

Title of Programme: Foundation Degree Computing Technologies

Programme Code: TCFDCT

For Collaborative: Franchise at West Herts College

Programme Specification

This programme specification is relevant to students entering:
01 September 2024

Associate Dean of School (Academic Quality Assurance):
Mariana Lilley



A programme specification is a collection of key information about a programme of study (or course). It identifies the aims and learning outcomes of the programme, lists the modules that make up each stage (or year) of the programme, and the teaching, learning and assessment methods used by teaching staff. It also describes the structure of the programme, its progression requirements and any programme-specific regulations. This information is therefore useful to potential students to help them choose the right programme of study, to current students on the programme, and to staff teaching and administering the programme.

Summary of amendments to the programme:

Section	Amendment

If you have any queries regarding the changes please email AQO@herts.ac.uk

Programme Specification Foundation Degree Computing Technologies

This programme specification (PS) is designed for prospective students, enrolled students, academic staff and potential employers. It provides a concise summary of the main features of the programme and the intended learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the teaching, learning and assessment methods, learning outcomes and content for each module can be found in Definitive Module Documents (DMDs) and Module Guides.

Section 1

Awarding Institution/Body	University of Hertfordshire
Teaching Institution	West Herts College
University/partner campuses	Not applicable
Programme accredited by	Not applicable
Final Qualification	Foundation Degree
All Final Award titles	FdSc Computing Technologies (Software Development)
(Qualification and Subject)	FdSc Computing Technologies (Networks and Cybersecurity)
FHEQ level of award	5

A. Programme Rationale

This Foundation Degree programme is designed to provide the essential skills, knowledge and understanding related to software development and networks and cyber security which will enable students to enter employment and/or progress to Honours Degree top-up in Computer Science disciplines.

Hertfordshire has a very high proportion of employment in pharmaceuticals, manufacturing, scientific research and development, and telecommunications. All these sectors require an intake of high calibre graduates in IT and related computing technologies. Such companies as Computacenter, EE, Kodak, Imagination Technologies, Epsom UK, Bank Machines are located in Hertfordshire and need to employ technology professionals.

Successful completion of the FdSc in Computing Technologies (Software Development) will provide career opportunities in the development, engineering and production of software. This could be within a software specialised organisation as its main core business or within any organisation that develops and maintains in-house software. This programme will prepare students for jobs in software development, software engineering, systems analysis, and operating systems.

Successful completion of the FdSc in Computing Technologies (Networks and Cybersecurity) will provide career opportunities as network technicians, network administrators, network engineers, network programmer/analyst, and network/information systems managers. virtualization and cloud computing developer, network security engineer.

Successful completion of any of the FdSc awards in Computing Technologies will guarantee of a place on an appropriate Honours degree at the University of Hertfordshire.

The programme provides an education in Computing Technologies and put emphasis on personal development, employability and the international context through their Computing in Organisations module.

The programme is designed to enable all students to sample a range of computing and computing technologies topics at level 4 before choosing a specialist route at Level 5 and meet the individual needs of students, allowing them to make choices which match their developing career aspirations.

The structure of this programme is modular in nature and therefore students accumulate credit as they pass each module. The programme integrates academic and vocational learning in close collaboration with employers. The programme has 60 credits of work-based learning modules (30 credits at Level 4 and 30 credits at Level 5), and students are required to undertake a work-based learning project related to their chosen pathway.

B. Educational Aims of the Programme

Diversity and Inclusion

Our programmes are purposefully designed to enable all students to engage meaningfully with the curriculum by being accessible and representative. We will support students to shape their learning experience, removing barriers and enabling them to succeed. The curriculum explicitly includes multiple and representative perspectives, valuing collective identities and individual diversity. Learning, teaching and assessment activities help students to understand how they can enhance outcomes both for themselves and for others. All students belong to a learning community, and during their studies we really want to hear their voices, encourage them to listen to others, and express themselves.

The programme has been devised in accordance with the University's graduate attributes of programmes of study as set out in [UPR TL03](#).

Additionally this programme aims to:

- prepare students for a career in Computing Technologies and related fields;
- provide students with a thorough understanding of computing and IT practices in local, national and international contexts through its Computing in Organisations module;
- develop students' practical, transferable, intellectual, study, employability and enterprise skills;
- enable students to apply their learning in work-related contexts;
- equip students for further academic study;
- provide progression routes to appropriate degree programmes at the University of Hertfordshire.

Graduate Attributes

Our graduates will be capable and professional, creative and enterprising, and will build their social and global awareness throughout. In addition to their subject expertise and proficiency, as a University of Hertfordshire graduate, they will be:

- Professionally focused
 - Globally minded
 - Sustainability driven
 - Digitally capable and confident
 - Inclusive and collaborative
 - Evidence based and ethical
-

C. Intended Learning Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills and other attributes in the following areas. The programme outcomes are referenced to the QAA benchmark statements for Computing and the Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies (2014) and relate to the typical student. Additionally, the SEEC Credit Level Descriptors for Further and Higher Education (2021) have been used as a guiding framework for curriculum design.

Knowledge and Understanding	Teaching and learning methods	Assessment strategy
<p>A1- Demonstrate knowledge and understanding of IT principles.</p> <p>A2- Demonstrate knowledge and understanding of how computer-based technologies related to Software Development operate and communicate with one another.</p> <p>A3- Demonstrate knowledge and understanding of a range of techniques and technologies related to Software Development that support the processes that lead to a computerised solution to a problem.</p> <p>A4- Demonstrate knowledge and understanding of how computer-based technologies related to Networks and Cybersecurity operate and communicate with one another.</p> <p>A5- Demonstrate knowledge and understanding of a range of techniques and technologies related to Networks and Cybersecurity that support the processes that lead to a computerised solution to a problem.</p> <p>Additionally for Computer Science (Networks and Cybersecurity) pathway</p> <p>A6- Demonstrate critical understanding of networks and cybersecurity principles.</p> <p>Additionally for Computer Science (Software Development) pathway</p> <p>A7- Demonstrate critical understanding of software development principles.</p>	<p>Acquisition of knowledge and understanding is through a combination of lectures (A1 to A6), small group tutorials (A1-A5) and laboratory work (computer labs) at levels 4 and 5.</p> <p>Throughout, the learner is encouraged to undertake independent study both to supplement and consolidate what is being taught/learnt and to broaden their individual knowledge and understanding of the subject.</p>	<p>Knowledge and understanding are assessed through a combination of assessed in-course assessments (A1-A6), in the form of practical demonstrations (A1-A6), and project reports and presentations (A1-A6).</p>
Intellectual skills	Teaching and learning methods	Assessment strategy
<p>B1- Initiate and undertake critical analysis of information, and to propose</p>	<p>Intellectual skills are developed through methods and strategies outlined in section A, above.</p>	<p>Intellectual skills are assessed through analysis</p>

<p>solutions to problems arising from that analysis.</p> <p>B2- Identify and analyse concepts related to computational thinking, including its relevance to everyday life.</p> <p>B3- Identify and analyse essential facts, concepts, principles and theories relating to computing and computer applications.</p> <p>B4- Apply knowledge and understanding to the modeling and design of computer-based systems for the purposes of comprehension, communication, prediction and the understanding of trade-offs.</p> <p>B5- Identify and analyse the requirements and practical constraints on software development.</p> <p>B6- Identify and analyse the requirements and practical constraints on networking systems.</p> <p>B7- Deploy appropriate theory, practices and tools for the requirements analysis, specification, design and implementation of IT systems.</p> <p>B8- Analyse the extent to which a computer- based meets the criteria defined for its current use and future development.</p>	<p>These can be through a series of computer labs and workshops sessions. Analysis, problem solving and modeling skills are further developed through tutorial work, practical assignments and in- course assessments.</p> <p>Throughout, the learner is encouraged to develop intellectual skills further by independent study.</p>	<p>and problem solving (B1, B2,B3, B7, B8).</p> <p>Modelling skills (B4) are assessed through unseen examination papers, laboratory reports and coursework related to in- course exercises.</p> <p>Systems requirements (B5, B6) are assessed through assignments and case studies.</p> <p>Intellectual skills are also assessed by unseen examination papers, assignments and coursework related to in- course exercises, case study reports, presentations and project reports.</p>
Practical skills	Teaching and learning methods	Assessment strategy
<p>C1- Apply underlying IT concepts and principles.</p> <p>C2- Operate computing equipment effectively taking into account its logical and physical properties.</p>	<p>Practical skills are developed through methods and strategies outlined in section A, above.</p> <p>These can be through a series of computer labs and workshops sessions. Analysis, problem solving and modeling skills are further developed through tutorial</p>	<p>Practical skills are assessed through laboratory reports (C2, C4, C5, C6, C7), coursework assignments (C1-C9), design exercise submissions (C1), case study reports (C2), presentations (C3, C5, c6)</p>

<p>C3- Apply computing skills to a work-based learning project.</p> <p>C4- Effectively deploy 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.</p> <p>C5- Specify and design computer-based systems.</p> <p>C6- Evaluate software development in terms of general quality attributes and possible trade-offs presented within the given problem.</p> <p>C7- Evaluate networking systems in terms of general quality attributes and possible trade-offs presented within the given problem.</p> <p>C8- Recognise any risks or safety aspects that may be involved in the operation of computing equipment within a given context.</p> <p>C9- 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 principles.</p>	<p>work, practical assignments and in- course assessments.</p> <p>Throughout, the learner is expected to consolidate their development of practical computing skills by use of personal computers available in the LRC and computer labs supported by independent study.</p>	<p>and project reports (C3, C8, C9).</p>
Transferable skills	Teaching and learning methods	Assessment strategy
<p>D1- Present succinctly to a range of audiences (orally, electronically or in writing) rational and reasoned arguments that address a given information handling problem or opportunity. This should include assessment of the impact of new technologies.</p> <p>D2-Research and manage information (including the use</p>	<p>Transferable skills are developed through D1-D6 practical assignments, coursework reports, oral presentations and project reports.</p> <p>Throughout, the learner is encouraged to develop transferable skills by maintaining a record of evidence and completing a personal development plan.</p>	<p>Transferable skills are assessed through a range of assignments built into the curriculum - coursework reports (D1, D2, D3), oral presentations (D1, D3), project reports and project management work(D1-D8).</p>

of browsers, search engines and catalogues).

D3- Work effectively within a team recognising the different roles within a team and different ways of organising teams.

D4- Exercise personal responsibility and decision-making, including time management and organisational skills.

D5- Appreciate the need for continuing professional development and utilise opportunities for lifelong learning.

D6- Apply numerical and quantitative skills appropriately.

D. Programme Structures, Features, Levels, Modules, and Credits

The programme is offered in full-time (2 years – 4 semesters) mode, and leads to the award of a Foundation Degree in Computing Technologies.

Professional and Statutory Regulatory Bodies

Not applicable.

Work-Based Learning, including Sandwich Programmes

Work-Based Learning (WBL) and engagement with employers is central to the foundation degree concept and has been embraced in this programme through an ethos and definition of WBL as “learning through, for and at work”. The programme has been designed to reflect the real-life experience of working in a business environment and IT industry, developing the students to work independently, in teams and for themselves in a variety of business-oriented activities. Whilst the WBL modules in the programme are the focal point for developing employability skills and engagement with employers, they are not the sole points in the programme of such engagement. There is an emphasis throughout on real life case studies and briefs which culminate in the final-year WBL module putting “the needs of an organisation” at the heart of the project. Such organisations will commonly be SMEs (small and medium enterprises) but could also include large employers, public services, charities and not-for-profit groups.

Student Exchange programme

Incoming Exchange

Not applicable.

Study Abroad

Not applicable.

Programme Structure

The programme structure and progression information below (Table 1a and 1b) is provided for the Honours award. Any interim awards are identified in Table 1b. The Programme Learning Outcomes detailed above are developed and assessed through the constituent modules. Table 2 identifies where each learning outcome is assessed.

Once students have chosen their pathway at level 5, they will be required to complete all the compulsory modules relating to their chosen pathway. Students will need to retake all award specific modules if they decide to change awards.

Table 1a Outline Programme Structure: FdSc Computing Technologies (Software Development)

Mode of study Full-time

Entry point Semester A

Level 4

	Module Code	Credit Points	% Test	% Examination	% Coursework	% Practical	Semesters
Compulsory Modules							
Module Title							
Developing the Computing Professional	4FTC1336	15	0	0	100	0	A
Programming Concepts	4FTC1338	15	0	0	100	0	A
Topics in Computer Systems	4FTC1340	15	0	0	100	0	A
Designing for User Experience	4FTC1344	15	30	0	70	0	A
Applied Networking	4FTC2125	15	0	0	100	0	B
Applied Programming	4FTC1346	15	0	0	100	0	B
Project Management	4FTC1350	15	0	0	100	0	B
Networking Fundamentals	4FTC1349	15	0	0	100	0	B

Level 5

	Module Code	Credit Points	% Test	% Examination	% Coursework	% Practical	Semesters
Compulsory Modules							
Module Title							
Software Development 1	5FTC1307	15	0	0	100	0	A
Data Analysis and Database Design	5FTC1315	15	30	0	70	0	A
Web Technologies	5FTC2167	15	0	0	100	0	A
Work-Based Learning Project – Software Development	5FTC1311	30	0	0	80	20	AB
Computing in Organisations	5FTC1321	15	0	0	100	0	B
Software Development 2	5FTC1323	15	0	0	100	0	B
Object Oriented Programming	5FTC1332	15	30	0	70	0	B

Progression to level 5 requires a minimum of 90 credits.

Table 1a Outline Programme Structure: FdSc Computing Technologies (Networks and Cybersecurity)

Mode of study Full-time

Entry point Semester A

Level 4

	Module Code	Credit Points	% Test	% Examination	% Coursework	% Practical	Semesters
Compulsory Modules							
Module Title							
Developing the Computing Professional	4FTC1336	15	0	0	100	0	A
Programming Concepts	4FTC1338	15	0	0	100	0	A
Topics in Computer Systems	4FTC1340	15	0	0	100	0	A
Designing for User Experience	4FTC1344	15	30	0	70	0	A
Applied Networking	4FTC2125	15	0	0	100	0	B
Applied Programming	4FTC1346	15	0	0	100	0	B
Project Management	4FTC1350	15	0	0	100	0	B
Networking Fundamentals	4FTC1349	15	0	0	100	0	B

Level 5

	Module Code	Credit Points	% Test	% Examination	% Coursework	% Practical	Semesters
Compulsory Modules							
Module Title							
Data Analysis and Database Design	5FTC1315	15	30	0	70	0	A
Routing and Switching Concepts	5FTC1321	15	0	0	100	0	A
Web Technologies	5FTC2167	15	0	0	100	0	A
Work-Based Learning Project – Networks and Cybersecurity	5FTC1313	30	0	0	80	20	AB
Computing in Organisations	5FTC1321	15	0	0	100	0	B
Network Protocols and Cybersecurity	5FTC1327	15	0	0	100	0	B
WAN Protocols and Cybersecurity	5FTC1333	15	0	0	100	0	B

Progression to level 5 requires a minimum of 90 credits.

Honours classification

The University has approved structure and assessment regulations common to all programmes. Full details are provided in [UPR AS14](#), Section D.

Table 1b Final and interim awards available

The programme provides the following final and interim awards:

Final Award	Award Title	Minimum requirements	Available at end of Level	Programme Learning Outcomes developed (see above)
FdSc	Computing Technologies (Software Development)	240 credit points including at least 120 at level 5	5	All programme learning outcomes apart from A4, A5, A6 (see Table 2a)
FdSc	Computing Technologies (Networks and Cybersecurity)	240 credit points including at least 120 at level 5	5	All programme learning outcomes apart from A2, A3, A7 (see Table 2b)

Interim Award	Award Title	Minimum requirements	Available at end of Level	Programme Learning Outcomes developed (see above)
University Certificate		45 credit points at level 4	4	See UPR AS11, section 13: http://sitem.herts.ac.uk/secreg/upr/AS11.htm
Certificate of Higher Education		120 credit points at level 4	4, 5	See UPR AS11, section 13: http://sitem.herts.ac.uk/secreg/upr/AS11.htm

Programme-specific assessment regulations

The programme complies with the University's academic regulations (in particular, [UPR AS11](#), [UPR AS13](#) and [UPR AS14](#)) with the exception of those listed below, which have been approved by the University:

- The Work Based Learning modules level 5 (Work-Based Learning Project – Software Development 5FTC1311 and Work-Based Learning Project - Networks and Cybersecurity 5FTC1313) cannot be compensated.
- The maximum period of registration on the Foundation Degree programme is 5 years.

Progression to the University's Degree Programmes:

There is a formal articulation arrangement in place for this programme, such that students are given progression to the second (level 5) or final year (level 6) of an appropriate BSc Honours programme, normally the BSc in IT or BSc in Computer Science, depending on the overall marks obtained following the second year of study. An overall grade of 50% or above will allow a progression onto the final year of the BSc Honours programme.

Students expressing the preference early in level 5 of the foundation degree are also able to enter the sandwich placement year or Year Abroad, of the BSc Honours programme. This is subject to successfully obtaining an approved placement of the appropriate duration.

Students who enter level 5 of the BSc programme are able to progress onto any of the awards as described below:

- BSc (Hons) Computer Science
- BSc (Hons) Information Technology
- BSc (Hons) Computer Science (Artificial Intelligence)
- BSc (Hons) Computer Science (Cyber Security and Networks)
- BSc (Hons) Computer Science (Software Engineering)

All of the above listed awards are available as a sandwich award or a year abroad award.

Students who enter level 6 of the BSc programme are able to progress onto the awards listed below:

FdSc Computing Technologies (Software Development)

- BSc (Hons) Computer Science
- BSc (Hons) Information Technology
- BSc (Hons) Computer Science (Software Engineering)

FdSc Computing Technologies (Networks and Cybersecurity)

- BSc (Hons) Computer Science
- BSc (Hons) Information Technology
- BSc (Hons) Computer Science (Networks)

Students entering at level 6 also have the option of joining the sandwich placement year or Year Abroad elements of the BSc Computer Science (and all the awards listed above, subject to successfully obtaining an approved placement or year abroad of the appropriate duration)

In addition, all students can progress onto the BSc (Hons) Computer Science (delivered online).

E. Management of Programme & Support for student learning.

Management

The programme is managed and administered through:

- The Programme manager, who is responsible for advising students on the programme as a whole and chairing the programme committee.
- A designated UH-based Collaborative Partnership Leader.
- Student representatives on programme committees.
- Module Leaders.
- A designated administrative team to deal with day-to-day administration associated with the modules within the programme.

Support

Students are supported by:

- An induction week at the beginning of each new academic session.
- A college-based personal tutor to provide academic and pastoral support. Sessions are timetabled to provide guidance, support and monitoring of progress.
- Student representatives on programme committees, opportunities for feedback via module feedback questionnaires and student forums.
- Excellent facilities in college and on UH campus, which include; fast computer intranet systems, business and computer suites, CISCO network cabinets, a gym, sports hall and fitness centre, and dedicated HE areas.

- Strong links with local employers, a careers service for all current students and graduates.
- A designated programme administrator.
- A versatile on-line inter-active intranet and learning environment.
- Guided student-centred learning on Canvas module sites.
- Access to extensive digital and print collections of information resources.
- Attractive modern study environments in 2 Learning Resources Centres.
- Medical Centre.
- University Disability Advisors.
- Careers and Employment.
- Hertfordshire Student's Union.
- Dedicated programme site.

F. Other sources of information

In addition to this Programme Specification, the University publishes guidance to registered students on the programme and its constituent modules:

- A dedicated programme site
- A Definitive Module Document (DMD) for each constituent module;

The [Ask Herts](#) website provides information on a wide range of resources and services available at the University of Hertfordshire including academic support, accommodation, fees, funding, visas, wellbeing services and student societies.

As a condition of registration, all students of the University of Hertfordshire are required to comply with the University's rules, regulations and procedures. These are published in a series of documents called 'University Policies and Regulations' (UPRs). The University requires that all students consult these documents which are available on-line, on the UPR web site, at: <http://www.herts.ac.uk/secreg/upr/>. In particular, [UPR SA07](#) 'Regulations and Advice for Students' Particular Attention - Index' provides information on the UPRs that contain the academic regulations of particular relevance for undergraduate and taught postgraduate students.

In accordance with section 4(5) of the Higher Education and Research Act 2017 (HERA), the UK Office for Students (OfS) has registered the University of Hertfordshire in the register of English higher education providers. The Register can be viewed at: <https://www.officeforstudents.org.uk/advice-and-guidance/the-register/the-ofs-register/>.

G. Entry requirements

Entry is normally at level 4 (A-level or equivalent qualifications) but is possible at level 5 with suitable level 4 qualifications. Intake is normally semester A (September).

For current entry tariff point requirements, please refer to the relevant page for the Course on the University website or on the online prospectus.

The programme is subject to the University's Principles, Policies and Regulations for the Admission of Students to Undergraduate and Taught Postgraduate Programmes (in [UPR SA03](#)), along with associated procedures. These will take account of University policy and guidelines for assessing accredited prior certificated learning (APCL) and accredited prior experiential learning (APEL).

If you would like this information in an alternative format please contact:
consortium@herts.ac.uk

If you wish to receive a copy of the latest External Examiner's Report for the programme, please email a request to aqo@herts.ac.uk

FdSc Computing Technologies (Software Development)

Table 2a: Development of Intended Programme Learning Outcomes in the Constituent Modules

This map identifies where the programme learning outcomes are delivered and assessed in the constituent modules. It provides (i) an aid to academic staff in understanding how individual modules contribute to the programme aims (ii) a checklist for quality control purposes and (iii) a means to help students monitor their own learning, personal and professional development as the programme progresses.

			Programme Learning Outcomes (as identified in section 1 and the following page)																													
			Knowledge & Understanding							Intellectual Skills								Practical Skills									Transferable Skills					
Module Title		Module Code	A1	A2	A3	A4	A5	A6	A7	B1	B2	B3	B4	B5	B6	B7	B8	C1	C2	C3	C4	C5	C6	C7	C8	C9	D1	D2	D3	D4	D5	D6
Level 4	Developing the computing professional	4FTC1336	X								X	X														X	X	X		X	X	X
	Programming Concepts	4FTC1338		X	X			X		X	X	X	X			X		X			X									X		X
	Applied Programming	4FTC1346		X	X			X		X	X	X	X			X	X	X	X		X	X				X				X		X
	Topics in Computer Systems	4FTC1340	X									X	X			X	X	X	X		X	X			X		X	X		X		X
	Networking Fundamentals	4FTC1349				X	X	X			X	X	X			X	X	X	X		X	X			X	X				X		X
	Project Management	4FTC1350	X					X		X	X	X				X		X								X		X		X	X	X
	Applied Networking	4FTC2125	X			X	X	X		X	X	X	X			X	X	X			X	X			X	X	X			X	X	X
Designing for User Experience	4FTC1344	X	X	X			X		X	X	X	X			X	X	X	X		X	X			X	X	X	X	X			X	
Level 5	Work-Based Learning Project - Software Development	5FTC1311	X	X	X			X	X	X	X	X		X		X	X	X		X	X	X	X		X	X	X	X		X	X	X
	Data Analysis and Database Design	5FTC1315		X	X			X		X	X	X				X	X					X					X	X	X	X		X
	Web Technologies	5FTC2167	X	X	X			X		X	X	X	X				X	X							X	X		X				
	Computing in Organisations	5FTC1321	X					X		X	X	X	X					X									X	X	X	X	X	X
	Software Development 1	5FTC1307		X	X				X	X	X	X	X			X		X	X	X			X							X		X
	Software Development 2	5FTC1323		X	X				X	X	X	X	X			X		X	X	X			X							X		X
	Object Oriented Programming	5FTC1332		X	X				X		X	X		X			X					X						X				

FdSc Computing Technologies (Networks and Cybersecurity)

Table 2b: Development of Intended Programme Learning Outcomes in the Constituent Modules

This map identifies where the programme learning outcomes are delivered and assessed in the constituent modules. It provides (i) an aid to academic staff in understanding how individual modules contribute to the programme aims (ii) a checklist for quality control purposes and (iii) a means to help students monitor their own learning, personal and professional development as the programme progresses.

			Programme Learning Outcomes (as identified in section 1 and the following page)																															
			Knowledge & Understanding							Intellectual Skills								Practical Skills									Transferable Skills							
Module Title		Module Code	A1	A2	A3	A4	A5	A6	A7	B1	B2	B3	B4	B5	B6	B7	B8	C1	C2	C3	C4	C5	C6	C7	C8	C9	D1	D2	D3	D4	D5	D6		
Level 4	Developing the computing professional	4FTC1336	X								X	X														X	X	X		X	X	X		
	Programming Concepts	4FTC1338		X	X					X	X	X	X				X		X			X								X		X		
	Applied Programming	4FTC1346		X	X					X	X	X	X				X	X	X	X		X	X				X				X		X	
	Topics in Computer Systems	4FTC1340	X									X	X				X	X	X	X		X	X			X		X	X		X		X	
	Networking Fundamentals	4FTC1349				X	X				X	X	X				X	X	X	X		X	X			X	X				X		X	
	Project Management	4FTC1350	X								X	X	X				X		X								X		X		X	X	X	
	Applied Networking	4FTC2125	X			X	X				X	X	X	X			X	X	X			X	X			X	X	X			X	X	X	
	Designing for User Experience	4FTC1344	X	X	X						X	X	X	X			X	X	X	X		X	X			X	X	X	X	X			X	
Level 5	Work-Based Learning Project - Networks and Cybersecurity	5FTC1313	X			X	X	X			X	X	X			X	X	X	X		X	X	X		X	X	X	X	X		X	X	X	
	Data Analysis and Database Design	5FTC1315		X	X						X	X	X				X	X					X					X	X	X	X		X	
	Web Technologies	5FTC2167	X	X	X						X	X	X	X				X	X						X	X		X						
	Computing in Organisations	5FTC1321	X								X	X	X	X				X										X	X	X	X	X	X	
	Routing and Switching Concepts	5FTC1319	X			X	X	X			X	X	X	X			X	X	X	X		X	X			X	X		X		X	X	X	
	Network Protocols and Cybersecurity	5FTC1327	X			X	X	X			X	X	X	X			X	X	X	X		X	X			X	X		X	X		X	X	X
	WAN Protocols and Cybersecurity	5FTC1333	X			X	X	X			X	X				X	X			X		X					X				X	X		

KEY TO PROGRAMME LEARNING OUTCOMES

Knowledge and Understanding

- A1. Demonstrate knowledge and understanding of IT principles.
- A2. Demonstrate knowledge and understanding of how computer-based technologies related to Software Development operate and communicate with one another.
- A3. Demonstrate knowledge and understanding of a range of techniques and technologies related to Software Development that support the processes that lead to a computerised solution to a problem.
- A4. Demonstrate knowledge and understanding of how computer-based technologies related to Networks and Cybersecurity operate and communicate with one another.
- A5. Demonstrate knowledge and understanding of a range of techniques and technologies related to Networks and Cybersecurity that support the processes that lead to a computerised solution to a problem.
- A6. Demonstrate critical understanding of networks and cybersecurity principles.
- A7. Demonstrate critical understanding of software development principles.

Intellectual Skills

- B1. Initiate and undertake critical analysis of information, and to propose solutions to problems arising from that analysis.
- B2. Identify and analyse concepts related to computational thinking, including its relevance to everyday life.
- B3. Identify and analyse essential facts, concepts, principles and theories relating to computing and computer applications.

Practical Skills

- C1. Apply underlying IT concepts and principles.
- C2. Operate computing equipment effectively taking into account its logical and physical properties.
- C3. Apply computing skills to a work-based learning project.
- C4. Effectively deploy 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.
- C5. Specify and design computer-based systems.
- C6. Evaluate software development in terms of general quality attributes and possible trade-offs presented within the given problem.
- C7. Evaluate networking systems in terms of general quality attributes and possible trade-offs presented within the given problem.
- C8. Recognise any risks or safety aspects that may be involved in the operation of computing equipment within a given context.
- C9. 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 principles.

Transferable Skills

- D1. Present succinctly to a range of audiences (orally, electronically or in writing) rational and reasoned arguments that address a given information handling problem or opportunity. This should include assessment of the impact of new technologies.
- D2. Retrieve effective information (including the use of browsers, search engines and catalogues).
- D3. Retrieve effective information (including the use of browsers, search engines and catalogues).

- B4. Apply knowledge and understanding to the modelling and design of computer-based systems for the purposes of comprehension, communication, prediction and the understanding of trade-offs.
- B5. Identify and analyse the requirements and practical constraints on software development.
- B6. Identify and analyse the requirements and practical constraints on networking systems.
- B7. Deploy appropriate theory, practices and tools for the requirements analysis, specification, design and implementation of IT systems.
- B8. Analyse the extent to which a computer- based meets the criteria defined for its current use and future development.

- D4. Work effectively within a team recognising the different roles within a team and different ways of organising teams.
- D5. Exercise personal responsibility and decision-making, including time management and organisational skills.
- D6. Apply numerical and quantitative skills appropriately.

Table 3: Development of Graduate Attributes in the Constituent Modules

This map identifies where the Graduate Attributes are delivered in the constituent modules. It provides (i) an aid to academic staff in understanding how individual modules contribute to the development of the Graduate Attributes (ii) a checklist for quality control purposes and (iii) a means to help students monitor their own personal and professional development as the programme progresses. [Note that there is no requirement for the Graduate Attributes to be assessed through these modules]

D = Delivered

	Module Title	Module Code	Professionally Focused	Globally Minded	Sustainability Driven	Digitally capable & confident	Inclusive and collaborative	Evidenced based and Ethical
Level 4	Developing the computing professional	4FTC1336	D	D	D	D	D	D
	Programming Concepts	4FTC1338				D		D
	Applied Programming	4FTC1346				D	D	D
	Topics in Computer Systems	4FTC1340				D		D
	Networking Fundamentals	4FTC1349				D		D
	Project Management	4FTC1350				D	D	D
	Applied Networking	4FTC2125				D		D
	Designing for User Experience	4FTC1344				D		D
Level 5	Work-Based Learning Project - Networks and Cybersecurity	5FTC1313	D			D		D
	Work-Based Learning Project - Software Development	5FTC1311	D			D		D
	Data Analysis and Database Design	5FTC1315				D	D	D
	Web Technologies	5FTC2167		D		D		D
	Computing in Organisations	5FTC1321	D	D	D	D	D	D
	Software Development 1	5FTC1307				D	D	D
	Software Development 2	5FTC1323				D		D
	Object Oriented Programming	5FTC1332				D		D
	Routing and Switching Concepts	5FTC1319				D		D
	Network Protocols and Cybersecurity	5FTC1327				D		D
	WAN Protocols and Cybersecurity	5FTC1333				D		D

Section 2

Programme management

Relevant QAA subject benchmarking statements

Type of programme

Date of validation/last periodic review

Date of production/ last revision of PS

Relevant to level/cohort

Administrative School

Language of Delivery

Computing

Undergraduate

November 23

December 23

Level 4 entering September 2024

School of Physics, Engineering & Computer Science

English

Table 4 Course structure

Course details			
Course Code	Course Description	HECOS	UCAS
PEWHCSFD	FdSc Computing Technologies (Software Development)	100366	I310
PEWHCNFD	FdSc Computing Technologies (Networks and Cybersecurity)	100366	I120