

Programme Specification

1. Overview/ factual information

Programme/award title(s)	BSc (Hons) Computer Science BSc (Hons) Computer Science (Software Development) BSc (Hons) Computer Science (Networking) BSc (Hons) Computer Science (Cyber Security)
Teaching Institution	University Centre Peterborough
Awarding Institution	The Open University (OU)
Date of first OU validation	Nov 2020
Date of latest OU (re)validation	N/A
Next revalidation	
Credit points for the award	360
UCAS Code	BSc GG45
HECoS Code	
LDCS Code (FE Colleges)	
Programme start date and cycle of starts if appropriate.	September 2021
Underpinning QAA subject benchmark(s)	Computing
Other external and internal reference points used to inform programme outcomes. For apprenticeships, the standard or framework against which it will be delivered.	The British Computing Society Local Enterprise Partnership or equivalent: Cambridgeshire & Peterborough Independent Economic Review.
Professional/statutory recognition	N/A
For apprenticeships fully or partially integrated Assessment.	N/A
Mode(s) of Study (PT, FT, DL, Mix of DL & Face-to-Face) Apprenticeship	FT, PT
Duration of the programme for each mode of study	3 years in full-time mode 4 years in part-time mode

Dual accreditation (if applicable)	N/A
Date of production/revision of this specification	

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 the student module guide(s) and the student's handbook.

The accuracy of the information 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 enable the student to:

- gain an in-depth knowledge and understanding of the concepts of Computer Science
- Apply the methods and principles of Computer Science in the analysis, design, and implementation of solutions in a range of application domains.
- Develop a range of transferable skills needed to cope with a rapidly changing IS environment
- Apply a systematic, creative and flexible approach to problem-solving
- Develop knowledge and skills relevant to working as a member of a project team
- Develop awareness of professional and ethical aspects of the IT industry
- Understand, critically appraise and contribute to research in the Information Systems domain
- Develop a range of transferable skills and competencies needed to cope with a rapidly changing labour market and the wider environment
- Provide students with the skills and motivation to enable them to participate fully in civic life
- Progress to post-graduate higher education

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)

UCP also offers an FSc in Computer Science. Students completing this course are eligible for advanced entry for the BSc Computer Science degree.

2.3 For Foundation Degrees, please list where the 60 credit work-related learning takes place. For apprenticeships, an articulation of how the work-based learning and academic content are organised with the award.

N/A

2.4 List of all exit awards

- Certificate of Higher Education (CertHE) upon successful completion of 120 credits at Level 4
- Diploma of Higher Education (DipHE) upon successful completion of 240 credits at Levels 4 and 5.
- Ordinary Degree (BA) upon successful completion of 300 credits (60 credits at Level 6).
- BSc(Hons) Computer Science
- BSc(Hons) Computer Science (Software Development)
- BSc(Hons) Computer Science (Networking)
- BSc(Hons) Computer Science (Cyber Security)

BSc Computer Science & Pathways

Programme Structure - LEVEL 4 – Full time

Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable ?	Semester runs in
Programming Concepts	15			Yes	Sem 1
System Design & Development	30			Yes	Sem 1
Developing Professional Skills	15			Yes	Sem 2
Network Essentials	15			Yes	Sem 2
Web Design & Development	15			Yes	Sem 2
Introduction to Cloud Computing	15			Yes	Sem 2
		User Experience and Interaction Design	15	Yes	Sem 1
		Games Design	15	Yes	Sem 1
		Managing a successful Computing Project	15	Yes	Sem 1

Programme Structure - LEVEL 4 – Part-time

Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable ?	Semester runs in
Programming Concepts	15			Yes	Y1 Sem1
System Design & Development	30			Yes	Y1 Sem 1
Developing Professional Skills	15			Yes	Y1 Sem 2
Network Essentials	15			Yes	Y1 Sem 2
Web Design & Development	15			Yes	Y1 Sem 2
Introduction to Cloud Computing	15			Yes	Y2 Sem 2
		User Experience and Interaction Design	15	Yes	Y2 Sem 2
		Games Design	15	Yes	Y2 Sem 2
		Managing a successful Computing Project	15	Yes	Y2 Sem 2

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
<p><i>On successful completion of the course a student will be expected to be able to:</i></p> <p>A1: Understand the principles, theory and practice of the development of information systems and computer applications.</p> <p>A2: Demonstrate knowledge and understanding of the tools needed to develop professionally in specialist areas of information systems.</p> <p>A3: Demonstrate knowledge and understanding of the need to act in an ethical manner, demonstrating political, social and cultural awareness</p>	<p>A diverse and dynamic range of teaching and learning strategies are utilised to meet the knowledge-based learning outcomes of this level.</p> <p>These include:</p> <ul style="list-style-type: none"> - traditional methods of lectures supported with seminars - practical workshops <p>Lectures provide the guiding theme for subject areas within the discipline, directing and coordinating learning as well as responding to student needs for detailed explanation and demonstration. Lectures also provide an opportunity for students to develop a sense of community and establish the learning culture of the cohort.</p> <p>Seminars and practical sessions allow students to develop analytical and practical skills. These sessions provide a moderated reference for group behaviour where students can gain the confidence for independent learning by making their own contributions to the understanding of the subject.</p> <p>A broad range of assessment methods are utilised at this level to assess knowledge and understanding. These will include traditional assessment methods like coursework essays, presentations, and exams, to forms of assessment that align with or simulate those found in industry, e.g. reports, product demonstrations and group assessments/appraisals.</p>

	<p>The programme also utilises formative assessment with a view to supporting students taking responsibility for their learning.</p>
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3B. Cognitive skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p><i>On successful completion of the course a student will be expected to be able to:</i></p> <p>B1: Design applications and systems to meet given requirements; the process involving problem identification, analysis, and design of a system with accompanying documentation</p> <p>B2: Identify a major field of personal learning and demonstrate broad knowledge within it</p> <p>B3: Demonstrate a capacity for systematic, conceptual, and critical thinking</p>	<p>A diverse and dynamic range of teaching and learning strategies are utilised to meet the intellectual learning outcomes of this level. These include traditional lectures and seminars but also practical workshops.</p> <p>Seminars and practical sessions allow students to develop analytical and practical skills. These sessions provide a moderated reference for group behaviour where students can gain the confidence for independent learning by making their own contributions to the understanding of the subject.</p> <p>Various modules provide a learning environment where specific skills are taught and demonstrated on simple problems before providing less well-specified problems that allow a greater range of solution strategies.</p> <p>A broad range of assessment methods are utilised at this level to assess cognitive learning outcomes. These include traditional assessment methods like coursework essays, presentations, and exams, to forms of assessment that align with or simulate those found in industry, e.g. product demonstrations, group evaluations. Exams and in-class tests are utilised for testing and developing students' problem-solving abilities under pressure. Formative assessment methods are used to enable learners to reflect on their academic progress and their career aspirations.</p>

3C. Practical and professional skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p><i>On successful completion of the course a student will be expected to be able to:</i></p> <p>C1: Select appropriate tools needed to develop professionally in specialist areas of information systems</p> <p>C2: Act in an ethical manner in relation to working in ICT</p> <p>C3: Work as a member of a development team, interacting with others, encouraging co-operative working, able to take a lead role when appropriate, recognising the different roles within a team and different ways of organising teams.</p>	<p>A diverse and dynamic range of teaching and learning strategies are employed to meet the practical and professional learning outcomes of this level. These include traditional lecture and seminar approaches to practical workshops and group learning environments. Various modules provide a learning environment where specific skills are taught and demonstrated on simple problems before providing less well-specified problems that allow a greater range of solution strategies.</p> <p>A broad range of assessment methods are utilised in this course to assess practical and professional skills, from traditional essays and exams to reports and product demonstrations. Technical areas such as analysis, design and networking are assessed within modules through a variety of techniques that are appropriate to the subject area and provide feedback on subject-specific skills.</p>
3D. Key/transferable skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p><i>On successful completion of the course a student will be expected to be able to:</i></p> <p>D1: Work independently, acting on their own initiative on a project where they are responsible for setting realistic goals, meeting deadlines, responding to feedback, and taking appropriate remedial action where necessary.</p>	<p>A diverse and dynamic range of teaching and learning strategies will be utilised to meet the affective and transferrable learning outcomes of this course. All modules are supported by a VLE which helps to disseminate material and encourages feedback through discussion groups; This also helps to establish a broader sense of audience and the skills needed for interaction in a virtual environment. Students of different abilities can gain</p>

<p>D2: Communicate clearly and appropriately, demonstrating a sense of audience.</p>	<p>from taking different paths through material and can get instant feedback through online tests and peer review.</p> <p>A broad range of assessment methods will be utilised in this course to assess affective transferable skills. These include demonstrations, presentations and group assessments.</p>
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Exit Awards: Certificate of Higher Education (CertHE) upon successful completion of 120 credits at Level 4

BSc Computer Science

<u>Programme Structure - LEVEL 5 Full-time</u>					
Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
Developing Interactive Web Computing Research Project Advanced Database Design Principles of Digital Security	15 30 15 15			Yes Yes Yes Yes	1 1&2 1 2
		Object-Oriented Programming Development Database-Driven Web Advanced Programming Techniques & Patterns Advanced Network Switching and Routing Management of IT Wireless Networking and IoT	15 15 15 15 15 15 15	Yes Yes Yes Yes Yes Yes Yes	1 2 2 1 2 2 2

		e-commerce & e-crime	15	Yes	2
		Business Intelligence	15	Yes	1
		Emerging Technology	15	Yes	2
		Games Development			
<u>Programme Structure - LEVEL 5 Part-time</u>					
Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
Developing Interactive Web	15			Yes	Y3 Sem 1
Computing Research Project	30			Yes	Y2
Advanced Database Design	15			Yes	Sem1&2
Principles of Digital Security	15			Yes	Y2 Sem 1 Y2 Sem 2
		Object-Oriented Programming	15	Yes	Y3 Sem 1
		Development	15	Yes	Y3 Sem 2
		Database-Driven Web			
		Advanced Programming Techniques & Patterns	15	Yes	Y3 Sem 2
			15	Yes	Y3 Sem 1
		Advanced Network Switching and Routing	15	Yes	Y3 Sem 2
		Management of IT	15	Yes	Y3 Sem 2
		Wireless Networking and IoT	15	Yes	Y3 Sem 2
		e-commerce & e-crime	15	Yes	Y3 Sem 2
		Business Intelligence	15	Yes	Y3 Sem 1
		Emerging Technology	15	Yes	Y3 Sem 2
		Games Development			

BSc Computer Science (Software Development)

<u>Programme Structure - LEVEL 5 Full-time</u>					
Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
Developing Interactive Web	15			Yes	Sem 1
Computing Research Project	30			Yes	Sem1&2
Advanced Database Design	15			Yes	Sem 1
Principles of Digital Security	15			Yes	Sem 2
Object-Oriented Programming Development	15			Yes	Sem1
Database-Driven Web	15			Yes	Sem2
Advanced Programming Techniques & Patterns	15			Yes	Sem 2
<u>Programme Structure - LEVEL 5 Part-time</u>					
Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
Developing Interactive Web	15			Yes	Y3 Sem 1
Computing Research Project	30			Yes	Y2
Advanced Database Design	15			Yes	Sem1&2
Principles of Digital Security	15			Yes	Y2 Sem 1
Object-Oriented Programming Development	15			Yes	Y2 Sem 2
Database-Driven Web	15			Yes	Y3 Sem1
					Y3 Sem2

Advanced Programming Techniques & Patterns	15			Yes	Y3 Sem 2
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BSc Computer Science (Networking)

<u>Programme Structure - LEVEL 5 Full-time</u>					
Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
Developing Interactive Web	15			Yes	Sem 1
Computing Research Project	30			Yes	Sem 1&2
Advanced Database Design	15			Yes	Sem 1
Principles of Digital Security	15			Yes	Sem 2
Advanced Network Switching and Routing	15			Yes	Sem 1
Management of IT	15			Yes	Sem 2
Wireless Networking and IoT	15			Yes	Sem 2
<u>Programme Structure - LEVEL 5 Part-time</u>					
Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
Developing Interactive Web	15			Yes	Y3 Sem 1
Computing Research Project	30			Yes	Y2
Advanced Database Design	15			Yes	Sem 1&2
Principles of Digital Security	15			Yes	Y2 Sem 1
Advanced Network Switching and Routing	15			Yes	Y2 Sem 2

Management of IT	15			Yes	Y3 Sem 1
Wireless Networking and IoT	15			Yes	Y3 Sem 2 Y3 Sem 2

BSc Computer Science (Cyber Security)

Programme Structure - LEVEL 5 Full-time					
Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
Developing Interactive Web	15			Yes	Sem 1
Computing Research Project	30			Yes	Sem 1&2
Advanced Database Design	15			Yes	Sem 1
Principles of Digital Security	15			Yes	Sem 2
management of IT	15			Yes	Sem 2
e-commerce & e-crime	15			Yes	Sem 2
		Object-Oriented Programming	15	Yes	Sem 1
		Development	15	Yes	Sem 1
		Advanced Network Switching and Routing			
Programme Structure - LEVEL 5 Part-time					
Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
Developing Interactive Web	15			Yes	Y3 Sem 1

Computing Research Project	30			Yes	Y2
Advanced Database Design	15			Yes	Sem1&2
Principles of Digital Security	15			Yes	Y2 Sem 1
management of IT	15			Yes	Y2 Sem 2
e-commerce & e-crime	15			Yes	Y3 Sem 2
		Object-Oriented Programming	15	Yes	Y3 Sem 1
		Development Advanced Network Switching and Routing	15	Yes	Y3 Sem 1

Intended learning outcomes at Level 5 are listed below:

<u>Learning Outcomes – LEVEL 5</u>	
3A. Knowledge and understanding	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p><i>On successful completion of the course a student will be expected to be able to:</i></p> <p>A1: Understand the principles, theory and practice of the development of information systems and computer applications.</p> <p>A2: Demonstrate knowledge and understanding of the tools needed to develop professionally in specialist areas of information systems.</p> <p>A3: Demonstrate knowledge and understanding of the need to act in an ethical manner, demonstrating political, social and cultural awareness</p>	<p>A diverse and dynamic range of teaching and learning strategies are utilised to meet the knowledge-based learning outcomes at level 5. These include standard approaches like lectures supported by seminars but also workshops. Lectures provide the guiding theme for subject areas within the discipline, directing and coordinating learning as well as responding to student needs for detailed explanation and demonstration. Lectures also provide an opportunity for students to develop a sense of community and establish the learning culture of the cohort. Seminars and practical sessions allow students to develop analytical and practical skills. These sessions provide a moderated reference for group behaviour where students can gain the confidence for independent learning by making their own contributions to the understanding of the subject.</p> <p>Knowledge and understanding is assessed via a range of assessments as specified in the individual modules. Methods include case studies, examinations, use of VLEs and reports of practical work.</p>

3B. Cognitive skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p><i>On successful completion of the course a student will be expected to be able to:</i></p> <ul style="list-style-type: none"> B1: Design and develop applications to meet given requirements; the process involving problem identification, analysis, and design of a system with accompanying documentation B2: Identify a major field of personal learning and demonstrate broad knowledge within it B3: Demonstrate a capacity for systematic, conceptual and critical thinking 	<p>A diverse and dynamic range of teaching and learning strategies are drawn on to meet the cognitive learning outcomes of this level. For the most part, cognitive skills are taught through practical workshops in which students are supported to design applications and trial them.</p> <p>A broad range of assessment methods are employed at this level to assess intellectual and cognitive skills. Greater use of reflexive assessments is made to support increased self-awareness and the capacity to work independently; Both of these abilities are needed at level 6. Technical areas such as analysis, design and networking are assessed within modules through a variety of techniques that are appropriate to the subject area and provide feedback on subject-specific skills.</p>
3C. Practical and professional skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p><i>On successful completion of the course a student will be expected to be able to:</i></p> <ul style="list-style-type: none"> C1: Select appropriate tools needed to develop professionally in specialist areas of information systems C2: Act in an ethical manner in relation to working in ICT 	<p>A diverse and dynamic range of teaching and learning strategies are utilised to meet the practical and affective learning outcomes of this level. At this level, much greater emphasis is given to group work and peer evaluation so that students can learn to work effectively as a team.</p> <p>A broad range of assessment methods are utilised at this level to assess practical and affective skills. These include assessment tasks that align more closely with the kinds of tasks that students will be expected to</p>

<p>C3: Work as a member of a development team, interacting with others, encouraging co-operative working, able to take a lead role when appropriate, recognising the different roles within a team and different ways of organising teams.</p>	<p>perform in the workplace, like reports, briefings, and presentations. The group project provides a substantial problem where the different skills and abilities of students need to be organised, and effective cooperation is essential for success. Group assessments help to bring out critical appraisal between members of a group that provides a valuable lesson for self-appraisal.</p>
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3D. Key/transferable skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p>D1: Work independently, acting on their own initiative on a project where they are responsible for setting realistic goals, meeting deadlines, reflecting on feedback, and taking appropriate remedial action where necessary</p> <p>D2: Communicate clearly and appropriately, demonstrating a sense of audience.</p>	<p>A diverse and dynamic range of teaching and learning strategies are drawn on to meet the key transferable learning outcomes at this level. These include scaffolding students to work more independently and the use of problem-solving group activities in class.</p> <p>A broad range of assessment methods are employed at this level to assess transferable skills. Individual and group presentations and demonstrations are utilised frequently at this level.</p>

Exit award: Diploma of Higher Education (DipHE) upon successful completion of 240 credits at Levels 4 and 5

BSc Computer Science

<u>Programme Structure - LEVEL 6 – Full-time</u>					
Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
Undergraduate Research Project	30			No	Sem 1&2
Professional and Ethical Issues	15			Yes	Sem 1
Agile Team Development	15			Yes	Sem 2
Big Data & Data Mining	15			Yes	Sem 1
		AI Programming (15)	15		Sem 1
		Mobile Application Development (15)	15		Sem 2
		Full Stack Application Development (15)	15		Sem 2
		Enterprise Networking (30)	30		Sem 2
		Ethical Hacking (15)	15		Sem 1
		Cryptography (15)	15		Sem 1
		Digital Forensics (15)	15		Sem 2
<u>Programme Structure - LEVEL 6 Part-time</u>					
Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
Undergraduate Research Project	30			No	Y4 Sem 1&2
Professional and Ethical Issues	15			Yes	Y3 Sem 1
Agile Team Development	15			Yes	Y3 Sem 2
Big Data & Data Mining	15			Yes	Y4 Sem 1
		AI Programming	15	Yes	Y4 Sem 1
		Mobile Application Development	15	Yes	Y4 Sem 2
		Full Stack Application Development	15	Yes	Y4 Sem 2
		Enterprise Networking	30	Yes	Y4 Sem 2
		Ethical Hacking	15	Yes	Y4 Sem 1

		Cryptography	15	Yes	Y4 Sem1
		Digital Forensics	15	Yes	Y4 Sem 2

BSc Computer Science (Software Engineering)

<u>Programme Structure - LEVEL 6 – Full-time</u>					
Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
Undergraduate Research Project	30			No	Sem1&2
Professional and Ethical Issues	15			Yes	Sem 1
Agile Team Development	15			Yes	Sem 2
Big Data & Data Mining	15			Yes	Sem 1
AI Programming	15			Yes	Sem 1
Mobile Application Development	15			Yes	Sem 2
Full Stack Application Development	15			Yes	Sem 2
<u>Programme Structure - LEVEL 6 Part-time</u>					
Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
Undergraduate Research Project	30			No	Y4 Sem 1&2
Professional and Ethical Issues	15			Yes	Y3 Sem 1
Agile Team Development	15			Yes	Y3 Sem 2
Big Data & Data Mining	15			Yes	Y4 Sem 1
AI Programming	15			Yes	Y4 Sem 1
Mobile Application Development	15			Yes	Y4 Sem 2

Full Stack Application Development	15			Yes	Y4 Sem 2
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BSc Computer Science (Networking)

<u>Programme Structure - LEVEL 6 – Full-time</u>					
Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
Undergraduate Research Project	30			No	1&2
Professional and Ethical Issues	15			Yes	1
Agile Team Development	15			Yes	2
Big Data & Data Mining	15			Yes	1
Enterprise Networking	30			Yes	2
Ethical Hacking	15			Yes	1
<u>Programme Structure - LEVEL 6 Part-time</u>					
Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
Undergraduate Research Project	30			No	Y4 Sem 1&2
Professional and Ethical Issues	15			Yes	Y3 Sem 1
Agile Team Development	15			Yes	Y3 Sem 2
Big Data & Data Mining	15			Yes	Y4 Sem 1
Enterprise Networking	30			Yes	Y4 Sem 2
Ethical Hacking	15			Yes	Y4 Sem 1

BSc Computer Science (Cyber Security)

<u>Programme Structure - LEVEL 6 – Full-time</u>					
Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
Undergraduate Research Project	30			No	1&2
Professional and Ethical Issues	15			Yes	1
Agile Team Development	15			Yes	2
Big Data & Data Mining	15			Yes	1
		AI Programming	15		1
		Mobile Application Development	15		2
		Full Stack Application Development	15		2
		Enterprise Networking	30		2
		Ethical Hacking	15		1
		Cryptography	15		1
		Digital Forensics	15		2
<u>Programme Structure - LEVEL 6 Part-time</u>					
Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
Undergraduate Research Project	30			No	Y4 Sem 1&2
Professional and Ethical Issues	15			Yes	Y3 Sem 1
Agile Team Development	15			Yes	Y3 Sem 2
Big Data & Data Mining	15			Yes	Y4 Sem 1
Ethical Hacking	15			Yes	Y4 Sem1
Cryptography	15			Yes	Y4 Sem 1
Digital Forensics	15			Yes	Y4 Sem 2

Intended learning outcomes at Level 6 are listed below:

<u>Learning Outcomes – LEVEL 6</u>	
3A. Knowledge and understanding	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p><i>On successful completion of the course a student will be expected to be able to:</i></p> <p>A1: Understand the principles, theory and practice of the development of information systems and computer applications.</p> <p>A2: Demonstrate knowledge and understanding of the tools needed to develop professionally in specialist areas of information systems.</p> <p>A3: Demonstrate knowledge and understanding of the need to act in an ethical manner, demonstrating political, social and cultural awareness</p>	<p>A diverse and dynamic range of teaching and learning strategies are utilised to meet the knowledge-based learning outcomes at this level. At level 6 students are supported to take greater responsibility for their own learning.</p> <p>Emphasis is given to directed study at level 6, this provides the in-depth material required for subject knowledge through reading books, papers, online articles, and tutorials. Independent self-study is encouraged and supported by examples for directed study; This helps students develop their own learning and research practices and provides source material for specific tasks and projects.</p> <p>A broad range of assessment methods are utilised at this level to assess knowledge and understanding. These will include traditional assessment methods like coursework essays, presentations, and exams; to forms of assessment that align with or simulate those found in the industry, such as demonstrations or presentations.</p>

3B. Cognitive skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p><i>On successful completion of the course a student will be expected to be able to:</i></p> <p>B1: Design and develop applications to meet given requirements; the process involving problem identification, analysis, and design of a system with accompanying documentation</p> <p>B2: Identify a major field of personal learning and demonstrate broad knowledge within it</p> <p>B3: Demonstrate a capacity for systematic, conceptual and critical thinking</p>	<p>A diverse range of teaching and learning strategies will be utilised to meet the intellectual and cognitive learning outcomes at this level.</p> <p>All modules are supported by a VLE which helps to disseminate material and encourages feedback through discussion groups; This also helps to establish a broader sense of audience and the skills needed for interaction in a virtual environment. Students of different abilities can gain from taking different paths through material and can get instant feedback through online tests and peer review.</p> <p>A broad range of assessment methods will be utilised at this level to assess cognitive skills. These will include traditional assessment methods like coursework essays, presentations and exams; to forms of assessment that align with or simulate those found in industry, e.g. reports, briefing papers.</p> <p>The major project provides the environment where students develop the greatest autonomy and responsibility for the outcome. The strategy for supervision is focused on the framework and guidance rather than the operational or technical details unless requested.</p>

3C. Practical and professional skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p><i>On successful completion of the course a student will be expected to be able to:</i></p> <p>C1: Select appropriate tools needed to develop professionally in specialist areas of information systems</p> <p>C2: Act in an ethical manner in relation to working in ICT</p> <p>C3: Work as a member of a development team, interacting with others, encouraging co-operative working, able to take a lead role when appropriate, recognising the different roles within a team and different ways of organising teams.</p>	<p>A diverse and dynamic range of teaching and learning strategies are utilised to meet the practical and professional learning outcomes at this level. The major project provides the opportunity for a student to identify a suitable problem domain, develop and apply tools and techniques for its solution and evaluate the relative merits of their work.</p> <p>A broad range of assessment methods are utilised at this level to assess practical and professional skills. The major project has a substantial report that assesses the ability to describe technical matters, supported by appropriate references, and provide a coherent narrative of a development process and critical analysis of the work.</p>
3D. Key/transferable skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p><i>On successful completion of the course a student will be expected to be able to:</i></p> <p>D1: Work independently, acting on their own initiative on a project where they are responsible for setting realistic goals, meeting deadlines, reflecting on feedback, and taking appropriate remedial action where necessary</p>	<p>A diverse and dynamic range of teaching and learning strategies are utilised to meet the key/transferable learning outcomes at this level. Presentations assess communication skills and the ability to choose and develop a topic at an appropriate level of content for the audience and purpose. Demonstrations of software and systems assess the ability to explain technical processes and the rationale for the decisions made in its design development.</p>

D2: Communicate clearly and appropriately, demonstrating a sense of audience.

A broad range of **assessment methods** are employed at this level to assess key/transferable skills. Oral presentation, report writing, technical documentation, electronic discussion presentation and written assignments are assessed by various modules. Presentations assess communication skills and the ability to choose and develop a topic at an appropriate level of content for the audience and purpose. Students use logbooks to record their personal progress through a subject domain and sources of information, their actions and results providing a lasting resource that is assessed for clarity, technical content and relevance.

Exit Award: Ordinary Degree (BSc) upon successful completion of 300 credits (60 credits at Level 6)

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
- **Additional considerations for apprenticeships:**
 - how the delivery of the academic award fits in with the broader apprenticeship
 - the integration of the 'on the job' and 'off the job' training
 - how the academic award fits within the assessment of the apprenticeship

On commencing the course, students choose the between the Computer Science programme continuing or one of three pathways leading to named awards:

- Computer Science (Software Development)
- Computer Science (Networking)
- Computer Science (Cyber Security)

These are indicated with different colours above and tabulated in Annex 2 to this document. Whether a programme is 'and' or 'with' reflects the percentage of the programme dedicated to the additional subject – half (180 credits) for 'and'; a third (90 credits) for 'with'. The rationale for these pathways is set out in the Programme Description Document.

Students joining the course at level 6, after completing a Foundation Degree, follow the BSc Computer Science programme.

5. Support for students and their learning.

(For apprenticeships this should include details of how student learning is supported in the workplace)

Whilst studying at UCP, students are provided with academic support through a variety of mechanisms. Regular tutorial sessions are built into all courses delivered at UCP to provide students with the opportunity to access specialist support from their lecturers. Sessions offer both group and one to one assessment support for students, allowing them to gain formative feedback on work and discuss their overall performance on the course and address any welfare concerns. Each tutorial scheme has learning partnership as its core theme, with the Level 4 tutorial scheme focussing on preparing to study and academic skills, Level 5 on developing skills and autonomy and Level 6 on progression and transferrable skills. Tutors have an open office policy, and the HE Managers host a daily student surgery so that concerns can be addressed promptly.

UCP also offers an additional Study Excellence programme which students can access if further support is required in developing more generic academic and employability skills. A

series of optional lunch-time sessions cover issues such as developing academic writing techniques, undertaking effective academic research to support dissertations, and forming coherent and well-structured arguments.

To further underline the importance that UCP places on the development of these skills, the institution used the revalidation of the ARU provision to introduce a new approach to developing Academic Skills into each year of the revised courses, either as stand-alone modules or through embedding the content into other relevant modules. The module aims to formalise the topics delivered within the Study Excellence programme, providing students with academic credit for completing the modules. Commencing for all new entrants in 2019, modules at Level 4 will introduce and develop the underpinning skills required for higher education study, with each year that follows providing a more contextual focus on the academic skills needed for the discipline. An example of a distinct module that has been developed to achieve this is the Academic and Professional Skills for Social Scientists, which is a core module for all students on social science degrees.

UCP also offers additional English as an Additional Language (EAL) lunchtime sessions for students who need extra help to articulate their ideas effectively. In common with Study Excellence, these sessions are available to any student who wishes to improve their grades, not just those at the lower end of the grade profile. Statistical analysis has evidenced that students who habitually use UCP's EAL support from the start of their studies achieve a higher classification than those who decline the support.

Following a successful trial within the BA (Hons) Psychosocial Studies course, UCP has adopted an approach to offer peer support to students via a Vertical Mentoring Scheme. It was initially identified that mature students were less likely to participate in extracurricular activities due to external commitments, yet extracurricular activities enhance student experience and performance. The Vertical Mentoring Scheme was established to try to improve mature student engagement. Initially, Level 6 students mentored Level 4 students over lunchtimes. They were fully trained to scaffold support and provide effective mentoring. Subsequently, alumni mentors took over this role and provided help and guidance to Levels 4, 5 and 6. Qualitative feedback revealed improved engagement in activities on and off-campus. Statistical analysis of grade profiles and NSS satisfaction highlighted substantial improvements. Due to its success, the scheme is being introduced into a variety of other undergraduate courses in 2019 and has been formally recognised as an area of focus within the UCP Teaching and Student Outcomes Strategy, and therefore we will utilise this practice on the new programme.

A dedicated Student Support Team ensures that there is easy access to a variety of services that can support students throughout their studies at UCP. The Student Support Officer and Student Advisor have ensured that the evolving needs of students in academic, pastoral and professional contexts can be supported. The team, working closely with the Student Officer, provides information and guidance on issues surrounding employability (explained further below), mental health, mitigations and extensions, and financial management via a range of activities from one to one advice sessions to large scale organised events. Issues surrounding the support of students are carefully considered at a number of institutional committee meetings, with updates and statistical reporting (on elements such as correlations in late submissions, number of extensions etc.) being consistently provided at Student Engagement Learning and Teaching Committee and Academic Board.

To further enhance the institution's interaction with local industry representatives, a new Employer and Community Consultative Group was established in March 2019. The group, which has evolved from the HE Steering Group, will provide crucial input into how the curriculum will develop to ensure that UCP produces employment-ready students in subjects with recognised skills gaps in the local and regional economy. Initially chaired by the Chair of the UCP Council, the guidance provided by the group will be heard directly by the senior authority at UCP, ensuring that the voice of employers is carefully considered when planning new courses or initiatives.

6. Criteria for admission

(For apprenticeships this should include details of how the criteria will be used with employers who will be recruiting apprentices.)

64 UCAS points with at least one qualification in a computing-related subject:

- A-levels (DDE or CC)
- BTEC (MPP)
- Cambridge Technicals (MPP)
- Access to HE (45 credits)

FD Computer Science at UCP can start Level 6 of the BSc (Hons) Computing & Information Systems to obtain a full honours degree.

HNC Computing can start Level 5 of the BSc (Hons) Computer Science to obtain a full honours degree.

HND Computing can start Level 6 of the BSc (Hons) Computer Science to obtain a full honours degree.

GCSE English language and mathematics at a minimum of grade C or grade 4.

If English is not your first language, you will require a recognised Level 2 English language qualification or an IELTS score of 6.0 (with 5.5 minimum in each skill) or an equivalent English Language qualification.

Admission to the programme is also possible for mature students without formal qualifications but with equivalent professional experience.

7. Language of study

English

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

N/A

9. For apprenticeships in England End Point Assessment (EPA).
(Summary of the approved assessment plan and how the academic award fits within this and the EPA)

N/A

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

University Centre Peterborough has 25 years' experience of delivering HE courses. Where the delivery team are not appropriately qualified at the level they will be teaching, they have many years of previous professional experience in their specialist field and some work part-time as consultants.

Each member of staff has consistently been graded in observations as good or better by the UCP/PRC quality department over the last 5 years. The department performs annual inspections for all subjects and also offers personal developmental coaches to improve and maintain teaching and learning standards. In addition, HE Managers at UCP conduct quality walk-ins during each semester to ensure consistent quality of provision.

Staff development is available at UCP/PRC at least three times a year, and staff actively participate in training events (e.g. Ethics, Scholarly writing and use of new technologies). Each new member of staff at UCP undergoes training and induction by the HE Managers. HE Staff also participate in Learning Teaching and Assessment meetings once a month to share good practice.

UCP has a Learning and Teaching lead for Higher Education to oversee the training needs of staff and to mentor and support applications for Higher Education Academy fellowship.

All the team attend the annual UCP HE Learning and Teaching Conference, which focuses on developing pedagogical skills. In addition, module evaluation surveys are undertaken per semester; however, the team regularly ask for feedback on module in class, via the student rep and at Student Engagement, Learning and Teaching meetings. This way, modules can be constantly adapted to student feedback if appropriate.

10. Changes made to the programme since last (re)validation

The programme went through a wide-ranging revalidation in 2016. Since this event, the course has undergone a number of small module and course amendments to respond to feedback from students and staff with regards to what works well and what required some changes to improve the learning and teaching experience.

Removal of most pass/fail elements in favour of fine graded assessments where students could be recognised and rewarded for going above and beyond the minimum expected brief. Rebalancing of assessment weightings in response to the changes to the pass/fail elements, and where some assessments had been underestimated in the scope of effort required by the student, these were given a higher weighting.

A few modules had the assessment method switched to better meet the learning outcomes defined.

Annexe 1: Curriculum map

Annexe 2: Programme Structure with pathways

Annexe 3: 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											
		A 1	A 2	A 3	B 1	B 2	B 3	C 1	C 2	C 3	D 1	D 2	
5	Programming Concepts	✓	✓		✓		✓	✓				✓	
	Web Design & Development	✓	✓		✓		✓	✓				✓	
	Developing Professional Skills		✓	✓	✓			✓		✓			✓
	Systems Design & Development	✓	✓		✓			✓				✓	
	Networking Essentials	✓	✓		✓		✓	✓					✓
	Introduction to Cloud Computing	✓	✓		✓			✓					✓
	Managing a Successful Computing Project	✓	✓		✓		✓	✓					✓
	Games Design	✓	✓		✓			✓					✓
	User Experience and Interaction Design	✓	✓		✓		✓	✓				✓	

Level	Study module/unit	Programme outcomes											
		A 1	A 2	A 3	B 1	B 2	B 3	C 1	C 2	C 3	D 1	D 2	
5	Developing Interactive Web		✓		✓			✓			✓		
	Computing Research Project	✓				✓	✓	✓		✓			✓
	Principles of Digital Security	✓			✓			✓	✓				✓
	Advanced Database Design	✓			✓			✓				✓	
	Object-Oriented Programming	✓			✓			✓				✓	
	Database Driven Web		✓		✓			✓					✓
	Advanced Programming Techniques & Patterns	✓			✓		✓	✓					✓
	Advanced Network Switching and Routing	✓	✓		✓		✓	✓					✓
	Management of IT	✓			✓		✓	✓					✓
	Wireless Networking and IoT	✓					✓	✓					✓
	e-commerce & e-crime		✓			✓			✓				✓
	Business Intelligence	✓	✓		✓			✓				✓	
	Emerging Technology	✓		✓			✓		✓			✓	
	Games Development	✓	✓		✓						✓	✓	

		Programme outcomes										
Level	Study module/unit	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2
6	Undergraduate Major Project	✓		✓		✓	✓	✓	✓		✓	✓
	Professional and Ethical Issues			✓			✓		✓	✓		✓
	Agile Team Development	✓	✓		✓			✓			✓	
	Big Data & Data Mining	✓		✓		✓	✓	✓				✓
	Artificial Intelligence	✓	✓		✓		✓	✓	✓		✓	
	Mobile Application Development	✓	✓		✓			✓			✓	
	Full Stack Application Development	✓	✓		✓			✓				✓
	Enterprise Networking	✓	✓		✓			✓			✓	
	Ethical Hacking	✓		✓			✓	✓	✓			✓
	Cryptography	✓		✓			✓	✓			✓	
	Digital Forensics	✓		✓			✓	✓				✓
	Ethical Hacking	✓	✓		✓				✓		✓	

Annexe 2 – Programme Structure with Pathways

	BSc (Hons) Computer Science		BSc (Hons) Computer Science with (Software Development)		BSc (Hons) Computer Science (Networking)		BSc (Hons) Computer Science with (Cyber Security)		Additional Optional Modules	
Lvl 4	15	Programming Concepts	15	Programming Concepts	15	Programming Concepts	15	Programming Concepts		
	15	Web Design & Development	15	Web Design & Development	15	Web Design & Development	15	Web Design & Development		
	15	Developing Professional Skills	15	Developing Professional Skills	15	Developing Professional Skills	15	Developing Professional Skills		
	30	Systems Design & Development	30	Systems Design & Development	30	Systems Design & Development	30	Systems Design & Development		
	15	Networking Essentials	15	Networking Essentials	15	Networking Essentials	15	Networking Essentials	15	Managing a Successful Computing Project
	15	Introduction to Cloud Computing	15	Introduction to Cloud Computing	15	Introduction to Cloud Computing	15	Introduction to Cloud Computing	15	Games Design
	15	L4 Option	15	L4 Option	15	L4 Option	15	L4 Option	15	User Experience and Interaction Design
Lvl 5	15	Developing Interactive Web	15	Developing Interactive Web	15	Developing Interactive Web	15	Developing Interactive Web		

	30	Computing Research Project	30	Computing Research Project	30	Computing Research Project	30	Computing Research Project		
	15	Principles of Digital Security	15	Principles of Digital Security	15	Principles of Digital Security	15	Principles of Digital Security		
	15	Advanced Database Design	15	Advanced Database Design	15	Advanced Database Design	15	Advanced Database Design		
	15	L5 Option	15	Object-Oriented Programming	15	Advanced Network Switching and Routing	15	Option: ANSaR, OOP	15	Business Intelligence
	15	L5 Option	15	Database Driven Web	15	Management of IT	15	Management of IT	15	Emerging Technology
	15	L5 Option	15	Advanced Programming Techniques & Patterns	15	Wireless Networking and IOT	15	e-commerce & e-crime	15	Games Development
Lvl 6	30	Undergraduate Major Project	30	Undergraduate Major Project	30	Undergraduate Major Project	30	Undergraduate Major Project		
	15	Professional and Ethical Issues	15	Professional and Ethical Issues	15	Professional and Ethical Issues	15	Professional and Ethical Issues		
	15	Agile Team Development	15	Agile Team Development	15	Agile Team Development	15	Agile Team Development		
	15	Big Data & Data Mining	15	Big Data & Data Mining	15	Big Data & Data Mining	15	Big Data & Data Mining		
	15	L6 Option	15	Artificial Intelligence	30	Enterprise Networking	15	Cryptography		
	15	L6 Option	15	Mobile Application Development			15	Digital Forensics		

	15	L6 Option	15	Full Stack Application Development	15	Ethical Hacking	15	Ethical Hacking		
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