PROGRAMME SPECIFICATION[1]

PARTNERSHIP WITH PLYMOUTH UNIVERSITY

Programme Title: FdSc Computing

(Note: a separate programme specification is required for embedded programmes, i.e. HNC etc)

Partner Delivering Institution: South Devon College

Start Date: September 2016

First Award Date: July 2018

Date(s) of Revision(s) to this Document: June 2016

This programme specification template aligns with recommendations within the UK Quality Code for Higher Education[2]. The information provided, by the programme proposer, in each section is definitively agreed between the delivering institution and Plymouth University at approval. Therefore any requests for changes to content (post the conditions set at approval) must follow Plymouth University's procedures for making changes to partnership programmes[3].

Contents[4]

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[1] This Programme Specification contains no information pertaining and/or referring to any individual and is therefore appropriate for dissemination as a public document.

[2] QAA, 2015, Chapter B1: programme Design, development and Approval: http://www.qaa.ac.uk/assuring-standards-and-quality/the-quality-code/quality-code-part-b, last accessed 11th May 2015.

[3] If required please contact Academic Partnerships Programme Administration for assistance.

[4] To update the contents list: left-click on table ➔ left-click on 'Update Table' ➔ choose 'Update Entire Table' and click 'OK'

PS1.   Programme Details

Awarding Institution:	University of Plymouth
Partner Institution and delivery site (s):	South Devon College
Accrediting Body:	N/A
Language of Study:	English[5]
Mode of Study:	Full Time and Part Time
Final Award:	FdSc
Intermediate Award:	
Programme Title:	FdSc Computing
UCAS Code:	G400
JACS Code:	I110
Benchmarks:	Framework for Higher Education Qualifications (FHEQ), Foundation Degree Qualification Benchmark (FDQB). QAA Subject Benchmark Statement – Computing 2016
Date of Programme Approval:	May 2016

PS2.   Brief Description of the Programme

This text is definitively approved at programme approval and therefore may be directly used for promotion of the programme without the need for further confirmation (approx.. 200-250 words):

The IT and computing industries are dynamic, fast-moving and constantly in need of qualified professionals. This Foundation Degree equips Students with the skills that employers seek in graduates, and will open up opportunities for them in both the public and private sectors, not just in the UK but all over the world.

The course reflects industry trends with a mix of programming paradigms, hardware, networking and security, systems analysis and databases, client and server web development and various other topics, all of which are relevant to modern industry. This will enable students to progress and succeed within today's IT and computing sector by ensuring that they can readily transition into professional practice.

This course is delivered by an experienced teaching team, who regularly monitor and update it to reflect industry trends, ensuring students gain valuable skills that are relevant to employment. Students will learn in small classes where there is an emphasis

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[5] Unless otherwise approved through Plymouth University's Academic Development and Partnerships Committee

on support, which will enable students to make the most of their studies and succeed in their career.

The course consists of a core curriculum that includes lectures, presentations, class discussion and project work. Students will be taught in specialist computing labs, which provide access to current equipment including the latest industry-standard software from proprietary and Open Source packages.

PS3.   Details of Accreditation by a Professional/Statutory Body (if appropriate)

N/A

PS4.   Exceptions to Plymouth University Regulations

(Note: Plymouth University's Academic Regulations are available on the extranet: https://www.plymouth.ac.uk/student-life/academic-regulations)

None

PS5.   Programme Aims

The programme will deliver:

1. Students with **knowledge and understanding** of essential facts, concepts, principles and theories related to computing and computer applications.
2. Students with a **cognitive and intellectual** approach directly related to recognising and analysing criteria and specifications appropriate to specific problems, and to be able to plan strategies for their solutions.
3. Students with **key transferable skills** including team working, leadership, collaboration and communication, to identify problems by planning effectively to meet desired outcomes even when situations and priorities change.
4. Students with a wide range of skills for **employability and continuous personal development** to become effective in the workplace, to benefit themselves, their employer and the local and wider economy to enhance long-term employment prospects.
5. Students with **practical skills** where they can operate autonomously in situations of varying complexity and predictability with the ability to specify, design, construct and evaluate reliable, secure and useable computer-based systems.

PS6.   Programme Intended Learning Outcomes (ILO)

By the end of this programme the student will be able to:

ILO1: Understand the fundamentals facts, concepts, principles and theories relating to computing and computer applications, and apply these to solve a variety of real world problems whilst appreciating legal regulatory, professional, financial and ethical responsibilities.

ILO2: Recognise and analyse criteria and specifications appropriate to specific problems, and plan strategies for their solution that follow design patterns in line with quality standards and user interface conventions, and demonstrate the ability to critically evaluate systems.

ILO3: Meet desired outcomes in the implementation of computer systems by planning and managing time and resources effectively, communicating with clarity and working both autonomously and as part of a team.

ILO4: Understand the ever-changing nature of computing, and the role of continuous personal development in maintaining status as a cutting-edge computing professional.

ILO5: Demonstrate initiative and responsibility to make professional, ethical and accurate judgements based upon changing or incomplete conditions with the ability to show innovation and creativity to overcome barriers, problems and challenges.

ILO6: Specify, design and construct reliable, secure and usable computer-based systems using contemporary construction tools and techniques and present these systems with confidence, clarity and professionalism to employees and clients.

PS7.   Distinctive Features

This text is definitively approved at programme approval and therefore may be directly used for promotion of the programme without the need for further confirmation:

- The programme is delivered at South Devon College, which was recently reviewed as part of the Quality Assurance Agency Review of Higher Education, and received two commendations.
- Students benefit from having access to support from experienced tutors, who ensure their knowledge is continually up-to-date through a programme of professional development.
- Access for HE students to the University Centre, which includes the HE LRC and dedicated learning space.
- This course is taught in various computer labs, which provide access to current equipment including the latest industry-standard software from proprietary and Open Source packages.
- The institution is a recognised Cisco Academy, and Cisco material is embedded into the networking module content.
- Strong links with local industry leaders in the hi-tech sector to promote opportunities for work-based experience.
- Diverse assessment methods provide learners the opportunity to demonstrate their abilities and reach their full potential, in different environments. The low staff-to-student ratio means smaller groups, allowing for more one-to-one contact and support.
- Relaxed and informal learning environment with wide variety of teaching styles.
- Incorporates a substantial element of practical work and production-based work (i.e. the production of an end product which does something useful – or fun!). We promote learning through practice and doing.
- The course and its content is 'agile by design' to be able to meet the ever changing Computing industry and associated trends.
- Our Foundation Degree is aligned to the Key Cyber Security Principles and Learning outcomes as recommended by the CPHC (Council of Professors and Heads of Computing).

PS8.   Student Numbers

The following provides information that should be considered nominal, and therefore not absolutely rigid, but is of value to guide assurance of the quality of the student experience, functional issues around enabling progression opportunities to occur and staffing and resource planning:

Minimum student numbers per stage = 8

Target student numbers per stage = 16

Maximum student numbers per stage = 16 per group

PS9.   Progression Route(s)

Approved 'progression route(s)' are those where successful achievement in this programme enables direct alignment to join a stage of another programme. This is an approach employed primarily for Foundation Degree students to 'top-up' to complete a Bachelor degree, but may be employed for other award types.

This is in part an automated admissions criterion and therefore progression may be impacted on by availability of a position on the progression award; however progression opportunity, if not available in the first year of application, is guaranteed within 3-years.

Progression arrangements with institutions other than Plymouth University carry an increased element of risk. It is necessary for the delivering partner institution to obtain formal agreement from that institution to guarantee progression for existing students on the programme. For progression to Plymouth University, should there be the need to withdraw the progression route programme(s) then either this will be delayed to provide progression or appropriate solutions will be found. This arrangement is guaranteed for existing students that complete their programme of study with no suspensions or repeat years and who wish to progress immediately to the University.

Students who successfully complete the FdSc may progress to stage 3 (Level 6) of the BSc (Hons) Computing at Plymouth University.

The contribution of marks from prior levels of study to the progression award is governed by University regulations.

PS10.   Admissions Criteria

Qualification(s) Required for Entry to this Programme:	Details:
Level 2: - **Key Skills requirement / Higher Level Diploma:** **and/or** - **GCSEs required at Grade C or above:**	Functional Skills Level 2 English and Maths and/or 5 subjects (preferred), to include maths, English – Grade C or above.
Level 3: at least one of the following: - **AS/A Levels** - **Advanced Level Diploma:** - **BTEC National Certificate/Diploma:** - **VDA: AGNVQ, AVCE, AVS:** - **Access to HE or Year 0 provision:** - **International Baccalaureate:** - **Irish / Scottish Highers / Advanced Highers:**	140 UCAS points from a relevant subject area that covers topics such as networking, computer hardware, programming and web technologies.
Work Experience:	May be taken into account for mature students, if relevant to the programme of study. Topics such as programming and web technologies are critical. Consideration for approval is at the discretion of the institution and the evidence provided and is on an individual basis.
Other HE qualifications / non-standard awards or experiences:	Computing relevant (Media, digital etc) qualifications will be taken into account and will be considered on an individual basis.
APEL / APCL[6] possibilities:	Any application for APEL/APCL will be considered under Plymouth University regulations.
Interview / Portfolio requirements:	Interviews maybe required depending on previous qualifications and industry experience
Independent Safeguarding Agency (ISA) / Disclosure and Barring Service (DBS) clearance required:	This may be necessary as part of risk assessment in some situations. This will be dealt with on an individual basis.

PS11.   Academic Standards and Quality Enhancement

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[6] Accredited Prior Experiential Learning and Accredited Prior Certificated Learning

The Programme Leader/Manager (or other descriptor) leads the Programme Committee in the following of Plymouth University's annual programme monitoring process (APM), as titled at the time of approval. APM culminates in the production, maintenance and employment of a programme level Action Plan, which evidences appropriate management of the programme in terms of quality and standards. Any formally agreed change to this process will continue to be followed by the Programme Leader/Manager (or other descriptor) and their Programme Committee.

Elements of this process include engaging with stakeholders. For this definitive document it is important to define:

Subject External Examiner(s): All modules are parented by this programme and therefore covered by this programme's external examiner.

Additional stakeholders specific to this programme: Student representatives, from each stage of the degree, are engaged as part of the quality process and contribute to both the annual programme monitoring (APM) and the programme committee meeting (PCM). Employers are engaged through guest speaking and workplace visits. Employers are invited to attend the yearly research showcase and employers are invited to present their business and technologies to the students during this event. Regular sector focus groups meetings are held within computing to support developments and quality of the programme.

PS12. Programme Structure[7]

For programmes containing more than one FHEQ level of study: copy and paste the table below as required (hover the mouse over the table then left-click on the box in the top left corner to highlight the table → right-click → copy → select a line at least one further than the bottom of this table → right-click and select 'paste – keep formatting'

For users employing pre-2010 versions of MS Word the text entry box guidance will not be visible. Please see footnotes for guidance.

The following structure diagram(s) provides the current structure for this programme:

FHEQ level: 4 For: FdSc Computing Full Time				
F/T Route Year	When in Year? (i.e. Autumn, Spring etc)	Core or Option Module	Credits	Module
1	All Year	Core	20	SOUD1411 Employability and Professional Development
1	All Year	Core	20	SOUD1412 Client-Side Web Development
1	All Year	Core	20	SOUD1413 Database: Analysis, Design and Development
1	All Year	Core	20	SOUD1414 Computer Systems infrastructure
1	All Year	Core	20	SOUD1415 Fundamentals of Computer Networks
1	All Year	Core	20	SOUD1416 Programming Concepts

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[7] The provided table includes only a single line. This should be multiplied by copying and pasting to produce the correct number of modules for the level of the programme. For ease of consideration and clarity, please include a separate table for each level by again copying and pasting this table. Colour coding/ shading may be used to differentiate between new modules and existing approved modules shared with other programmes.

				FHEQ level: **5** For: **FdSc Computing Full time**
P/T Route Year	**When in Year? (i.e. Autumn, Spring etc)**	**Core or Option Module**	**Credits**	**Module**
2	All Year	Core	20	SOUD2363 Server-Side Web Development
2	All Year	Core	20	SOUD2364 Object Oriented Programming (OOP)
2	All Year	Core	20	SOUD2365 Introduction to Computer Security
2	All Year	Core	20	SOUD2366 Advanced Project
		Plus two optional modules chosen at the discretion of the programme team.		
2	All Year	Optional*	20	SOUD2367 Application Development for Embedded Operating Systems
2	All Year	Optional*	20	SOUD2368 Enterprise Networks
2	All Year	Optional*	20	SOUD2369 Fundamental of Embedded Systems
2	All Year	Optional*	20	SOUD2370 Cyber Security Forensics
2	All Year	Optional*	20	SOUD2371 Immersive Technologies
2	All Year	Optional*	20	SOUD2372 User-Centred Interface Design

*Note optional modules are chosen and run at the discretion of the programme team. Students will be notified of the option modules prior to stage 2 commencing.

				FHEQ level: **4** For: **FdSc Computing Part Time**
F/T Route Year	**When in Year? (i.e. Autumn, Spring etc)**	**Core or Option Module**	**Credits**	**Module**
2	All Year	Core	20	SOUD1411 Employability and Professional Development
1	All Year	Core	20	SOUD1412 Client-Side Web Development
1	All Year	Core	20	SOUD1413 Database: Analysis, Design and Development
1	All Year	Core	20	SOUD1414 Computer Systems infrastructure
2	All Year	Core	20	SOUD1415 Fundamentals of Computer Networks

1	All Year	Core	20	SOUD1416 Programming Concepts

		FHEQ level: 5 For: FdSc Computing Part time		
P/T Route Year	**When in Year? (i.e. Autumn, Spring etc)**	**Core or Option Module**	**Credits**	**Module**
2	All Year	Core	20	SOUD2363 Server-Side Web Development
3	All Year	Core	20	SOUD2364 Object Oriented Programming (OOP)
2	All Year	Core	20	SOUD2365 Introduction to Computer Security
3	All Year	Core	20	SOUD2366 Advanced Project
Plus two optional modules chosen at the discretion of the programme team.				
3	All Year	Optional*	20	SOUD2367 Application Development for Embedded Operating Systems
3	All Year	Optional*	20	SOUD2368 Enterprise Networks
3	All Year	Optional*	20	SOUD2369 Fundamental of Embedded Systems
3	All Year	Optional*	20	SOUD2370 Cyber Security Forensics
3	All Year	Optional*	20	SOUD2371 Immersive Technologies
3	All Year	Optional*	20	SOUD2372 User-Centred Interface Design

*Note optional modules are chosen and run at the discretion of the programme team. Students will be notified of the option modules prior to stage 2 commencing.

PS13. Explanation and Mapping of Learning Outcomes, Teaching & Learning and Assessment[8]

Developing graduate attributes and skills, at any level of HE, is dependent on the clarity of strategies and methods for identifying the attributes and skills relevant to the programme and where and how these are operationalized. The interrelated factors of Teaching, Learning and Assessment and how these are inclusive in nature, are fundamentally significant to these strategies and methods, as are where and how these are specifically distributed within the programme.

Ordered by graduate attributes and skills, the following table provides a map of the above, plus an exposition to describe and explain the ideas and strategy of each. Therefore, subsequent to the initial completion for approval, maintenance of this table as and when programme structure changes occur is also important:

FHEQ level: 4					
Definitions of Graduate Attributes and Skills Relevant to this Programme	**Teaching and Learning Strategy / Methods**	**Prog Aims**	**Prog intended Learning Outcomes**	**Range of Assessments**	**Related Core Modules**
Knowledge / Understanding: Framework for HE Quals (FHEQ) (2015) 4.10 (Level 4) Foundation Degree Qualification Benchmark (FDQB) (2014) QAA Subject Benchmark for Computing (2016) By the end of this level of this programme the	Primary:	1	ILO1	Report, Exam,	SOUD1413

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[8] For programmes containing more than one FHEQ level of study, i.e. a bachelor programme with levels 4, 5 & 6, a separate map must be provided for each level. The table should be copied and pasted to enable this.

students will be able to demonstrate for a threshold pass: Knowledge and understanding: demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to computing and computer applications as appropriate to the programme of study. Modelling: use such knowledge and understanding in the modelling and design of computer-based systems for the purposes of comprehension, communication, prediction and the understanding of trade offs.	Lecture, Seminar, Tutorial, Demonstration, Practical Classes and workshops, Guided Independent Study Secondary/Supplementary: External visits, Work Based Learning			Demonstration, Practical Skills Assessment, Oral Assessment and Presentation, Project Output	SOUD1414 SOUD1415

An explanation for embedding Knowledge and Understanding through Teaching & Learning and Assessment at this level of the programme:
Knowledge and understanding is a keen aspect of computing that will enable employment in the computing industry. At this level knowledge and understanding will be formatively challenged where appropriate in a practical and fun way during lectures, seminars and lab sessions. Delivery of the essential facts and concepts will be part of lectures, seminars, labs sessions and during assessment. Students are expected at this level to be able to make sound judgements towards interpretation and evaluation of theory and concepts. Summative assessment of knowledge and understanding of the core concepts and fundamentals will be by in-class test or exam and applied computing (programming and networking for example) by demonstration and observation.

Cognitive and Intellectual Skills: Framework for HE Quals (FHEQ) (2015) Foundation Degree Qualification Benchmark (FDQB) (2014) QAA Subject Benchmark for Computing (2016)					
By the end of this level of this programme the students will be able to demonstrate for a threshold pass: (3.3) Computational thinking including its relevance to	Primary: Lecture, Seminar, Tutorial, Demonstration, Practical Classes and workshops, Guided Independent Study Secondary/Supplementary:	2	ILO2	Report, Exam, Demonstration, Practical Skills Assessment, Oral Assessment and Presentation, Project Output	SOUD1411 SOUD1413 SOUD1414

everyday life.	External visits, Work Based Learning
Requirements, practical constraints and computer-based systems (and this includes computer systems, information, security, embedded, and distributed systems) in their context: recognise and analyse criteria and specifications appropriate to specific problems, and plan strategies for their solutions.	
Critical evaluation and testing: analyse the extent to which a computer-based system meets the criteria defined for its current use and future development.	
Methods and tools: deploy appropriate theory, practices and tools for the specification, design, implementation and evaluation of computer-based systems.	
Professional considerations: recognise the professional, economic, social, environmental, moral and ethical issues involved in the sustainable exploitation of computer technology and be guided by the adoption of appropriate professional, ethical and legal practices.	

An explanation for embedding Cognitive and Intellectual Skills through Teaching & Learning and Assessment at this level of the programme:

A key element of success at this level is the transition between FE learning and HE learning. Computation is evident in everyday life and the teaching and learning approach will utilise this as a method to develop student's cognitive skills at this level. Teaching and learning will focus on how to apply the required understanding of computing fundamentals to computing problems. Summative assessment will examine their ability to analyse problems, design, implement and document solutions, through a combination of Coursework and Practical Assessments.

Key Transferable Skills:

Framework for HE Quals (FHEQ) (2015)

Foundation Degree Qualification Benchmark (FDQB) (2014)

QAA Subject Benchmark for Computing (2016)					
By the end of this level of this programme the students will be able to demonstrate for a threshold pass: Framework for HE Quals (FHEQ) (2015) Communicate the results of their study/work accurately and reliably, and with structured and coherent arguments The qualities and transferable skills necessary for employment requiring the exercise of some personal responsibility. Foundation Degree Qualification Benchmark (FDQB) (2014) QAA Subject Benchmark for Computing (2016) (3.6) Intellectual skills: critical thinking; making a case; numeracy and literacy; information literacy. The ability to construct well argued and grammatically correct documents. The ability to locate and retrieve relevant ideas, and ensure these are correctly and accurately referenced and attributed. (3.7) Self-management: self-awareness and reflection; goal setting and action planning; independence and adaptability; acting on initiative; innovation and creativity. The ability to work unsupervised, plan effectively and meet deadlines, and respond readily to changing situations and priorities.	Primary: Lecture, Seminar, Tutorial, Demonstration, Practical Classes and workshops, Guided Independent Study Secondary/Supplementary: External visits, Work Based Learning	3	ILO3	Report, Exam, Demonstration, Practical Skills Assessment, Oral Assessment and Presentation, Project Output	SOUD1411 SOUD1412 SOUD1414

(3.8) Interaction: reflection and communication: the ability to succinctly present rational and reasoned arguments that address a given problem or opportunity, to a range of audiences (orally, electronically or in writing). (3.9) Team working and management: the ability to recognise and make best use of the skills and knowledge of individuals to collaborate. To be able to identify problems and desired outcomes and negotiate to mutually acceptable conclusions. To understand the role of a leader in setting direction and taking responsibility for actions and decisions. (3.10) Contextual awareness: the ability to understand and meet the needs of individuals, business and the community, and to understand how workplaces and organisations are governed.					

An explanation for embedding Key Transferable Skills through Teaching & Learning and Assessment at this level of the programme:
Students are introduced to transferable skills from the beginning of the programme, during the Employability and Professional Development module, where they will evidence these skills during work experience engagements. Essential skills such as team working, written reports, presentations and reflective accounts are all embedded during this time. At this level students are introduced to these skills throughout the programme and are assessed through a variety of Coursework and Practical Assessments. There are opportunities for students to enhance and develop these skills as this stage of study progresses. The hands-on approach to learning in a practical way will enable students to develop their skills which will include problem solving, organising working to deadlines, management and leadership, motivation, making decisions and research.

Employment Related Skills: Framework for HE Quals (FHEQ) (2015) Foundation Degree Qualification Benchmark (FDQB) (2014)					

QAA Subject Benchmark for Computing (2016)					
By the end of this level of this programme the students will be able to demonstrate for a threshold pass: Framework for HE Quals (FHEQ) (2015) Undertake further training and develop new skills within a structured and managed environment. The qualities and transferable skills necessary for employment requiring the exercise of some personal responsibility. Foundation Degree Qualification Benchmark (FDQB) (2014) QAA Subject Benchmark for Computing (2016) (3.5) A wide range of generic skills to ensure they become effective in the workplace, to the benefit of themselves, their employer and the wider economy. Develop of generic skills, and are able to evidence and demonstrate such skills, will gain significant advantage when seeking employment.	Primary: Lecture, Seminar, Tutorial, Demonstration, Practical Classes and workshops, Guided Independent Study Secondary/Supplementary: External visits, Work Based Learning	4	ILO4 & ILO5	Report, Exam, Demonstration, Practical Skills Assessment, Oral Assessment and Presentation, Project Output	SOUD1411 SOUD1413 SOUD1415 SOUD1416

An explanation for embedding Employment Related Skills through Teaching & Learning and Assessment at this level of the programme:
For the learner to appreciate a vocational context, current software development platforms are utilised alongside modern hardware and networking equipment parallel with this is the context to which assessment is driven. Where appropriate, real world problems are sourced from employers or problems that learners would face in the real world are identified and solutions are formed for these problems. Guest speakers are utilised where appropriate and industry visits are organised. Key skills for employability are identified early at this level in the Employability and Professional Development module where learners appreciate and reflect upon their input to various work experience engagements. From this learners can identify long term goals and individual targets for progression to

achieve at level 4 and level 5.

Practical Skills: Framework for HE Quals (FHEQ) (2015) Foundation Degree Qualification Benchmark (FDQB) (2014) QAA Subject Benchmark for Computing (2016) By the end of this level of this programme the students will be able to demonstrate for a threshold pass: QAA Subject Benchmark for Computing (2016) (3.4) The ability to specify, design and construct reliable, secure and usable computer-based systems. The ability to evaluate systems in terms of quality attributes and possible trade-offs presented within the given problem. The ability to plan and manage projects to deliver computing systems within constraints of requirements, timescale and budget. The ability to recognise any risks and safety aspects that may be involved in the deployment of computing systems within a given context. The ability to deploy effectively the tools used for the construction and documentation of computer applications, with particular emphasis on understanding the whole process involved in	Primary: Lecture, Seminar, Tutorial, Demonstration, Practical Classes and workshops, Guided Independent Study Secondary/Supplementary: External visits, Work Based Learning	5	ILO6	Practical Skills Assessment, Demonstration, Oral Assessment and Presentation, Portfolio and Report.	SOUD1412 SOUD1413 SOUD1414 SOUD1415 SOUD1416

the effective deployment of computers to solve practical problems.	
The ability to critically evaluate and analyse complex problems, including those with incomplete information, and devise appropriate solutions.	

An explanation for embedding Practical Skills through Teaching & Learning and Assessment at this level of the programme:
It is obvious that computing is a heavily practical field. Through sector focus events it's also evident that employers look for knowledge and understanding of core concepts and fundamentals, the wider picture is they look for competency in an individual to carry out specific tasks. These fundamental practical tasks enable a student to embed more naturally in the industry. The learning curve is reduced greatly by being exposed to industry standard practical exercises and experiences. At this level the teaching and learning of modules is very much parallel with this and challenges the learner to be responsive to the practical fundamentals. Assessment methods such as Practical Skills Assessment and Demonstration allow for confirmation and examination of these fundamental skills in areas such as software development, computer and networked systems.

FHEQ level: 5					
Definitions of Graduate Attributes and Skills Relevant to this Programme	**Teaching and Learning Strategy / Methods**	**Prog Aims**	**Prog intended Learning Outcomes**	**Range of Assessments**	**Related Core Modules**
Knowledge / Understanding: Framework for HE Quals (FHEQ) (2015) 4.12 (Level 5) Foundation Degree Qualification Benchmark (FDQB) (2014) QAA Subject Benchmark for Computing (2016) By the end of this level of this programme the students will be able to demonstrate for a threshold pass:	Primary: Lecture, Seminar, Tutorial, Demonstration, Practical	1	ILO1	Report, Exam, Demonstration, Practical Skills Assessment, Oral	SOUD2364 SOUD2365 SOUD2368

Knowledge and understanding: demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to computing and computer applications as appropriate to the programme of study. Modelling: use such knowledge and understanding in the modelling and design of computer-based systems for the purposes of comprehension, communication, prediction and the understanding of trade offs.	Classes and workshops, Guided Independent Study Secondary/Supplementary: External visits, Work Based Learning			Assessment and Presentation, Project Output	SOUD2370

An explanation for embedding Knowledge and Understanding through Teaching & Learning and Assessment at this level of the programme:
Knowledge and understanding is a keen aspect of computing that will enable employment in the computing industry. At this level critical knowledge and understanding is key and will be formatively challenged where appropriate in a practical and fun way during lectures, seminars and lab sessions. Delivery of the critical facts and concepts will be part of lectures, seminars, labs sessions and during assessment. Students are expected at this level to be able to understand the limits of their knowledge, and how this influences analyses and interpretations based on that knowledge. This will enable them to take the appropriate approach when solving various problems. Summative assessment of knowledge and understanding of the critical concepts and fundamentals will be by in-class test or exam and applied computing (programming and networking for example) by demonstration and observation.

| **Cognitive and Intellectual Skills:**

Framework for HE Quals (FHEQ) (2015)

Foundation Degree Qualification Benchmark (FDQB) (2014)

QAA Subject Benchmark for Computing (2016)

By the end of this level of this programme the students will be able to demonstrate for a threshold pass:
(3.3)

Computational thinking including its relevance to everyday life. | Primary:
Lecture, Seminar, Tutorial, Demonstration, Practical Classes and workshops, Guided Independent Study
Secondary/Supplementary:
External visits, Work Based Learning | 2 | ILO2 | Report, Exam, Demonstration, Practical Skills Assessment, Oral Assessment and Presentation, Project Output | SOUD2363
SOUD2365
SOUD2366
SOUD2370 |

Requirements, practical constraints and computer-based systems (and this includes computer systems, information, security, embedded, and distributed systems) in their context: recognise and analyse criteria and specifications appropriate to specific problems, and plan strategies for their solutions.

Critical evaluation and testing: analyse the extent to which a computer-based system meets the criteria defined for its current use and future development.

Methods and tools: deploy appropriate theory, practices and tools for the specification, design, implementation and evaluation of computer-based systems.

Professional considerations: recognise the professional, economic, social, environmental, moral and ethical issues involved in the sustainable exploitation of computer technology and be guided by the adoption of appropriate professional, ethical and legal practices.

An explanation for embedding Cognitive and Intellectual Skills through Teaching & Learning and Assessment at this level of the programme:

After successful completion of level 4 students will be familiar with applying solutions to define problems. This leave of study will build upon this and develop the student's ability to apply underlying concepts and principles outside the context in which they were first studied, including, where appropriate, the application of those principles in an employment context. Summative assessment will examine their ability to analyse problems, design, implement and critically evaluate solutions that may extend the original context, through a combination of Coursework and Practical Assessments.

Key Transferable Skills:

Framework for HE Quals (FHEQ) (2015)

Foundation Degree Qualification Benchmark (FDQB) (2014)

QAA Subject Benchmark for Computing (2016)

By the end of this level of this programme the students will be able to demonstrate for a threshold pass: Framework for HE Quals (FHEQ) (2015) Communicate the results of their study/work accurately and reliably, and with structured and coherent arguments The qualities and transferable skills necessary for employment requiring the exercise of some personal responsibility. Foundation Degree Qualification Benchmark (FDQB) (2014) QAA Subject Benchmark for Computing (2016) (3.6) Intellectual skills: critical thinking; making a case; numeracy and literacy; information literacy. The ability to construct well argued and grammatically correct documents. The ability to locate and retrieve relevant ideas, and ensure these are correctly and accurately referenced and attributed. (3.7) Self-management: self-awareness and reflection; goal setting and action planning; independence and adaptability; acting on initiative; innovation and creativity. The ability to work unsupervised, plan effectively and meet deadlines, and respond readily to changing situations and priorities. (3.8) Interaction: reflection and communication:	Primary: Lecture, Seminar, Tutorial, Demonstration, Practical Classes and workshops, Guided Independent Study Secondary/Supplementary: External visits, Work Based Learning	3	ILO3	Report, Exam, Demonstration, Practical Skills Assessment, Oral Assessment and Presentation, Project Output	SOUD2363 SOUD2365 SOUD2366 SOUD2367

the ability to succinctly present rational and reasoned arguments that address a given problem or opportunity, to a range of audiences (orally, electronically or in writing).

(3.9) Team working and management: the ability to recognise and make best use of the skills and knowledge of individuals to collaborate. To be able to identify problems and desired outcomes and negotiate to mutually acceptable conclusions. To understand the role of a leader in setting direction and taking responsibility for actions and decisions.

(3.10) Contextual awareness: the ability to understand and meet the needs of individuals, business and the community, and to understand how workplaces and organisations are governed.

An explanation for embedding Key Transferable Skills through Teaching & Learning and Assessment at this level of the programme:
At this level students will continue to be exposed to transferable skills and the development of these. The focus will be upon the student's ability to effectively communicate information, arguments and analysis in a variety of forms to specialist and non-specialist audiences and deploy key techniques of the discipline effectively. The practical approach to learning will enable students to develop their skills which will include problem solving, organising working to deadlines, management and leadership, motivation, making decisions, research and the ability to effectively communicate solutions to problems to defined audiences.

Employment Related Skills:

Framework for HE Quals (FHEQ) (2015)

Foundation Degree Qualification Benchmark (FDQB) (2014)

QAA Subject Benchmark for Computing (2016)

| By the end of this level of this programme the | Primary: | 4 | ILO4 & 5 | Report, Exam, | SOUD2365 |

students will be able to demonstrate for a threshold pass: Framework for HE Quals (FHEQ) (2015) Undertake further training and develop new skills within a structured and managed environment. The qualities and transferable skills necessary for employment requiring the exercise of some personal responsibility. Foundation Degree Qualification Benchmark (FDQB) (2014) QAA Subject Benchmark for Computing (2016) (3.5) A wide range of generic skills to ensure they become effective in the workplace, to the benefit of themselves, their employer and the wider economy. Develop of generic skills, and are able to evidence and demonstrate such skills, will gain significant advantage when seeking employment.	Lecture, Seminar, Tutorial, Demonstration, Practical Classes and workshops, Guided Independent Study Secondary/Supplementary: External visits, Work Based Learning			Demonstration, Practical Skills Assessment, Oral Assessment and Presentation, Project Output	SOUD2366 SOUD2367

An explanation for embedding Employment Related Skills through Teaching & Learning and Assessment at this level of the programme:
This level follows a similar route to level 4 where students will be exposed to vocational content that includes, but not limited to; software development platforms and various hardware and networking systems. The continuation of the use of real world problems in assessment will persist to contribute toward preparedness for employment. Students will be expected to appreciate, but also where appropriate; undertake further training, develop existing skills and acquire new competences that will enable them to assume significant personal responsibility and key decision making within organisations. Guest speakers are utilised where appropriate and industry visits are organised. Key skills for employability are built upon at this level, allowing learners to further develop and realise long term goals and individual targets for progression at and beyond Level 5, 6 and into industry.

Practical Skills:

Framework for HE Quals (FHEQ) (2015)

Foundation Degree Qualification Benchmark (FDQB) (2014) QAA Subject Benchmark for Computing (2016) By the end of this level of this programme the students will be able to demonstrate for a threshold pass: QAA Subject Benchmark for Computing (2016) (3.4) The ability to specify, design and construct reliable, secure and usable computer-based systems. The ability to evaluate systems in terms of quality attributes and possible trade-offs presented within the given problem. The ability to plan and manage projects to deliver computing systems within constraints of requirements, timescale and budget. The ability to recognise any risks and safety aspects that may be involved in the deployment of computing systems within a given context. The ability to deploy effectively the tools used for the construction and documentation of computer applications, with particular emphasis on understanding the whole process involved in the effective deployment of computers to solve practical problems. The ability to critically evaluate and analyse	Primary: Lecture, Seminar, Tutorial, Demonstration, Practical Classes and workshops, Guided Independent Study Secondary/Supplementary: External visits, Work Based Learning	5	ILO6	Practical Skills Assessment, Demonstration, Oral Assessment and Presentation, Portfolio and Report.	SOUD2363 SOUD2364 SOUD2367

complex problems, including those with incomplete information, and devise appropriate solutions.					

An explanation for embedding Practical Skills through Teaching & Learning and Assessment at this level of the programme:

The students should possess the core ability to work effectively in a practical environment, applying the core concepts and fundamental knowledge and understanding by the time they reach this level of study. This level builds upon these core skills and through the development of existing skills and acquiring new competences the student will be able to take more responsibility for their direction in the practical environment allowing for a more autonomous approach. Assessment methods such as Practical Skills Assessment and Demonstration allow for confirmation and examination of these developed and acquired skills in areas such as software development, computer and networked systems.

PS14.   Work Based/Related Learning[9]

WBL is an essential element of Foundation Degrees and therefore needs to be detailed here. However, for all types of HE programmes there should be an element of employability focus through, at least, Work Related Learning, and therefore the following is applicable for all:

FHEQ level: 4					
WBL/WRL Activity:	**Logistics**	**Prog Aim**	**Prog Intended LO**	**Range of Assessments**	**Related Core Module(s)**
WRL – Real world or realistic scenarios	Students have to design, implement and test solutions for real world problems or realistic vocational scenarios.	2,3,5	ILO2-6	Practical Skills Assessment, Demonstration, Oral Assessment and Presentation, Portfolio and Report.	SOUD1412 SOUD1413 SOUD1415 SOUD1416
WBL – Module dedicated to WBL	Students will organise, ideally more than one, work experience location. Utilise computing apprenticeship training officer for support.	3 & 4	ILO3 & 4	Practical Skills Assessment, Demonstration, Oral Assessment and Presentation, Portfolio and Report.	SOUD1411
WRL - Guest speakers and industry visits	Continue to develop and maintain links with industry to provide guest speaker opportunities	4	ILO4	Practical Skills Assessment, Demonstration, Oral Assessment and Presentation, Portfolio and Report.	Opportunity for all
An explanation of this map: Work based learning is a core element of this programme. Module SOUD1411 is dedicated to the awareness of transferrable skills and employability. Students will be expected to evidence a number of hours of work experience, for which they will reflect upon to improve and inform their future practice. Work related learning will be integral to the programme where current software development platforms are utilised alongside modern hardware and					

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[9] The provided table includes only a single line. This will need replicating for each WBL/WRL activity (I,e, placements / real-world industry provided problems to solve / visits / trade shows etc). Additionally, the table should be replicated for each stage of the programme for clarity.

networking equipment parallel with this is the context to which assessment is driven. Where appropriate, real world problems are sourced from employers or problems that learners would face in the real world are identified and solutions are formed for these problems. Guest speakers are utilised where appropriate and industry visits are organised.

FHEQ level: 5					
WBL/WRL Activity:	**Logistics**	**Prog Aim**	**Prog Intended LO**	**Range of Assessments**	**Related Core Module(s)**
WRL – Real world or realistic scenarios.	Students have to design, implement, test and evaluate solutions for real world problems or realistic vocational scenarios.	2,3,5	ILO2-6	Practical Skills Assessment, Demonstration, Oral Assessment and Presentation, Portfolio and Report.	SOUD2363 SOUD2367
WRL – Advanced Project	Students are encouraged to explore local industry for a real problem that needs solving.	3,4	ILO3 & 4	Practical Skills Assessment, Demonstration, Oral Assessment and Presentation, Portfolio and Report.	SOUD2366
WRL – Investigation of security measures	Students are encouraged to explore the security measures of a local business	3,4	ILO3 & 4	Practical Skills Assessment, Demonstration, Oral Assessment and Presentation, Portfolio and Report.	SOUD2365
An explanation of this map: Work related learning will be integral to the programme where students will be exposed to vocational content that includes, but not limited to; software development platforms and various hardware and networking systems. The use of real world problems in assessment will contribute toward preparedness for employment. Students will be expected to appreciate, but also where appropriate; undertake further training, develop existing skills and acquire new competences that will enable them to assume significant personal responsibility and key decision making within organisations. Guest speakers are utilised where appropriate and industry visits are organised. Key skills for employability are built upon at this level, allowing learners to further develop and realise long term goals and individual targets for progression at and beyond Level 5, 6 and into industry.					

Appendix: Click here to enter text.

(To create additional appendices simply copy and paste the above heading.)