PROGRAMME SPECIFICATION

This Programme Specification is correct as of the date indicated; however, minor amendments may be made throughout the year and will be incorporated in the annual updating process.

SECTION A: DETAILS OF THE COURSE AND AWARD

Programme Title	**BSc (Hons) Computing and Web Development BSc (Hons) Computing and Web Development with Foundation Year**
Awarding Body	**Buckinghamshire New University**
Teaching Institution / Delivery Location	**Buckinghamshire New University / High Wycombe, UCAV & Uxbridge**
Faculty	**Design, Media & Management**
School	**Applied Production & New Media**
Name of Final Award	**Bachelor of Science with Honours, BSc (Hons)**
NQF/FHEQ Level of Qualification	**Level 6: Bachelor's degree with honours**
QAA Benchmark Statement(s)	**Computing (2007)**
UCAS Code	**GW4F**
Course Code(s)	**BT1CWD1 BT1CWD4**
Mode and Length of Study	**3 years / full-time 4 years/ full-time**
Number of Intakes	**2: September & February**
Regime of Delivery	**Attendance**
Language of Study	**English**
Details of Accreditation	**N/A**
Publication Date	**First published: 17 October 2014 Foundation Year added November 2016, revised January 2018**

Potential Student Profile / Criteria for Admission:

What the award is about and who the programme is aimed at:

The aim of this honours programme is to ensure that graduates acquire knowledge and competence in Computer Systems and Web Development, together with the underpinning theory of computer science. The course provides a balance of theory and practice in information technology, systems, software engineering, computing and Web Development, alongside providing a secure base for further development within the workplace. Furthermore, the technical element has been underpinned by a number of professional certification programmes including Microsoft, HP and Cisco, that can optionally be taken by students through levels 4, 5 & 6. This should provide a considerable advantage when entering the jobs market.

Why students should choose this award:
The course will provide students with the appropriate skills and knowledge to pursue a number of careers within the IT and digital-based sectors, including Web Development, IT Support, Software Development, Networking and Retail. Furthermore, the programme will place great emphasis on developing the student's employability skills, thus providing them with the competence and confidence to succeed in this demanding industry.

There are 6 strands to the taught part of the programme:
1. Software development for Windows, Web and mobile applications.
2. Database technologies.
3. Software and interface design.
4. Multimedia – facilitation between systems and the interactive web.
5. Networks and operating systems.
6. Core issues – covering project management, testing and research.

There will be optional modules at Level 6 that will allow you to flavour your degree accordingly, alongside the core of industry-relevant content for Web developer roles.

In addition, the demand for such graduates has been underpinned by recent analysis of IT employment trends. The Bureau of Labour Statistics (sponsored by the United States Department of Labour) highlighted a 30% growth in the USA's Software Developers between 2010 and 2020. This situation has been further endorsed by our own ITJobsWatch which provides historic data on IT positions advertised throughout the UK, with data being sourced from IT recruitment websites (also further underpinned by CWJobs). Their observations can be summarised as follows:

1) An increase of advertisements of Web Development/Web Application Development posts in this job area of over 10%.
2) As of 1st Feb 2013, nearly one third of all 10,000 live vacancies listed on the CWJobs Website were for Web-related positions.75% of developer's jobs advertised within our own catchment area (London/SE).
3) The most recent analysis from ITJobsWatch indicates strong, steady and long-term growth across Web sectors. The trend for "Web Services" is particularly interesting as a proportion of all IT vacancies. This indicates strong growth in demand for candidates able to engineer distributed applications using a specific Web services architecture.

Opportunities available for students after completion of the award:
BSc (Hons) Computing and Web Development is founded in software engineering and Web technologies. It comprises modules that are dedicated to areas of Web Technologies (e.g. Web, Web Application Development, Team Project (Web Services), Cloud, and others). As a result, this course is very closely aligned with market demand. Graduates, will therefore, have the benefit of preparation for both generic 'computing' job markets and for more specific areas of 'distributed', 'mobile' and 'Web Application/Service' development.

Expected knowledge and skills that the entrant will have on entry to the programme:

For BSc (Hons) Computing and Web Development (3 years)

Applicants will be primarily assessed on their academic qualifications although some previous experience and interest in Web development or computing or IT is desirable as part of the candidate's overall profile. A typical offer will include GCSE Maths and English at grade C or above and a UCAS

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Tariff score of 200-240. This score can be achieved from passes in two 6-unit GCE A-levels/AVCEs or from a pass in a 12-unit AVCE.

English Language Requirements:

- IELTS: 6 (min 5.5 in all areas)
- TOEFL Internet test: 87 (R22, L21, S23, W21)
- Pearson: 55 (51 in all sub scores).

We also consider applications from those who have gained relevant skills through a wide range of vocational qualifications or responsible experience and experiential learning for mature applicants.

For BSc (Hons) Computing and Web Development (4 years)

Applicants who do not meet the minimum requirements for the 3-year programme, or those who do not feel fully prepared for a Level 4 course, will be considered for the 4-year programme including a Foundation Year.

Please see the University's General Entry Requirement webpages for requirements for entry at this level.

SECTION B: PROGRAMME AIMS, OUTCOMES, LEARNING, TEACHING AND ASSESSMENT METHODS

Programme Aims

The main educational aims of the programme are to:

- Demonstrate an appreciation of software tools, computer and communications technology, and their application regarding the construction of software to solve particular problems from traditional context to nascent developments, e.g. Web/Cloud systems, control systems, etc.
- Provide students with a deep understanding of technical decisions involving commercial Computing and the development of an awareness of various types of Web Development technologies.
- Make our students aware of the impact, challenges presented, and the increasing pervasiveness and ubiquity of Computing with particular relevance to Web Development in our contemporary world.
- To develop students who can systematically and critically analyse and discriminate between options for various computer-based problems and devise appropriate solutions.
- To provide students with the competence to undertake Computing projects on an individual basis as well as the ability to effectively work in teams.
- To develop an appreciation of professional, moral and ethical issues involved and a sensitivity to changes in computing and information technology.
- To equip students with a range of technical competencies and transferable skills, including the attributes of a self-motivated lifelong learner, which can be applied to higher level awards, such as taught or research Masters.

Programme Learning Outcomes

A. Knowledge and Understanding

On successful completion of the programme a graduate will be able to:

1. Appreciate the essential facts, concepts, principles and theories relating to Computing in general and Web-based applications in particular.
2. Identify the practical requirements for both computer-based and Web-based systems including the recognition and analysis of criteria and models leading to specifications used in the solution of specific problems.
3. Explain the mathematical principles that underpin computer-based systems.
4. Acknowledge the key activities prevalent in the software lifecycle, alongside their outputs and dependencies between stages, within a framework of ethical, professional and legal standards.
5. Recognise the business, industrial and commercial context in which Web-based systems are deployed.

B. Intellectual/Cognitive Skills

On successful completion of the programme a graduate will be able to:

1. Evaluate and deploy approaches to modelling in order to design computer and web-based systems, with particular regard to the Object Oriented paradigm.
2. Solve problems in a logical and analytical manner.
3. Interact effectively within a group towards defined outcomes with particular regard to Web-services and related Web-based technologies.
4. Make informed decisions and produce innovative plans, approaches and solutions to software issues, within a Quality Assurance and Testing Framework.
5. Appreciate the role of critical evaluation and testing in ensuring that Web-based systems meet the criteria for their defined use and future developments.
6. Critically evaluate technical and human features of both software and Web-based systems.
7. Appraise new and emerging technologies in terms of their suitability for particular software development purposes, with particular focus against Cloud Computing and Security Systems.
8. Appreciate the unique challenges associated with the development and deployment of mobile and Web-based systems.

C. Practical Skills

On successful completion of the programme a graduate will be able to:

1. Analyse, design, develop and maintain reliable software, with particular regard to Quality Assurance and Testing.
2. Demonstrate an understanding of digital technologies with particular regard to XML and its practical application.
3. Apply sound programming principles to the construction and maintenance of software deployed on multiple platforms, using appropriate programming paradigms and languages.
4. Evaluate the decision-making processes concerning the appropriateness and security of Cloud solutions, alongside the necessary stages of analysis, design and implementation to achieve such results.
5. Critically appraise the knowledge, concepts and techniques associated with the development of e-Business strategy to achieve and sustain competitive advantage in a global environment.
6. Specify, design, implement and test Web-based information systems.

D. Key/Transferable Skills

On successful completion of the programme a graduate will be able to:

1. Employ information-retrieval skills (including browsers, search engines and catalogues).
2. Demonstrate numeracy and literacy in both understanding and presenting cases involving a quantitative and qualitative dimension.

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3. Work as a member of a development team, recognising the different roles within a team and different ways of organising teams.
4. Manage one's own learning and development including time management and organisation skills.
5. Appreciate the need for continuing professional development in recognition of the need for lifelong learning.

Table 1: Programme Skills Matrix – Assessment

Module Code	Information Acquisition	Critical thinking, analysis and synthesis	Self-reflection and Criticality	Communication Skills: Oral	Communication Skills: Written	Information & Communications Technology (ICT)	Numeracy & Quantitative Skills	Problem Solving & Decision Making	Independent & Self-managed Learning	Working with Others
FY026	☒	☒	☒	☒	☒	☒	☐	☐	☒	☐
FY027	☒	☒	☐	☒	☒	☒	☒	☒	☐	☒
FY028	☒	☒	☐	☒	☒	☒	☐	☒	☐	☐
FY006	☒	☐	☐	☐	☒	☒	☐	☐	☐	☐
FY007	☒	☒	☐	☐	☐	☒	☒	☒	☐	☐
CO450	☒	☒	☐	☐	☐	☒	☒	☒	☒	☐
CO452	☒	☐	☐	☐	☒	☒	☒	☒	☒	☐
CO454	☒	☐	☒	☒	☒	☒	☐	☐	☒	☐
CO456	☒	☐	☐	☐	☐	☒	☒	☒	☒	☐
CO451	☒	☐	☐	☐	☐	☒	☒	☒	☒	☐
CO453	☒	☐	☐	☐	☐	☒	☒	☒	☒	☐

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Module Code	Information Acquisition	Critical thinking, analysis and synthesis	Self-reflection and Criticality	Communication Skills: Oral	Communication Skills: Written	Information & Communications Technology (ICT)	Numeracy & Quantitative Skills	Problem Solving & Decision Making	Independent & Self-managed Learning	Working with Others
CO455	☒	☒	☐	☐	☒	☐	☐	☒	☐	☐
CO458	☐	☐	☐	☐	☐	☒	☐	☒	☒	☐
CO550	☐	☒	☐	☐	☐	☒	☐	☐	☐	☐
CO556	☒	☐	☐	☐	☐	☒	☒	☒	☒	☐
CO558	☒	☐	☐	☐	☒	☒	☐	☒	☒	☐
CO567	☒	☒	☒	☐	☒	☒	☒	☒	☐	☐
CO551	☐	☐	☐	☐	☐	☒	☐	☒	☒	☐
CO557	☒	☒	☒	☐	☒	☒	☐	☒	☒	☐
CO565	☒	☒	☐	☐	☐	☒	☒	☒	☒	☒
CO566	☐	☐	☐	☐	☒	☒	☐	☒	☐	☐
CO699	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐
CO650(OPT)	☐	☒	☐	☐	☐	☒	☒	☒	☐	☐
CO652(OPT)	☒	☒	☐	☐	☒	☒	☐	☒	☐	☐
CO654	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
CO656(OPT)	☒	☒	☐	☐	☒	☒	☐	☒	☐	☐
CO659	☒	☒	☐	☐	☐	☒	☐	☒	☒	☐
CO666(OPT)	☐	☐	☒	☐	☒	☒	☐	☒	☒	☐
CO653(OPT)	☒	☒	☐	☐	☒	☒	☒	☒	☐	☐
CO655	☒	☒	☐	☐	☒	☒	☐	☐	☒	☐
CO657(OPT)	☒	☐	☐	☒	☒	☐	☐	☐	☐	☐

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Module Code	Information Acquisition	Critical thinking, analysis and synthesis	Self-reflection and Criticality	Communication Skills: Oral	Communication Skills: Written	Information & Communications Technology (ICT)	Numeracy & Quantitative Skills	Problem Solving & Decision Making	Independent & Self-managed Learning	Working with Others
CO658(OPT)	☒	☒	☐	☒	☒	☒	☒	☒	☐	☐
CO663	☒	☒	☒	☐	☒	☒	☒	☒	☒	☐

Learning, Teaching and Assessment Methods to achieve the Programme Learning Outcomes

Modules on this programme will be taught in line with best practice across the university and in the sector. A variety of approaches, and good use of the latest technology, will be blended together to engage students in learning in class and beyond, and to encourage full student participation. Meanwhile, the Course Team will strive to ensure that all modules embrace current industrial practice wherever possible.

The teaching and learning strategies employed throughout the course are those judged to be the most appropriate for each module at each stage and level of the course. The strategies have been designed to ensure that there is progression from formal teaching through to student centred independent learning as the student progresses through the levels of the course(s).

A range of teaching methods will be used including:

Lectures
This is the most formal teaching strategy employed in teaching the modules. It is generally used to deliver a body of theoretical information to a large group of students and is most effective when followed up by a seminar or tutorial session to consolidate learning.

The lecture format may be supported by written handouts, web or library references which serve to reinforce and expand the audio-visual information presented. In addition, staff will make appropriate use of the VLE (Blackboard) facilities. This should enable lecturers to enhance the traditional communication and learning mediums, as well as making material available to students at home and university.

Tutorials / Practical Sessions
Often in smaller groups, tutorials are guided learning sessions, which can either support a formal lecture by students working through tutorial sheets with the help of a lecturer or by students working through practical exercises in say a computing room.

Seminars
These can vary from large group seminars, which provide an opportunity for the student-led formal debate of particular topic areas, to 'impromptu' discussion sessions with smaller groups, which may for example follow the showing of a video.

Other techniques such as industrial visits, guest lectures and computer aided learning tools will be used where appropriate. This variety of techniques is aimed at stimulating student learning. The teaching and learning strategies for individual modules are detailed in the relevant module pro-forma.

Assessment Strategies
A variety of assessment vehicles will be used as appropriate to the module, including assignments carried out in the student's own time, in-class assignment, workshops, presentations and formal examination. The form of assessment has been chosen so as to motivate students to achieve their best, and create learning activities for the students. The assessment vehicles for individual modules are detailed in the module descriptor.

Assessments will be appropriate to the task, achievable, motivating and vocationally focussed and will form a constructive part of the learning process.

Assessments will develop general transferable skills as well as academic skills.

Assessments will provide sufficient opportunity for the best students to exhibit a level of innovation and creativity associated with excellence.

During the Foundation Year, students will be exposed to a variety of summative and formative assessments whilst developing the academic skills to be a successful student at university; course content and Learning Outcomes strongly relate to students developing their knowledge and understanding of the subjects being studied and assessed.

Level 4 assessments will be primarily formative and will encourage the development of appropriate academic practice and concepts. The emphasis will be on frequent small-scale assessments wherever possible with a balance between formative and summative assessment.

Level 5 assessments will be more demanding, with the emphasis still on development of knowledge, skills, and concepts but now encouraging learning at greater depth, emphasising the fundamental principles. There will be a shift towards summative assessment.

Level 6 assessments are designed so as to allow students to demonstrate their knowledge and skills so that they have become effective, independent learners. The emphasis is on summative assessment.

Advice, Feedback and Collaborative Learning
Assessment is an integral part of the education process, promoting student learning by providing a focus for consolidating, applying and demonstrating understanding of the subject matter. The listed summative assessment regime essentially measures and grades learner development and

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achievement in relation to the intended Learning Outcomes. It also generates feedback information for students about the strengths and weaknesses in their work, with tutors affirming what students have done well whilst giving constructive and encouraging advice about areas requiring reflection and further improvement.

In fact, tutor feedback on formal assessment elements is just part of the ongoing dialogue with students about their learning and personal development. Tutors will offer students frequent opportunities to discuss their progress, where their work can be examined and reviewed, including the evaluation of plans and drafts for assignments prior to submission. This supportive engagement helps to clarify what "good performance" is, with reference to published criteria and expected standards; it also encourages, motivates and directs students towards achieving their full potential.

Different strategies for timely advice and effective feedback will be adopted, according to what is fit-for-purpose for students and modules. For instance: good or bad examples of previous student work not only give students clues about appropriate content, structure and presentation of assignments but also highlight common mistakes and omissions; mock exam papers and formative tests; work portfolios represent a collection of structured activities completed over a period of time with regular interactions with the tutor; individual and group tutorials; practising presentations with other students can invite peer review; model answers can supplement and extend the feedback given on assessments; group discussions can promote reflection and collaborative learning; audio and video recordings can be used at various points to explain topics and to give guidance; other technology (such as the VLE) can facilitate information sharing, and support learning and collaboration.

SECTION C: PROGRAMME STRUCTURE(S) AND MATRIX MAPPING

Table 2: Programme Structure Table

Course Title	BSc (Hons) Computing and Web Development								
Course Code	BT1CWD1								
Mode of Study	Full-Time								
Credit Value	**UK**	360 Credits		**ECTS**		180 Credits			
Module Code	**Module Title**	**QCF/FHEQ Level**	**Course Stage / Year**	**Status in Award *([C]ore / [O]ptional)***	**Credit Value**	**Assessment Regime**			**Semester Taught**
						Written Exam %	**Coursework %**	**Practical %**	
CO450	Computer Architectures	4	1	C	15	100	0	0	S1
CO452	Programming Concepts	4	1	C	15	0	100	0	S1

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CO454	Digital Technologies & Professional Practice	4	1	C	15	0	100	0	S1
CO456	Web Development	4	1	C	15	0	100	0	S1
CO451	Networking	4	1	C	15	100	0	0	S2
CO453	Application Programming	4	1	C	15	0	100	0	S2
CO455	User Experience (UX)	4	1	C	15	30	70	0	S2
CO458	XML	4	1	C	15	0	100	0	S2
CO550	Web Applications	5	2	C	15	0	100	0	S1
CO556	Network Systems	5	2	C	15	100	0	0	S1
CO558	Database Design	5	2	C	15	100	0	0	S1
CO567	Object Oriented Systems Development	5	2	C	15	20	80	0	S1
CO551	Open Source Systems	5	2	C	15	0	100	0	S2
CO557	Software Engineering	5	2	C	15	0	100	0	S2
CO565	Web Services (Team Project)	5	2	C	15	0	100	0	S2
CO566	Mobile Systems	5	2	C	15	0	100	0	S2
CO654	Cloud Computing	6	3	C	15	0	100	0	S1
CO659	Enterprise Systems Development	6	3	C	15	30	70	0	S1
CO650	Advanced Programming	6	3	O	15	0	100	0	S1
CO652	Knowledge-Based Systems in A.I.	6	3	O	15	0	100	0	S1
CO656	Database Development	6	3	O	15	0	100	0	S1
CO666	Advanced Mobile Systems	6	3	O	15	0	100	0	S1
CO655	Network Security	6	3	C	15	0	100	0	S2
CO663	E-Business Systems Development	6	3	C	15	100	0	0	S2
CO653	Learning Machines & Intelligent Agents	6	3	O	15	0	100	0	S2
CO657	Database Technologies	6	3	O	15	50	50	0	S2
CO658	Data Structures & Algorithms	6	3	O	15	0	100	0	S2
CO699	Project	6	3	C	30	0	90	10	SB

Course Title	BSc (Hons) Computing and Web Development with Foundation Year			
Course Code	BT1CWD4			
Mode of Study	Full-Time			
Credit Value	**UK**	360 Credits	**ECTS**	180 Credits

Module Code	**Module Title**	**QCF/FHEQ Level**	**Course Stage / Year**	**Status in Award *([C]ore / [O]ptional)***	**Credit Value**	**Assessment Regime**			**Semester Taught**
						Written Exam %	**Coursework %**	**Practical %**	
FY026	Preparing for Success Knowledge and Creativity	0	1	C	n/a		100 %		S1/ S2
FY027	Preparing for Success Self-development and Responsibility	0	1	C	n/a		60%	40%	S1/ S2
FY028	Inquiry and Research Skills	0	1	C	n/a		100 %		S1/ S2
FY006	Digital Media	0	1	C	n/a	0	100	0	S1/S 2
FY007	Computing Essentials	0	1	C	n/a	40	0	60	S1/S 2
CO450	Computer Architectures	4	1	C	15	100	0	0	S1
CO452	Programming Concepts	4	1	C	15	0	100	0	S1
CO454	Digital Technologies & Professional Practice	4	1	C	15	0	100	0	S1
CO456	Web Development	4	1	C	15	0	100	0	S1
CO451	Networking	4	1	C	15	100	0	0	S2
CO453	Application Programming	4	1	C	15	0	100	0	S2
CO455	User Experience (UX)	4	1	C	15	30	70	0	S2

CO458	XML	4	1	C	15	0	100	0	S2
CO550	Web Applications	5	2	C	15	0	100	0	S1
CO556	Network Systems	5	2	C	15	100	0	0	S1
CO558	Database Design	5	2	C	15	100	0	0	S1
CO567	Object Oriented Systems Development	5	2	C	15	20	80	0	S1
CO551	Open Source Systems	5	2	C	15	0	100	0	S2
CO557	Software Engineering	5	2	C	15	0	100	0	S2
CO565	Web Services (Team Project)	5	2	C	15	0	100	0	S2
CO566	Mobile Systems	5	2	C	15	0	100	0	S2
CO654	Cloud Computing	6	3	C	15	0	100	0	S1
CO659	Enterprise Systems Development	6	3	C	15	30	70	0	S1
CO650	Advanced Programming	6	3	O	15	0	100	0	S1
CO652	Knowledge-Based Systems in A.I.	6	3	O	15	0	100	0	S1
CO656	Database Development	6	3	O	15	0	100	0	S1
CO666	Advanced Mobile Systems	6	3	O	15	0	100	0	S1
CO655	Network Security	6	3	C	15	0	100	0	S2
CO663	E-Business Systems Development	6	3	C	15	100	0	0	S2
CO653	Learning Machines & Intelligent Agents	6	3	O	15	0	100	0	S2
CO657	Database Technologies	6	3	O	15	50	50	0	S2
CO658	Data Structures & Algorithms	6	3	O	15	0	100	0	S2
CO699	Project	6	3	C	30	0	90	10	SB

Table 3: Mapping of Programme Outcomes to Modules

Programme Outcome	Level 4	Level 5	Level 6
A1	CO450, CO451, CO452, CO453, CO456	CO550, CO567, CO556, CO558, CO565	CO663, CO655, CO659
A2	CO452, CO453, CO456	CO567, CO558, CO557, CO550, CO565	CO650, CO699, CO663, CO659, CO606
A3	CO454	CO565	

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Programme Outcome	Level 4	Level 5	Level 6
A4	CO452, CO453	CO567, CO557	CO699
A5	CO456	CO550, CO566, CO565	CO663, CO659
B1	CO453	CO567, CO566, CO565	CO663, CO659
B2	CO452, CO453, CO456	CO550, CO567, CO558, CO565	CO699
B3		CO565, CO557	
B4	CO454, CO458	CO550, CO556, CO566	CO699
B5	CO456, CO458	CO567, CO567, CO565	CO655, CO654
B6	CO450, CO454, CO451, CO455, CO456, CO458	CO550, CO556, CO566, CO551	CO663, CO659, CO699
B7	CO454, CO456	CO566, CO550	CO699, CO654, CO655, CO659
B8	CO450, CO454, CO456, CO455	CO550, CO566, CO566, CO565	CO663, COCO654, CO655, CO659
C1	CO453	CO567, CO557, CO565	CO655
C2	CO454, CO458, CO456	CO551, CO550	CO663
C3	CO453, CO456	CO550, CO566, CO565	CO666, CO699
C4			CO654, CO699
C5			CO633, CO659, CO654, CO699
C6	CO456, CO453	CO550, CO558	CO699, CO663
D1	CO454	CO557	CO663, CO699
D2	CO454	CO557	CO699
D3		CO557, CO565	
D4	CO454	CO565	CO699
D5	CO454		CO699

SECTION D: CONTACT HOURS

Hours are worked on the basis of full-time study. 1 Academic Credit is equated to 10 notional learning hours. A full-time undergraduate student will study 120 credits in an academic year which is therefore equated to 1200 notional hours. Module Descriptors provide detailed breakdowns of the categories given below.

Table 4: Breakdown of Contact Hours

Year of course	Scheduled Learning and Teaching Activities	Guided Independent Study	Placement / Study Abroad	Total
Year One	360	840	0	**1200**
Year Two	360	840	0	**1200**
Year Three	360	840	0	**1200**
Total	**1080**	**2520**	**0**	**3600**

Students who study this programme with a Foundation Year will complete an additional 1200 hours during that year.

SECTION E: ASSESSMENT REGULATIONS

This programme conforms to the approved University procedures as detailed on the University website with the following exceptions:

The following modules may not be condoned:

- CO699 Project

No exit award is available for students who withdraw at the end of the Foundation Year.

This programme will be covered by the following University regulations: University Academic Framework and Assessment Regulations.

APPENDIX: OTHER AWARDS AVAILABLE

The following Exit Awards are available on this programme:

- Certificate of Higher Education (CertHE)
- Diploma of Higher Education (DipHE)
- Bachelor of Science (Ordinary Degree)

Exit Award Programme Learning Outcomes

Certificate of Higher Education

On successful completion of a **Certificate of Higher Education (CertHE)**, a graduate will be able to:

- Comprehend and apply a simple requirement in a structured manner and implement a software solution; with appropriate application of programming techniques and coding skills.
- Demonstrate competence in the design and development of a cross-platform Web 'front-end' solution, paying appropriate attention to user expectations and process needs.
- Understand the operation of the major hardware units of computers and appreciate the fundamental components and protocols of network systems.
- Adopt a systematic approach to the design and evaluation of human computer interaction and Web 'front-end' solutions.
- Demonstrate an understanding of digital technologies within a professional context, and how different tools and environments can be used for handling information, communication and other purposes.

A **Certificate of Higher Education (CertHE)** will be awarded to a student who has completed the programme learning outcomes specified above. This is measured by achievement of 120 credits at Level 4. The following modules will count towards achievement of this award:

Module	Credits
CO450 Computer Architectures	15
CO451 Networking	15
CO452 Programming Concepts	15
CO453 Application Programming	15
CO454 Digital Technologies & Professional Practice	15
CO455 User Experience	15
CO456 Web Development	15
CO458 XML	15

Diploma of Higher Education

On successful completion of a **Diploma of Higher Education (DipHE)**, a graduate will be able to:

- Make use of standards and protocols in communication between different hardware platforms, networks and operating systems.
- Acquire background knowledge and associated skills necessary to develop business applications on mobile and web based platforms.
- Appreciate the key activities prevalent in the software lifecycle, alongside their outputs and dependencies between stages.

- Apply appropriate tools and modelling techniques in the analysis and design of Information Systems with respect to data structures, databases and open source systems.

- Interact effectively within a group towards defined project outcomes.

A **Diploma of Higher Education (DipHE)** will be awarded to a student who has completed the programme learning outcomes specified above. This is measured by achievement of a combined total of 240 Credits comprising 120 credits at Level 4 **and** 120 Credits at Level 5. All modules at Level 4 and the following modules at Level 5 will count towards achievement of this award:

Module	**Credits**
CO550 Web Applications	15
CO551 Open Source Systems	15
CO556 Network Systems	15
CO557 Software Engineering	15
CO558 Database Design	15
CO565 Web Services (Team Project)	15
CO566 Mobile Systems	15
CO567 Object Oriented Systems Development	15

Ordinary Degree

On successful completion of a **Bachelor of Science (Ordinary Degree)**, a graduate will be able to:

- Interrogate the complex dimensions of a technical problem in order to design and model an appropriate solution for the context.
- Select and systematically utilise suitable skills, methods, techniques and strategies to develop, test and evaluate the solutions to different given problems.
- Conduct themselves in a professional and confident manner when interacting with others, communicating their significant knowledge and understanding of their discipline in a range of formats, and contributing to the successful completion of a range of challenging tasks and multifaceted projects.
- Take full responsibility for achieving their own learning and development, including the demonstration of good time management and organisational skills, and the development of those various technical & transferable skills, personal characteristics and an awareness of business/user needs required to be a competent student and employee.

An **Ordinary Degree** will be awarded to a student who has completed the programme learning outcomes specified above. This is measured by achievement of a combined total of 300 Credits comprising 120 credits at Level 4, 120 Credits at Level 5, and 60 Credits at Level 6. In addition to all the modules at Levels 4 and 5, the following modules at Level 6 will count towards achievement of this award:

Module	Credits
CO650 Advanced Programming	15
CO652 Knowledge-Based Systems in AI	15
CO653 Learning Machines & Intelligent Agents	15
CO654 Cloud Computing	15
CO655 Security	15
CO656 Database Development	15
CO657 Database Technologies	15
CO658 Data Structures & Algorithms	15
CO659 Enterprise Systems Development	15
CO663 e-Business Systems Development	15
CO666 Advanced Mobile Development	15