BSc (Hons) Computing with Foundation Year

Published January 2019
V12

Introduction to the Programme

Programme structure

Welcome to the BSc (Hons) Computing with Foundation Year programme.

This programme has four levels which will be studied over a four year period. You will study each of the core modules listed in the table below.

An outline of the content of each of the modules and details of how each is assessed can be found in the Module Details section on iLearn.

Programme Structure

Foundation Year- Level 0

Module Code	Module Title	Credits	Module Type (Core/Option)
SKI0001	Skills for Academic Study	20	C
COM0001	The Digital Age	20	C
DAT0001	Using Numeracy, Data and IT	20	C
COM0002	Computers in Society	20	C
COM0003	Computing Fundamentals	20	C
RES0001	Research Skills	20	C

Level 4

Module Code	Module Title	Credits	Module Type (Core/Option)
HRM4004	Professional Development	20	C
COM4001	Computer Technology	20	C
COM4002	Website Design	20	C
COM4003	Database Design	20	C
COM4004	Software Engineering	20	C
COM4005	Information Systems in Organisations	20	C

Level 5

Module Code	Module Title	Credits	Module Type (Core/Option)
COM5001	Data Communications	20	C
COM5002	Systems Analysis & Design	20	C
COM5003	Programming	20	C
COM5004	Quality Systems in IT	20	C
COM5005	Database Implementation	20	C
COM5006	Dynamic Website Development	20	C

Level 6

Module Code	Module Title	Credits	Module Type (Core/Option)
COM6001	Management in IT	20	C
COM6002	Current Trends in Networking	20	C
COM6003	Computer Systems Security	20	C
COM6004	e-Commerce Systems	20	C
RES6002	Computing Project	40	C

Please note that the modules may not be delivered in this order. Please refer to your programme timetable for details of when each module will run.

Programme Specification

QUALITY ASSURANCE DOCUMENT QA3 - PROGRAMME SPECIFICATION

1. Target Award	BSc (Hons)	
2. Programme Title	Computing with Foundation Year	
3. Exit Awards	Foundation Certificate in Computing Certificate of Higher Education in Computing Diploma of Higher Education in Computing	
4. Programme Leader(s)	Steve Presland	
5. Delivery Model	Blended Learning	
6. Start date	September 2016	
7. Programme Accredited by *(PSRB or other, if applicable)*	N/A	
8. UCAS Code *(If applicable)*		
9. Relevant QAA subject benchmark statement	**Foundation Year** QAA Recognition Scheme for Access to HE: The Access to Higher Education Diploma specification 2013 **Levels 4-6** Subject Benchmark Statement - Computing (2016)	

---

10. Programme Aims

The overall aim of the BSc Computing with Foundation Year is to provide a route to completion of an undergraduate degree for those students unable to enter Level 4 either because of a lack of qualifications, skills or qualifications. The Foundation Year will provide students with scientific, and technically accurate, knowledge and understanding of the essential computing concepts that will prepare them for further study in later levels of the undergraduate BSc Computing programme. As they progress through the programme, they will also develop computing related practical and academic skills. Simultaneously students will develop a range of transferrable skills that will assist them in as they pursue computing-based careers or further relevant study

Students begin by developing an understanding of the fundamental concepts on which the components of contemporary computer systems are based. Students will then move on to develop an understanding of fundamental computing concepts and logical thinking in problem solving, in preparation for further study in later levels. Finally, the students will develop an awareness of the contemporary developments in computing, and the impact of those developments in society in general. This is in order to provide a wider context for their study on later levels of the programme.

More specifically it will at Level 0:

• enable learners to develop a basic understanding across a range of computing disciplines.
• enable learners to confidently identify and use relevant understanding, methods and skills to complete tasks and address problems.
• equip learners with basic numeracy, academic and research skills in preparation for future undergraduate study.
• enable learners to take responsibility for initiating and completing tasks and procedures as well as exercising autonomy and judgement within limited parameters.
• reflect awareness of different perspectives or approaches within an area of study or work.

At Levels 4-6 students undertake a rigorous study of theories, techniques and issues and acquiring the practical skills that are essential within the changing environment such that they can pursue related careers or further relevant academic study.

More specifically at Levels 4-6 students will:

1. Allow students to develop professional level skills and understanding across a range of computing disciplines.
2. Equip students with the essential skills and tools to work professionally in a computing situation and to be creative and professional practitioners when working independently and when collaborating with others as part of multidisciplinary teams.
3. Enable students to communicate effectively through a variety of media and presentational forms to specialist and non-specialist audiences.
4. Give students an appreciation of the continuing developments in computing and equip them to keep up to date with these developments.
5. Provide a stimulating online academic environment in which students can develop confidence as practitioners and as individuals who are part of a highly engaged community of learners and thereby to inspire students to become lifelong learners.
6. Promote understanding of the key aspects of current practice in the field of computing while acknowledging current and emerging developments in related disciplines.

11. Intended programme learning outcomes and the means by which they are achieved and demonstrated		
11a. Knowledge and understanding	**The means by which these outcomes are achieved**	**The means by which these outcomes are demonstrated**
At Level 0 *With due regard to the QAA Recognition Scheme for Access to HE: The Access to Higher Education Diploma specification 2013, the intended programme learning outcomes are for students at Level are to:* A1/0 Use factual, procedural and theoretical understanding to complete tasks and address problems that, while well defined, may be complex and non-routine. **At Levels 4-6** *With due regard to the QAA Computing Benchmark Statement 2007, the intended programme learning outcomes are for students at Levels 4-6 are to:* A01 - Design, develop and evaluate web based solutions using up to date tools and technologies. A02 - Identify, explain and evaluate current and evolving trends, technologies and methodologies within Computing.	Acquisition of knowledge and understanding at all levels is achieved through a blended and integrated learning and teaching pedagogy that includes both asynchronous and synchronous activity. That is: **Asynchronous** • Independent and directed student study, supported throughout by comprehensive online multi-media teaching materials and resources accesses through our VLE • Guided group / project based work • Discussion forums where students discuss and critically engage with themes emerging from the materials they engage with, following the posing of questions or propositions, case studies or similar by either tutor or students themselves • Podcasts and narrated PowerPoints **Synchronous** • Face to face seminars where theory and practice are integrated. • Independent and directed student study, supported throughout by comprehensive teaching materials and resources. • Guided group / project based work Based upon the profile of our typical student body, our strategy enables students to engage with a variety of learning tools that best meet their learning styles, overall objectives and personal circumstances.	Assessment methods and strategies: Our assessment strategy encourages a variety of assessment methods all explicitly aligned to learning outcomes that focus upon knowledge, understanding and skills. These are contextualised so that the assessment is directly relevant to each subject area and assessment methods include case study analysis, written essay, self-reflection, portfolios of evidence, sector report production, preparation of a subject-specific plan, etc.

A03 - Systematically appraise relevant principles, theories and methodologies of systems design. A04 - Critically evaluate relevant computer technologies to meet requirements in a range of novel or complex contexts. A05 - Critically review current computer systems in light of recent developments in the field	Independent study is the cornerstone of the learner experience, supported by peer engagement and engagement with the tutor. Developing initiative and independence through guided learning will be a focus of the Foundation Year. There is a requirement for written work at all levels including reports, essays, practical tasks, developed plans, times examinations, etc., and our formative assessment policy informs how feedback is supplied by tutors at the formative and summative assessment phase. Appropriate critical analysis is encouraged at all levels culminating in a Dissertation. All students complete an induction module prior to starting on subject discipline units of work. The Induction Module requires students to undertake a range of tasks that both test and develop subject specific and online pedagogical knowledge, understanding and skills.	
11b. Intellectual (thinking) skills	**The means by which these outcomes are achieved**	**The means by which these outcomes are demonstrated**
At Level 0 Students will be expected to: B1/0 Interpret and evaluate relevant information and ideas. B2/0 Be aware of the nature of the area of study or work. B3/0 Have awareness of different perspectives or approaches within the area of study or work.	Intellectual skills are developed throughout the programme by the methods and strategies outlined in section A, above. Intellectual development is further encouraged via formative assessment tasks including set briefs, in-module activities, self-initiated briefs, and discussion with tutors and peers both in face to face and online settings. Specific modules support the development of quantitative and qualitative analysis, and the development of self-reflective skills. In addition, the student's thinking skills will be evident in a summative assessment process which requires and rewards learners for the demonstration of creative thinking and problem solving, analysis, judgement and self-reflection in the development of solutions.	Assessment methods and strategies: Our assessment strategy encourages a variety of assessment methods all explicitly aligned to learning outcomes that focus upon knowledge, understanding and skills. These are contextualised so that the assessment is directly relevant to each subject area and assessment methods include case study analysis, written essay, self-reflection, portfolios of evidence, sector report production, preparation of a targeted plan, etc.

B4/0 Address problems that, while well defined, may be complex and non-routine.	Throughout, the learner is encouraged to develop intellectual skills by undertaking further independent study and research in order to further consider a range of perspectives.

At Levels 4-6
Students will be expected to:

B01 - Identify issues and formulate appropriate methods of investigation and evaluation.

B02 - Select and synthesise information from a variety of sources and utilise judgement to draw appropriate conclusions and make recommendations.

B03 - Utilise problem solving skills in order to create solutions to novel or complex problems in a variety of theoretical and practical situations.

B04 - Apply appropriate theoretical concepts and practical techniques to the solution of complex problems.

B05 - Synthesise and apply methodologies, techniques, tools and technologies from a range of fields within computing to provide complete solutions to novel or complex problems.

11c. Practical Skills	The means by which these outcomes are achieved	The means by which these outcomes are demonstrated
At Level 0 Students will be expected to: C1/0 Identify, select and use appropriate skills, methods and procedures. C2/0 Use appropriate investigation to inform actions. Review how effective methods and actions have been. C3/0 Exercise autonomy and judgement within limited parameters. **At Levels 4-6** Students will be expected to: C01 - Select and use appropriate combinations of hardware and software in order to create solutions to novel or complex problems in a variety of theoretical and practical situations. C02 - Select and apply appropriate methodologies and tools in the design of computer systems. C03 - Plan, design, develop and evaluate relevant computer-based solutions to a range of novel or complex problems	Practical and professional skills are employed in the production of solutions to real life situations developed through exercises and practical case study type activities culminating in summative assessment tasks as noted in assignment briefs. The important modern day skills of managing or leading projects and/or teams working within differing organisational and national cultures are provided by specific modules, as are specific inputs with an emphasis upon practical functional decision making skills related to business and management knowledge. Practical skills are further developed and integrated through a series of in-course and online activities and projects intended to test skills acquired. Group discussion forums provide opportunities for peer to peer discussion of ideas, progress, the work of others and the strengths and weakness in the work and ideas presented and particularly support the development of flexibility and adaptation. Activities are provided so that students can work independently to consolidate their knowledge and grasp of practical skills.	To support the development of practical skills, students must supply worked materials and evidence in completion of their assignments. Sound reasoning, good presentation and evidence trails in all assignments are rewarded. Assessment briefs include a variety of commercial and geographical contextual setting. Students receive formative feedback on all tasks, activities and assessment which includes practical examples towards improvement.

using up to date tools and technologies. C04 - Articulate reasoned evidence and conclusions. C05 - Demonstrate flexibility in adapting to different contexts.		
11d. Transferable skills	**The means by which these outcomes are achieved and demonstrated**	**The means by which these outcomes are demonstrated**
At Level 0 Students will be expected to: D1/0 Take responsibility for initiating and completing tasks and procedures, including, where relevant, responsibility for supervising or guiding others. **At Levels 4-6** Students will be expected to: D01 - Communicate effectively through appropriate media. D02 - Critically evaluate information sources including academic sources, manufacturer information and Internet sources. D03 - Work effectively on their own and demonstrate understanding of being part of a team, taking personal	Transferable skills (D1 – D5) are developed throughout the programme. The skills of communication, critical use of source material including the Internet, and self-management (D1, D2, D3 and D4) are integral to coursework at all levels. Personal responsibility (D3, D4) becomes an increasingly important skill as students' progress, culminating in the final year project. As work becomes more complex at levels 5 and 6, students are tested on their abilities to respond positively to feedback from a variety of audiences, as well as to manage increasingly large workloads (D4, D5). Students are required to complete a number of assignments and a Computing Project in level 6 that reward independence, originality and critical enquiry, and which further enhances their communication and self-reflective skills. (D1 – D5).	To embed transferable skills all assignments must meet time deadlines and word count guidelines as guided by our policies All assessed work must be submitted independently even where group activity has been an element of the process. Students must take responsibility for their own work. All assignments require students to engage in critical enquiry and self-reflection which is rewarded in marking guides. These guides, in line with good practice are available to students and are included with every assignment brief.

responsibility for their own efforts and outputs. D04 - Manage time effectively by learning to plan and prioritise work in order to meet specified deadlines. D05 - Learn independently in the spirit of critical and self-reflective enquiry.		

12. Graduate Attributes and the means by which they are achieved and demonstrated
Graduate Attributes
The concept of the Arden Graduate, based upon the definition of 'graduate attribute' by Bowden et al (2000) has been developed around 6 attributes E01 –Discipline Expertise E02 – Effective Communication E03 – Responsible Global Citizenship E04 - Professional Skills E05 - Reflective Practitioner E06 - Lifelong Learning
The means by which these outcomes are achieved and demonstrated
All six attributes are relevant to this programme but will be developed through Levels 4-6 of the undergraduate award where they are integrated into all programmes of study curriculum, unit study tasks (individual and group work) and through summative assessment tasks.

13. Learning and teaching methods and strategies
Learning and teaching methods and strategies are delivered through a blended and integrated learning and teaching pedagogy that includes both asynchronous and synchronous activity. That is: Asynchronous - Independent and directed student study, supported throughout by comprehensive online multi-media teaching materials and resources accesses through our Virtual Learning Environment - Guided group / project based work - Research tasks - Discussion forums where students discuss and critically engage with themes emerging from the online materials they engage with, following the posing of questions or propositions, case studies or similar by either tutor or students themselves - Podcasts and narrated PowerPoints Synchronous - Face to face seminars where theory and practice are integrated. - Independent and directed student study, supported throughout by comprehensive teaching materials and resources. - Guided group / project based work Based upon the profile of our typical student profile, our strategy enables students to engage with a variety of learning tools that best meet their learning styles, overall objectives and personal circumstances. Independent study is the cornerstone of the learner experience, supported by peer engagement and engagement with the tutor. There is a requirement for written work at all levels including reports, essays, practical tasks, developed plans, timed examinations, portfolios of work etc., and our assessment policy informs how feedback is supplied by tutors at the formative and summative assessment stage.

14. Assessment methods and strategies

Our assessment strategy encourages a variety of assessment methods all explicitly aligned to learning outcomes that focus upon knowledge, understanding and skills. Intellectual skills are assessed through a combination of in-course formative exercises and summative assignments, including the submission of portfolios of work, case study analysis, design documentation and computer based artefacts that demonstrate the skills required.

To support the development of practical skills, students must supply worked materials and evidence in support of their assignments. Critical reasoning, good presentation and sound evidence trails in all assignments are rewarded. Assessment briefs include a variety of contextual setting. Students receive feedback on all activities and assignments which includes practical examples for improvement in the application of theory to practice to help them improve both aspects of their skill base.

To develop transferable skills all assignments must meet time deadlines. All assessed work must be submitted independently even where group activity has been an element of the process. Students must take responsibility for their own work. All assignments require students to adopt a spirit of critical enquiry and self-reflection which is rewarded in marking guides. All assessed work is expected to be presented in appropriate formats with structures and language that meets the needs of the intended audience. These guides are shared with students.

All students will have the opportunity to engage in an activity and receive formative feedback from the tutor before the summative assessment.

15. Employability

Our approach pays due regard to the UKCES report 'The Employability Challenge' (2009a) definition of employability, 'the skills almost everyone needs to do almost any job. They are the skills that must be present to enable an individual to use the more specific knowledge and technical skills that their particular workplaces will require.' Given the nature and purpose of the Foundation Year, employability is integrated into the curriculum, learning tasks and summative assessment through Levels 4-6 of the undergraduate award.

16. Entry Requirements

- IELTS 6.0 (no less than 5.5 in any element) or equivalent for students whose medium of prior learning was not English.
- Candidates who demonstrate an ability to study the programme as evidenced through previous a personal statement (of between 350-500 words) or interview taking into account:

  o   their motivation for undertaking the programme
  o   relevant work experience
  o   prior qualifications
  o   references

17. Programme Structure

Level 0

Module Code	Module Title	Credits	Module Type (Core/Option)	Assessment Method
SKI0001	Skills for Academic Study	20	C	Portfolio of Tasks
COM0001	The Digital Age	20	C	Report
DAT0001	Using Numeracy, Data and IT	20	C	Report
COM0002	Computers in Society	20	C	Report
COM0003	Computing Fundamentals	20	C	Report
RES0001	Research Skills	20	C	PowerPoint presentation slides with speaker notes and Individual Report

Level 4

Module Code	Module Title	Credits	Module Type (Core/Option)	Assessment Method
HRM4004	Professional Development	20	C	Portfolio
COM4001	Computer Technology	20	C	Exam
COM4002	Website Design	20	C	Design Specification Task
COM4003	Database Design	20	C	Design Specification Task
COM4004	Software Engineering	20	C	Portfolio of Tasks
COM4005	Information Systems in Organisations	20	C	Case Study Assessment

Level 5

Module Code	Module Title	Credits	Module Type (Core/Option)	Assessment Method
COM5001	Data Communications	20	C	Case Study Assessment
COM5002	Systems Analysis & Design	20	C	Case Study Assessment
COM5003	Programming	20	C	Portfolio of Tasks
COM5004	Quality Systems in IT	20	C	Case Study Assessment
COM5005	Database Implementation	20	C	Design Specification Task
COM5006	Dynamic Website Development	20	C	Design Specification Task

Level 6

Module Code	Module Title	Credits	Module Type (Core/Option)	Assessment Method
COM6001	Management in IT	20	C	Business Plan
COM6002	Current Trends in Networking	20	C	Case Study Assessment
COM6003	Computer Systems Security	20	C	Case Study
COM6004	e-Commerce Systems	20	C	Case Study Assignment
RES6002	Computing Project	40	C	Assignment 1 and Assignment 2

18. Subject:	*Select from:* https://www.hesa.ac.uk/component/content/article?id=1787

Last Updated: 7th January 2019 (V3)

Annex – Foundation Year Mapping of Intended Programme Learning Outcomes and Modules

	Modules	Module Type (Compulsory (C) or Option (O))	A1/0	B1/0	B2/0	B3/0	B4/0	C1/0	C2/0	C3/0	D1
Level 0	Skills for Academic Study	C			x	x	x			x	x
	The Digital Age	C	x	x	x		x	x			
	Using Numeracy, Data & IT	C		x			x	x			
	Computing in Society	C	x		x	x	x	x	x	x	
	Computer Fundamentals	C	x	x		x	x	x	x	x	x
	Research Skills	C	x	x			x	x	x	x	x

Level	Modules	Module Type (Compulsory (C) or Option (O))	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	D1	D2	D3	D4	D5
Level 4	Professional Development	C							Y	Y					Y		Y	Y		Y	Y	Y
Level 4	Computer Technology	C		Y		Y			Y	Y		Y	Y	Y	Y			Y	Y	Y	Y	Y
Level 4	Website Design	C	Y	Y						Y	Y	Y	Y	Y				Y		Y	Y	Y
Level 4	Database Design	C	Y	Y	Y					Y	Y		Y	Y				Y		Y	Y	Y
Level 4	Software Engineering	C		Y	Y		Y	Y		Y		Y		Y			Y	Y	Y	Y	Y	Y
Level 4	Information Systems in Organisations	C						Y		Y		Y		Y	Y		Y	Y	Y	Y	Y	Y
Level 5	Data Communications	C		Y		Y	Y		Y	Y		Y			Y	Y		Y	Y	Y	Y	Y
Level 5	Systems Analysis & Design	C	Y	Y	Y		Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y	Y	Y
Level 5	Programming	C			Y					Y	Y			Y	Y			Y		Y	Y	Y
Level 5	Quality Systems in IT	C						Y		Y		Y			Y	Y	Y	Y	Y	Y	Y	Y
Level 5	Database Implementation	C	Y	Y				Y		Y	Y			Y	Y			Y		Y	Y	Y
Level 5	Dynamic Website Development	C	Y	Y				Y	Y	Y	Y			Y	Y			Y		Y	Y	Y
Level 6	Management in IT	C													Y	Y		Y	Y	Y	Y	Y
Level 6	Current Trends in Networking	C		Y		Y	Y		Y	Y	Y				Y	Y	Y	Y	Y	Y	Y	Y
Level 6	Computer Systems Security	C		Y		Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Level 6	e-Commerce Systems	C	Y	Y	Y			Y	Y	Y	Y	Y	Y		Y			Y	Y	Y	Y	Y
Level 6	Computing Project	C	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Mapping Assessment Typologies by Module

	Modules	Module Type (Compulsory (C) or Option (O))	Assignment	Case Study	Presentation	Portfolio of Tasks	Report	Design Specification Task	Exam/Test	Project
Level 0	Skills for Academic Study	C				x				
Level 0	The Digital Age	C		x			x			
Level 0	Using Numeracy, Data and IT	C	x	x					x	
Level 0	Computers in Society	C			x		x			
Level 0	Computing Fundamentals	C				x				
Level 0	Research Project	C			x					
Level 4	Professional Development	C		x			x			
Level 4	Computer Technology	C							x	
Level 4	Website Design	C						x		
Level 4	Database Design	C						x		
Level 4	Software Engineering	C				x				
Level 4	Information Systems in Organisations	C		x						
Level 5	Data Communications	C		x						
Level 5	Systems Analysis & Design	C		x						
Level 5	Programming	C				x				
Level 5	Quality Systems in IT	C		x						
Level 5	Database Implementation	C						x		
Level 5	Dynamic Website Development	C						x		

	Modules	Assessment Type → Module Type (Compulsory (C) or Option (O))	Assignment	Case Study	Presentation	Portfolio of Tasks	Report	Design Specification Task	Exam/Test	Project
Level 6	Management in IT	C	x							
	Current Trends in Networking	C		x						
	Computer Systems Security	C				x				
	e-Commerce Systems	C		x						
	Computing Project	C								x