

School of Computer Science

Title of Programme: Foundation Degree Computing Technologies

Leading to the following awards:

FdSc Computing Technologies (Web Based Technologies)
FdSc Computing Technologies (Software Development)
FdSc Computing Technologies (Networks and Cybersecurity)

Programme Code: TCFDCT

For Collaborative: Franchise at North Herts College, West Herts College

Programme Specification

This programme specification is relevant to students entering:
01 September 2018

Associate Dean of School (Academic Quality Assurance):
Simon Trainis

Signature



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
D	Assessment weightings in Table 1a
Table 1a & Table 2	Correct names of L5 WBL project modules (sat).
Table 1a	Corrected 5ftc1312 and 1313 to make sure they are at correct colleges (sat).

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

Programme Specification

Foundation Degree Computing Technologies

FdSc Computing Technologies (Web Based Technologies)

FdSc Computing Technologies (Software Development)

FdSc Computing Technologies (Networks and Cybersecurity)

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 Teaching Institution	University of Hertfordshire North Hertfordshire College West Herts College
University/partner campuses	Not applicable
Programme accredited by	Not applicable
Final Qualification	Foundation Degree
All Final Award titles (Qualification and Subject)	FdSc Computing Technologies (Web Based Technologies) FdSc Computing Technologies (Software Development) FdSc Computing Technologies (Networks and Cybersecurity)
FHEQ level of award	5
UCAS code(s)	FdSc Computing Technologies (Web Based Technologies) – I150 FdSc Computing Technologies (Software Development) – I310 FdSc Computing Technologies (Networks and Cybersecurity) – I120
Language of Delivery	English

A. Programme Rationale

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

Job prospects related to these programmes:

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. Local Enterprise Partnership (LEP) expressed the desire to build on the county's key strengths in R&D, life sciences, telecoms and information technology and hi-tech engineering. Sectors such as low carbon technology were also highlighted as potential clusters. There is a growing labour demand for IT/ telecoms roles in the county. (source department for Business, Innovation and Skills – September 2015)

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, web programming, systems analysis, game development, smartphone apps 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, web 2.0 developer, network security engineer.

Successful completion of the FdSc in Computing Technologies (Web based Technologies) will provide career in, front and back end development, systems integration, web programmer, systems analyst, game developer, website development, smartphone apps and operating systems, search engine optimisation and cyber security opportunities.

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. This may be at the 2nd or 3rd year depending upon their overall performance.

Nature of the programmes

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

The programmes are 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 programmes will recruit full-time and part-time students. Full-time students will be mainly school or college leavers who have successfully completed a Level 3 FE qualification. This may be an A level or a BTEC National Diploma/certificate or equivalent or other suitable qualification. Part-time students will be typically be older students who are currently working in the IT industry and wish to pursue a career in computing industries.

The part-time delivery mode would involve the programme running for two years over 6 semesters, studying 120 credits per year. Students can also study at a slower part-time rate of study and would be able to study up to 3 modules in each semester but would have to complete the course within the maximum registration period (5 years).

The programmes have been designed so that successful students will have the skills and knowledge to work effectively within a range of roles across the sector. In particular they will be exposed to the application of knowledge and skills in the work place, through work-based learning, which is supported by classroom based learning. There is also the potential to gain full Cisco accreditation, as the CCNA 1,2, 3 and 4 are covered in the programme on the Networks and Cybersecurity pathway.

The structure of these programmes is modular in nature and therefore students accumulate credit as they pass each module. The programmes integrate academic and vocational learning in close collaboration with employers. The programmes have 60 credits of work - related learning (30 credits at Level 4 and 30 credits at Level 5). The Work Based Learning module at Level 5 cannot be compensated as it constitutes an essential part of the award. In addition, students are required to undertake a work-based learning project related to their chosen pathway.

Some teaching may take place at the University of Hertfordshire at both Level 4 and Level 5 although most will take place within the consortium colleges.

Students can gain a Foundation degree if they complete the full 240 credits. A range of interim awards are available for those students who are not successful in all of their modules.

B. Educational Aims of the Programme

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.

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 (2016) have been used as a guiding framework for curriculum design. The development team has also given careful consideration when developing these programmes to the University of Hertfordshire Foundation degree Model.

Knowledge and Understanding	Teaching and learning methods	Assessment strategy
<p>A1- Well-established principles of an IT professional and the way in which those principles have developed</p> <p>A2- How computer based technologies related to Web Based Technologies, Software Development, and Networks and Cybersecurity operate and communicate with one another.</p> <p>A3- A range of techniques and technologies related to Web Based Technologies, Software Development, and Networks and Cybersecurity that support the processes that lead to a computerised solution to a problem.</p> <p>A4- A variety of the factors that affect the usability of the human computer interface.</p> <p>A5- A critical understanding of the development, knowledge and content of the particular vocational pathway</p>	<p>Acquisition of knowledge and understanding is through a combination of lectures (A1 to A5), small group tutorials (A1-A3) 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 unseen examinations (A1 to A5), and assessed in-course assessments (A1-A5), in the form of practical assignments (A1-A5), phase tests (A1-A5), and project reports and presentations (A1-A5).</p>
Intellectual skills	Teaching and learning methods	Assessment strategy
<p>B1- Initiate and undertake critical analysis of information, and to propose solutions to problems arising from that analysis.</p> <p>B2- Understand concepts related to computational thinking in Web Based Technologies, Software Development, and Networks and Cybersecurity including its</p>	<p>Intellectual skills are developed through methods and strategies outlined in section A, above. 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>Intellectual skills are assessed through analysis and problem solving (B1, B2,B3, B6, 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</p>

<p>relevance to everyday life.</p> <p>B3- Demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to computing and computer applications.</p> <p>B4- Use such knowledge and understanding in the modeling and design of web based, Software Development and Networks and Cybersecurity-based systems for the purposes of comprehension, communication, prediction and the understanding of trade-offs.</p> <p>B5- Understand the requirements, practical constraints on web-based, software development and networking systems-based in their respective context</p> <p>B6- Deploy appropriate theory, practices and tools for the requirements analysis, specification, design and implementation of IT systems.</p> <p>B7- Analyse the extent to which a computer- based meets the criteria defined for its current use and future development.</p>	<p>(B5,B6, B7) 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>
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<u>Practical skills</u>	<u>Teaching and learning methods</u>	<u>Assessment strategy</u>
<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>C3- Integrate Web Based Technologies, Software Development, and</p>	<p>Practical skills are developed through methods and strategies outlined in section A, above. 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 expected to consolidate their</p>	<p>Practical skills are assessed through laboratory reports (C2, C4, C5, C6), coursework assignments (C1-C8), design exercise submissions (C1), case study reports (C2), presentations (C3, C5) and project reports (C3, C7, C8).</p>

<p>Networks and Cybersecurity related computing skills via 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- To evaluate web-based, software development and networking systems in terms of general quality attributes and possible trade-offs presented within the given problem.</p> <p>C7- Recognise any risks or safety aspects that may be involved in the operation of computing equipment within a given context.</p> <p>C8- 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>development of practical computing skills by use of personal computers available in the LRC and computer labs supported by independent study.</p>	
<p>Transferable skills</p>	<p>Teaching and learning methods</p>	<p>Assessment strategy</p>
<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</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</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>

assessment of the impact of new technologies

a record of evidence and completing a personal development plan.

D2- Retrieve effective information (including the use 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.

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 in September

Part-time students will typically be those currently working in the IT industry and wish to further develop a career in computing industries by enhancing their academic qualifications. Applicants to the part-time route may be required to demonstrate appropriate work experience.

The programmes are also accessible to mature students who either hold a Level 3 qualification in related subjects such as Computing, IT and Engineering and/or demonstrate relevant work experience.

The part-time delivery mode would involve the programme running for two years over 6 semesters, studying 120 credits per year. Students can also study at a slower part-time rate of study and would be able to study up to 3 modules in each semester but would have to complete the course within the maximum registration period (5 years).

Professional and Statutory Regulatory Bodies

n/a

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.

Erasmus Exchange programme

n/a

Programme Structure

The programme structure and progression information below (Table 1a and 1b) is provided for the final awards. 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. The Work Based Learning module at L5 cannot be compensated as it constitutes an essential part of the award. In addition, students are required to take on the L5 WBL project module related to their chosen pathway.

Table 1a Outline Programme Structure

Mode of study Full time - 2 years in 4 semesters

Entry point Semester A

Level 4 all pathways

Compulsory Modules Module Title	North Herts. College Module Code	West Herts. College Module Code	Credit Points	Language of Delivery	% Examination	% Coursework	% Practical	Semesters
Developing the Computing Professional	4FTC1335	4FTC1336	15	English	0	70	30	A
Programming Concepts	4FTC1337	4FTC1338	15	English	0	100	0	A
Topics in Computer Systems	4FTC1339	4FTC1340	15	English	40	40	20	A
Systems Analysis	4FTC1341	4FTC1342	15	English	0	100	0	A
Applied Programming	4FTC1345	4FTC1346	15	English	0	100	0	B
Networking Fundamentals	4FTC1348	4FTC1349	15	English	0	100	0	B
Designing for User Experience	4FTC1343	4FTC1344	15	English	0	70	30	B
Project Management	4FTC1347	4FTC1350	15	English	40	60	0	B

Level 5 All pathways

Progression to level 5 requires a minimum of 90 credits and passes in Work Based Learning module at L5. The award of an Foundation degree requires 240 credit points with minimum at 120 at level 5.

Compulsory Modules Module Title	North Herts. College Module Code	West Herts. College Module Code	Credit Points	Language of Delivery	% Examination	% Coursework	% Practical	Semesters
Data Analysis and Database Design	5FTC1314	5FTC1315	15	English	0	100		A
Internet Technologies	5FTC1304	5FTC1305	15	English	40	60	0	A
Computing in Organisations	5FTC1320	5FTC1321	15	English	40	40	20	B

Level 5 FdSc Computing Technologies (Web Based Technologies)

Compulsory Modules Module Title	North Herts. College Module Code	West Herts. College Module Code	Credit Points	Language of Delivery	% Examination	% Coursework	% Practical	Semesters
WBL Project - Web Based Technologies	5FTC1308	5FTC1309	30	English	0	80	20	AB
Web Application Development	5FTC1316	5FTC1317	15	English	0	100	0	A
Web Scripting	5FTC1324	5FTC1326	15	English	0	100	0	B
Mobile Design and Development	5FTC1328	5FTC1329	15	English	0	100	0	B

Level 5 FdSc Computing Technologies (Software Development)

Compulsory Modules Module Title	North Herts. College Module Code	West Herts. College Module Code	Credit Points	Language of Delivery	% Examination	% Coursework	% Practical	Semesters
WBL Project - Software Development	5FTC1310	5FTC1311	30	English	0	80	20	AB
Software Development 1	5FTC1306	5FTC1307	15	English	0	100	0	A
Software Development 2	5FTC1322	5FTC1323	15	English	0	80	20	B
Object Oriented Programming	5FTC1330	5FTC1332	15	English	0	100	0	B

Level 5 FdSc Computing Technologies (Networks and Cybersecurity)

Compulsory Modules Module Title	North Herts. College Module Code	West Herts. College Module Code	Credit Points	Language of Delivery	% Examination	% Coursework	% Practical	Semesters
WBL Project - Networks and Cybersecurity	5FTC1312	5FTC1313	30	English	0	80	20	AB
Routing and Switching Concepts	5FTC1318	5FTC1319	15	English	0	100	0	A
Network Protocols and Cybersecurity	5FTC1325	5FTC1327	15	English	0	100	0	B
WAN Protocols and Cybersecurity	5FTC1331	5FTC1333	15	English	0	100	0	B

Mode of study part-time - 2 years in 6 semesters (includes teaching in semester C, which may include teaching sessions at the University of Hertfordshire).

Entry point Semester A

Level 4 all pathways

Compulsory Modules Module Title	North Herts. College Module Code	West Herts. College Module Code	Credit Points	Language of Delivery	% Examination	% Coursework	% Practical	Semesters
Programming Concepts	4FTC1337	4FTC1338	15	English	0	100	0	A
Topics in Computer Systems	4FTC1339	4FTC1340	15	English	40	40	20	A
Systems Analysis	4FTC1341	4FTC1342	15	English	0	100	0	A
Applied Programming	4FTC1345	4FTC1346	15	English	0	100	0	B
Networking Fundamentals	4FTC1348	4FTC1349	15	English	0	100	0	B
Designing for User Experience	4FTC1343	4FTC1344	15	English	0	70	30	B
Developing the computing professional	4FTC1335	4FTC1336	15	English	0	70	30	C
Project Management	4FTC1347	4FTC1350	15	English	40	60	0	C

Level 5 All pathways

Progression to level 5 requires a minimum of 90 credits and passes in Work Based Learning module at L5. The award of an Foundation degree requires 240 credit points with minimum at 120 at level 5.

Compulsory Modules Module Title	North Herts. College Module Code	West Herts. College Module Code	Credit Points	Language of Delivery	% Examination	% Coursework	% Practical	Semesters
Data Analysis and Database Design	5FTC1314	5FTC1315	15	English	0	100	0	A
Internet Technologies	5FTC1304	5FTC1305	15	English	40	60	0	A
Computing in Organisations	5FTC1320	5FTC1321	15	English	40	40	20	B

Level 5 FdSc Computing Technologies (Web Based Technologies)

Compulsory Modules Module Title	North Herts. College Module Code	West Herts. College Module Code	Credit Points	Language of Delivery	% Examination	% Coursework	% Practical	Semesters
WBL Project (Web Based Technologies)	5FTC1308	5FTC1309	30	English	0	80	20	BC
Web Application Development	5FTC1316	5FTC1317	15	English	0	100	0	A
Web Scripting	5FTC1324	5FTC1326	15	English	0	100	0	B
Mobile Design and Development	5FTC1328	5FTC1329	15	English	0	100	0	B

Level 5 FdSc Computing Technologies (Software Development)

Compulsory Modules Module Title	North Herts. College Module Code	West Herts. College Module Code	Credit Points	Language of Delivery	% Examination	% Coursework	% Practical	Semesters
WBL Project (Software Development)	5FTC1310	5FTC1311	30	English	0	80	20	BC
Software Development 1	5FTC1306	5FTC1307	15	English	0	100	0	A
Software Development 2	5FTC1322	5FTC1323	15	English	0	80	20	B
Object Oriented Programming	5FTC1330	5FTC1332	15	English	0	100	0	B

Level 5 FdSc Computing Technologies (Networks and Cybersecurity)

Compulsory Modules Module Title	North Herts. College Module Code	West Herts. College Module Code	Credit Points	Language of Delivery	% Examination	% Coursework	% Practical	Semesters
WBL Project (Networks and Cybersecurity)	5FTC1313	5FTC1312	30	English	0	80	20	BC
Routing and Switching Concepts	5FTC1318	5FTC1319	15	English	0	100	0	A
Network Protocols and CyberSecurity	5FTC1325	5FTC1327	15	English	0	100	0	B
WAN Protocols and Cybersecurity	5FTC1331	5FTC1333	15	English	0	100	0	B

Once students have chosen their pathway at level 5, they will be required to complete all the compulsory modules relating to their chosen pathway in addition to all those that are compulsory for all students on the programme. Students will need to retake all pathway specific modules if they decide to change pathways.

Award 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/FdA	Foundation Degree Computing Technologies (Web Based Technologies) or (Software development) or (Networks and Cybersecurity)	240 credit points including at least 120 at level 5	5	All programme learning outcomes (see Table 2)
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	<i>For named awards, list all relevant learning outcomes, e.g. A1, A3, A4, B1, B2, C1, C5, D1, D2, D3</i> OR <i>For untitled awards: See UPR AS11, section 13: http://sitem.herts.ac.uk/secreg/upr/AS11.htm</i>

Programme-specific assessment regulations

The programme complies with the University's academic regulations (in particular, [UPR AS11](#), [UPR AS12/UPR AS13](#) and [UPR AS14](#)) with the exception of those listed below, which have been approved by the University:

The Work Based Learning module at L5 cannot be compensated as it constitutes an essential part of the award. In addition, Students are required to take on the L5 WBL project module related to their chosen pathway.

- Maximum completion period of the Foundation Degree programme is 5 years.

Further programme-specific regulations (requiring School-level approval) are given below:

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. A 50% overall mark 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 (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 (Web Based Technologies)

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

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 and Support for student learning.

Management

The programme is managed and administered through:

- Programme Managers at colleges
- Student representatives
- Module Leaders
- Programme administrator

Support

Students are supported by:

- A college-based programme tutor to help students understand the course structure
- 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
- A designated programme administrator
- An induction period at the beginning of each new academic year.
- A designated UH-based Collaborative Partnership Leader.
- StudyNet, a versatile on-line interactive intranet and learning environment
- Access to extensive digital and print collections of information resources
- Excellent facilities in each college which include; fast computer intranet systems, business and computer suites, CISCO network cabinets, a gym, sports hall and fitness centre, and dedicated HE areas.
- Further facilities at the University to provide access to extensive digital and print collections of information resources and access to modern study environments in 2 learning resources centres and in learning zones around the campus.
- Strong links with local employers, a careers service for all current students and graduates
- A substantial Student Centre at UH and further student support at the college that provides
- advice on issues such as finance, University regulations, legal matters, chaplaincy, counselling, disability, learning support, and careers.
- An equal opportunities officer
- Use of the University of Hertfordshire Student Union.

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 Programme (or Student) Handbook;
- A Definitive Module Document (DMD) for each constituent module;
- A Module Guide for each constituent module.

The [Herts Handbook](#) is an introduction to the academic, social, cultural and sporting services and opportunities available at the University of Hertfordshire, and includes the Student Charter and Student Code of Conduct.

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.

The UK Quality Assurance Agency for Higher Education (QAA) has confirmed the quality and standards of provision at the University of Hertfordshire. A key part of QAA's role is to review and report on how universities maintain their academic standards and quality, to inform students and the wider public. The team of QAA reviewers visited the University of Hertfordshire in 2015/16 and judged that its academic standards, the quality and enhancement of its students' learning experience, and the quality of information about this learning experience all meet UK expectations. In other words, the University meets national requirements for standards and quality. The QAA's report can be accessed at: <http://www.qaa.ac.uk/reviews-and-reports/provider?UKPRN=10007147#.V-KHajXy0nE>

G. Entry requirements

The normal entry requirements for the programme are:

The normal entry requirements for the programme are:

- 120 or more UCAS points which must be made up of at least one full GCE A level (A2), a BTEC National Diploma/Certificate or equivalent.
- 4 subjects at GCSE at Grade 4-9 including Maths and English Language or equivalent.
- Equivalent qualifications to be assessed by the Admissions Tutor.

Applications will be welcome from those working in relevant employment who may not fully meet the above entry requirements but have a number of year's relevant experience.

Part-time students will typically be those currently working in the IT industry and wish to further develop a career in computing industries by enhancing their academic qualifications. Applicants to the part-time route may be required to demonstrate appropriate work experience.

The programmes are also accessible to mature students who either hold a Level 3 qualification in related subjects such as Computing, IT and Engineering and/or demonstrate relevant work experience.

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:
Computer Science Reception on csreception@herts.ac.uk

If you wish to receive a copy of the latest Programme Annual Monitoring and Evaluation Report (AMER) and/or the External Examiner's Report for the programme, please email a request to aqo@herts.ac.uk

Foundation Degree Computing Technologies (Networks and Cybersecurity) or (Web Based Technologies) or (Software Development)

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

This map identifies where the programme learning outcomes are 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 and Understanding					Intellectual Skills							Practical Skills								Transferable Skills						
Module Title	Module Code (NHC/WHC)	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	C5	C6	C7	C8	D1	D2	D3	D4	D5	D6	
Level 4	Developing the computing professional	4FTC1335/36	x					x	x													x	x	x		x	x	x
	Programming Concepts	4FTC1337/38			x		x	x	x	x	x	x		x				x								x		x
	Applied Programming	4FTC1345/46			x		x	x	x	x	x	x	x	x	x			x	x			x				x		x
	Topics in Computer Systems	4FTC1339/40		x	x				x	x	x	x	x	x	x			x	x	x	x		x	x		x		x
	Networking Fundamentals	4FTC1348/49		x			x		x	x	x	x	x	x	x			x	x	x	x	x				x		x
	Project Management	4FTC1347/50	x	x	x		x	x	x	x		x	x		x							x			x		x	x
	Systems Analysis	4FTC1341/42	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x	x	x			x	x	x
	Designing for User Experience	4FTC1343/44	x	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x	x	x	x	x		x
Level 5	WBL Project - Networks and Cybersecurity	5FTC1313/12	x	x	x		x	x	x	x		x	x	x	x			x	x	x	x	x	x	x	x	x	x	
	WBL Project - Software Development	5FTC1310/11	x	x	x		x	x	x	x		x	x	x	x			x	x	x	x	x	x	x	x	x	x	
	WBL Project - Web based technologies	5FTC1308/09	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	5FTC1314/15			x		x	x	x	x			x	x					x				x	x	x	x	x	
	Internet Technologies	5FTC1304/05	x	x	x		x	x	x	x	x	x		x	x					x	x	x			x			
	Computing in Organisations	5FTC1320/21	x	x			x	x	x	x	x			x									x	x	x	x	x	
	Web Application Development	5FTC1316/17			x	x	x	x	x	x	x	x	x	x					x		x	x			x		x	
	Web Scripting	5FTC1324/26	x	x	x	x	x	x	x	x	x		x	x	x	x			x	x	x			x				
	Mobile Design and Development	5FTC1328/29		x		x			x	x			x						x		x	x					x	
	Software Development 1	5FTC1306/07			x	x	x	x	x	x	x		x		x	x	x			x						x		
	Software Development 2	5FTC1322/23			x	x	x	x	x	x	x		x		x	x	x			x						x		
	Object Oriented Programming	5FTC1330/32					x		x	x		x		x						x						x		
Routing and Switching Concepts	5FTC1318/19	x	x	x		x	x	x	x	x		x	x	x	x			x	x	x	x			x		x		
Network Protocols and Cybersecurity	5FTC1325/27	x	x	x		x	x	x	x	x		x	x	x	x			x	x	x	x			x	x	x		
WAN Protocols and Cybersecurity	5FTC1331/33	x	x				x	x			x	x			x			x				x			x			

KEY TO PROGRAMME LEARNING OUTCOMES

Knowledge and Understanding	
A1- Well-established principles of an IT professional and the way in which those principles have developed	B7- Analyse the extent to which a computer- based system (web-based, software development or networking system) meets the criteria defined for its current use and future development.
A2- How computer based technologies related to Web Based Technologies, Software Development, and Networks and Cybersecurity operate and communicate with one another.	Practical Skills
A3- A range of techniques and technologies related to Web Based Technologies, software development and networks that support the processes that lead to a computerised solution to a problem.	C1- Apply underlying IT concepts and principles.
A4- A variety of the factors that affect the usability of the human computer interface.	C2- Operate computing equipment effectively taking into account its logical and physical properties.
A5- A critical understanding of the development, knowledge and content of the particular vocational pathway	C3- Integrate Web Based Technologies, Software Development, and Networks and Cybersecurity related computing skills via a work-based learning project.
Intellectual Skills	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.
B1- Initiate and undertake critical analysis of information, and to propose solutions to problems arising from that analysis.	C5- Specify and design computer-based systems.
B2- Understand concepts related to computational thinking in Web Based Technologies, Software Development, and Networks and Cybersecurity including its relevance to everyday life.	C6- To evaluate web based, software development and networking systems in terms of general quality attributes and possible trade-offs presented within the given problem.
B3- Demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to computing and computer applications.	C7- Recognise any risks or safety aspects that may be involved in the operation of computing equipment within a given context.
B4- Use such knowledge and understanding in the modeling and design of web based, Software Development and Networks and Cybersecurity-based systems for the purposes of comprehension, communication, prediction and the understanding of trade-offs.	C8- 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.
B5- Understand the requirements, practical constraints on web-based, software development and networking systems- based in their respective context	
B6- Deploy appropriate theory, practices and tools for the requirements analysis, specification, design and implementation of IT systems (including Web Based Technologies, software applications and network- based systems).	

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	D4- Exercise personal responsibility and decision-making, including time management and organisational skills.
D2- Retrieve effective information (including the use of browsers, search engines and catalogues).	D5- Appreciate the need for continuing professional development and utilise opportunities for lifelong learning.
D3- Work effectively within a team recognising the different roles within a team and different ways of organising teams.	D6- Apply numerical and quantitative skills appropriately

Section 2

Programme management

Relevant QAA subject benchmarking statements	Computing 2016
Type of programme	Undergraduate
Date of validation/last periodic review	November 17
Date of production/ last revision of PS	December 17
Relevant to level/cohort	Level 4 entering September 2018
Administrative School	Collaborative Partnership Unit

Table 3 Course structure

Course details					
Course code		Course description		JACS	
TCFDCT		Foundation Degree in Computing Technologies		1100	
Course Instances					
Instances code	Intake	Stream	Instances Year	Location:	Mode of study
CTNCN1F	A	FdSc Computing Technologies (Networks and Cybersecurity)	1	North Herts College	Full-time
CTNCN2F	A	FdSc Computing Technologies (Networks and Cybersecurity)	2	North Herts College	Full-time
CTNCN1P-1	A	FdSc Computing Technologies (Networks and Cybersecurity)	1	North Herts College	Part-time
CTNCN1P-2	A	FdSc Computing Technologies (Networks and Cybersecurity)	1	North Herts College	Part-time
CTNCN2P-1	A	FdSc Computing Technologies (Networks and Cybersecurity)	2	North Herts College	Part-time
CTNCN2P-2	A	FdSc Computing Technologies (Networks and Cybersecurity)	2	North Herts College	Part-time
CTNCW1F	A	FdSc Computing Technologies (Networks and Cybersecurity)	1	West Herts College	Full-time
CTNCW2F	A	FdSc Computing Technologies (Networks and Cybersecurity)	2	West Herts College	Full-time
CTNCW1P-1	A	FdSc Computing Technologies (Networks and Cybersecurity)	1	West Herts College	Part-time
CTNCW1P-2	A	FdSc Computing Technologies (Networks and Cybersecurity)	1	West Herts College	Part-time
CTNCW2P-1	A	FdSc Computing Technologies (Networks and Cybersecurity)	2	West Herts College	Part-time
CTNCW2P-2	A	FdSc Computing Technologies (Networks and Cybersecurity)	2	West Herts College	Part-time

CTSDN1F	A	FdSc Computing Technologies (Software Development)	1	North Herts College	Full-time
CTSDN2F	A	FdSc Computing Technologies (Software Development)	2	North Herts College	Full-time
CTSDN1P-1	A	FdSc Computing Technologies (Software Development)	1	North Herts College	Part-time
CTSDN1P-2	A	FdSc Computing Technologies (Software Development)	1	North Herts College	Part-time
CTSDN2P-1	A	FdSc Computing Technologies (Software Development)	2	North Herts College	Part-time
CTSDN2P-2	A	FdSc Computing Technologies (Software Development)	2	North Herts College	Part-time
CTSDW1F	A	FdSc Computing Technologies (Software Development)	1	West Herts College	Full-time
CTSDW2F	A	FdSc Computing Technologies (Software Development)	2	West Herts College	Full-time
CTSDW1P-1	A	FdSc Computing Technologies (Software Development)	1	West Herts College	Part-time
CTSDW1P-2	A	FdSc Computing Technologies (Software Development)	1	West Herts College	Part-time
CTSDW2P-1	A	FdSc Computing Technologies (Software Development)	2	West Herts College	Part-time
CTSDW2P-2	A	FdSc Computing Technologies (Software Development)	2	West Herts College	Part-time

CTWBTN1F	A	FdSc Computing Technologies (Web Based Technologies)	1	North Herts College	Full-time
CTWBTN2F	A	FdSc Computing Technologies (Web Based Technologies)	2	North Herts College	Full-time
CTWBTN1P-1	A	FdSc Computing Technologies (Web Based Technologies)	1	North Herts College	Part-time
CTWBTN1P-2	A	FdSc Computing Technologies (Web Based Technologies)	1	North Herts College	Part-time
CTWBTN2P-1	A	FdSc Computing Technologies (Web Based Technologies)	2	North Herts College	Part-time
CTWBTN2P-2	A	FdSc Computing Technologies (Web Based Technologies)	2	North Herts College	Part-time
CTWBW1F	A	FdSc Computing Technologies (Web Based Technologies)	1	West Herts College	Full-time
CTWBW2F	A	FdSc Computing Technologies (Web Based Technologies)	2	West Herts College	Full-time
CTWBW1P-1	A	FdSc Computing Technologies (Web Based Technologies)	1	West Herts College	Part-time
CTWBW1P-2	A	FdSc Computing Technologies (Web Based Technologies)	1	West Herts College	Part-time
CTWBW2P-1	A	FdSc Computing Technologies (Web Based Technologies)	2	West Herts College	Part-time
CTWBW2P-2	A	FdSc Computing Technologies (Web Based Technologies)	2	West Herts College	Part-time