, professional and legal principles applicable within the computing and digital technologies domain. **Assessment** Formal assessment of key transferable skills will be undertaken via a combination of presentations as well as practical work and working as part of a team. D3 is directly assessed in SCDT55 Virtual Reality and Immersive Technologies. D4 is directly assessed in SCDT52 User Experience (UX) and Full-Stack Development.

Intended learning outcomes at Level 6 are listed below:

4. Distinctive features of the programme structure

- **Where applicable, this section provides details on distinctive features such as:**
- **where in the structure above a professional/placement year fits in and how it may affect progression**
- **any restrictions regarding the availability of elective modules**

where in the programme structure students must make a choice of pathway/route

- The programme covers a wide variety of progressive computing topics throughout the two years for example software engineering, web application development, network engineering, cyber security, creative industries and data science. Knowledge and practical skills will be developed in programming, 3D modelling and virtual reality.

- The programme equips graduates with a range of valuable skills securely underpinned by relevant and up-to-date knowledge of the principles of computing and modern digital technologies throughout each level of study of the programme.

- The learners have access to a well-resourced and specialised cyber security and networking laboratory where they will have the opportunity to practice the skills and knowledge gained in the theoretical sessions.

- The programme fosters autonomy within the student body in their professional development and a professional approach, bound by professional codes of conduct appropriate to employment within the computing sector.

- The programme provides opportunities for learners to develop products and/or relationships with regional, national and international companies involved with Computing and Digital Technologies as well as foster own professional skills to support the South West.

- The programme incorporates various modes of delivery for flexibility and diversity, helping to support the student learning by tools such as, Smartboards, Virtual Learning Environments, Forums, etc., and making available to students resources such as online tutorials and learning materials.

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At Level 4, the programme:

- Is designed to help the learner develop and formalise strategies and problem-solving skills, alongside other general transferable skills appropriate to employment;

At Level 5, the programme:

- Incorporates substantial work based learning which encourages learners to deliver computer-based solutions to business problems and gives opportunities to gain valuable industry experience by working on 'live' projects;

- Offers links with local employers, live project opportunities and links with the computing industry and visiting guest speakers to enhance further the learning experience of its students.

5. Support for students and their learning

Seminars/Tutorials/Workshops

Seminars, tutorials and workshops are a crucial part of the learning process, as students have the opportunity to analyse problems and discuss issues in depth. Students should come to these sessions prepared to participate fully as these are a key means of facilitating active learning. These sessions are invaluable in developing independent learning; critical thinking and stronger analytical skills facilitating a process that encourages students to develop many of the key skills employers look for in the creative media industries. Students receive tutorial sessions and full-time first year learners also have enrichment sessions. Tutorials focus on the development of academic and professional skills including the development of a professional digital portfolio. Enrichment is focused on further developing technical skills on a chosen area of computing. These sessions allow students to have one-to-one tutorials with their personal tutor to discuss any personal, professional or academic issues.

Other Academic Support

Some modules may have relatively little formally timetabled teaching. This is part of a deliberate strategy to help develop and manage students' own learning. Where this is the case, there will be other academic support such as:

- o Formative and summative feedback on assessed work – to help develop knowledge, understanding and skills through undertaking assessments and practical projects;

- o Tutorials – many subjects have timetabled tutorials where work can be discussed with subject tutors. Students can also arrange to meet tutors to discuss work;

- o HE Study Centre is available for study skills session. Students will also undergo the HEAD Start study skills programme as part of their Tutorial provision. This programme covers academic skills including researching, referencing and academic writing.

- o Additional learning support – many of our students benefit from the additional learning support by our dedicated Additional Learning Support team. This support is tailored to each students individual support need to support students with general study skills as well as specialist additional support in close collaboration with the course programme team;

- o College Virtual Learning Environment, Student Portal and email. Some staff use these to initiate discussions and set up learning support groups for their modules;

- o Electronic learning – Access to eBooks, electronic journals and research papers as well as resources such as eBook readers and laptop computers all serve to facilitate and support student learning and research practice;

- o Learning packs. Some modules use learning packs for students to work through in their own time. These may involve exercises to help develop understanding of the materials.

6. Criteria for admission

GCSEs required at Grade C or above	4 GCSE subjects at 9 - 4 (or grades A* - C) including English and Maths.
A Levels required: AS/A2/UCAS Points Tariff	64 UCAS Points – AS/A2 (minimum 32 points at A2 level)
BTEC Qualifications (QCF)	64 UCAS Points - MPP (Extended Diploma), MM (Diploma); or Pre-degree Access Diploma.
HNC/D	N/A
VDA: AGNVQ, AVCE, AVS	Relevant AVCE (min 80 points)
International Baccalaureate	Accepted at Grade 4 (at higher level) and Interview
Irish/Scottish Highers/Advanced Highers	2 Grade C or above – Scottish Higher/Advanced Higher. 2 Grade A to C's – Irish Leaving Certificate.
Other non-standard awards or experiences / mature students	Mature students who do not meet these formal entry requirements are welcome to apply, if they can evidence their commitment to the subject through previous experience.
Interview/portfolio requirements	Interview
Disclosure and Barring Services (DBS) Check – (formerly CRB check)	No

7. Language of study

All classes are conducted in English.
If English is not your first language you will be asked to provide evidence of your English language ability in order to apply and start the course.
The standard English language requirement for entry is IELTS 6.0 with a minimum of 5.5 in any one paper, or equivalent.

8. Information about non-OU standard assessment regulations (including PSRB requirements)

There will be no exceptions to the academic regulations of The Open University.

The Open University Academic Regulations are available on the VLE and the college website at http://somerset.ac.uk.

9. Methods for evaluating and improving the quality and standards of teaching and learning.

All programme teams participate in Annual Programme Monitoring during their Programme Committee Meeting every Autumn. This process involves obtaining student views as well as the views of the staff that delivered each module and where appropriate may consider the views of employers who have been involved with the programme. In order to ensure robust evaluation of the programme, the programme team also consider student opinion, programme statistics, (including retention, achievement, gender and ethnicity), and student survey results, in addition to the External Examiner report.

The programme team produces an action plan based on their evaluation to assist in bringing about the developments they have identified.   Each Spring the Programme Committee Meeting is held again to review progress with the action plan and to canvas opinions from staff, students and employers connected to the programme. This evaluation process is overseen by the cross-college HE Senate, the Senate receives summary reports of all HE matters each term and produces and monitors a top level cross-college HE Enhancement Action Plan as a result.

Frequent Continuing Professional Development (CPD) sessions are run at the College for academic staff, to share good practice and to support effective teaching, learning and assessment. Peer Review is used at UCS. It is a supportive and productive developmental tool where staff observe each other.

University Centre Somerset has a formal structure for hearing the student voice. Student representatives from each group gather views that are widely felt, strongly felt and achievable and report these to the twice yearly Programme Committee Meetings. In addition to programme level activities designed for students to feedback comments to their teaching team, UCS also appoints a student representative for each Curriculum Area. This representative collates comments from the Programme Committee Meetings and feeds this back to the HE Student Executive meeting. The focus of this meeting is to obtain feedback about any cross College matters, or unresolved issues as well as highlighting matters to celebrate from across the curriculum areas. In addition to this the Learning Resource Centre hold regular student forums to gain feedback, which helps them to improve their service to learners. Students are requested to complete written surveys: the Student Perception Questionnaire/National Student Survey (NSS) in order to formally record their impressions of the programmes. The HE Student Governor provides the student voice at Senate meetings which oversee HE provision at UCS, and also at the Standards Committee of the Board of Governors.

These mechanisms are all designed to evaluate and improve the quality and standards of teaching and learning.

10. Changes made to the programme since last (re)validation
None.

Annexe 1: Curriculum map

Annexe 2: Notes on completing the OU programme specification template

Annexe 1 - Curriculum map

This table indicates which study units assume responsibility for delivering (shaded) and assessing (✓) particular programme learning outcomes.

Level	Study module/unit	Programme outcomes							
		A1	A2	B1	B2	C1	C2	D1	D2
4	SCDT41 Programming and Software Fundamentals		✓					✓	
	SCDT42 Web Application Development			✓					
	SCDT43 Networking and Cyber Security Fundamentals	✓							
	SCDT44 Databases and Information Systems						✓		
	SCDT45 3D Visualisation and Interaction Design (IxD)				✓				
	SCDT46 Professional Skills and Industry Practices						✓		✓

Level	Study module/unit	Programme outcomes							
		A3	A4	B3	B4	C3	C4	D3	D4
5	SCDT51 Advanced Programming and Software Engineering	✓							
	SCDT52 User Experience (UX) and Full-Stack Development								✓
	SCDT53 Advanced Networking and Cyber Security					✓			
	SCDT54 Big Data and Data Science			✓					
	SCDT55 Virtual Reality and Immersive Technologies				✓			✓	
	SCDT56 Collaborative Team Project and Industry Experience		✓				✓		

Annexe 2: Notes on completing programme specification templates

1 **-** This programme specification should be mapped against the learning outcomes detailed in module specifications.

2 – The expectations regarding student achievement and attributes described by the learning outcome in <u>section 3</u> must be appropriate to the level of the award within the **QAA frameworks for HE qualifications**: <u>http://www.qaa.ac.uk/AssuringStandardsAndQuality/Pages/default.aspx</u>

3 – Learning outcomes must also reflect the detailed statements of graduate attributes set out in **QAA subject benchmark statements** that are relevant to the programme/award: <u>http://www.qaa.ac.uk/AssuringStandardsAndQuality/subject-guidance/Pages/Subject-benchmark-statements.aspx</u>

4 – In section 3, the learning and teaching methods deployed should enable the achievement of the full range of intended learning outcomes. Similarly, the choice of assessment methods in section 3 should enable students to demonstrate the achievement of related learning outcomes. Overall, assessment should cover the full range of learning outcomes.

5 - Where the programme contains validated **<u>exit awards</u>** (e.g. CertHE, DipHE, PGDip), learning outcomes must be clearly specified for each award.

6 - For programmes with distinctive study **routes or pathways** the specific rationale and learning outcomes for each route must be provided.

7 – Validated programmes delivered in **<u>languages other then English</u>** must have programme specifications both in English and the language of delivery.