

## B.Sc. Computing Programme Specification

1. Qualification	2. Programme Title	3. UCAS	4. Programme Type										
B.Sc (Hons)	Computing	G400/G402	Full time/Part-time										
<b>5. Main Purposes and Distinctive Features of the Programme</b>													
<ol style="list-style-type: none"> <li>1. To develop in the student an in depth understanding of the role, design, development and operation of computer-based information systems in the context of the information requirements of business</li> <li>2. To provide students with the knowledge and skills required to contribute to the analysis, design, testing and development of software systems in a systematic and professional manner</li> <li>3. To develop a professional approach to information systems engineering</li> <li>4. To expose students to current and future issues affecting the development of computer-based information systems.</li> <li>5. To develop the students' ability to adopt new methods and technology and to keep abreast of developments in hardware and software.</li> <li>6. To give a broad education in computing and its applications in business and industry.</li> <li>7. To develop and improve the students' interpersonal and communication skills particularly the investigative, formal writing, formal presentation and group working skills that are required for the workplace</li> <li>8. To enable students to apply a critical and analytical approach to problem solving and the investigation of topics in Computing.</li> <li>9. To develop and improve the students' interpersonal and communication skills particularly the investigative, formal writing, formal presentation and group working skills that are required for the workplace.</li> </ol>													
<p><b>Distinctive Features</b></p> <p>Professional accreditation from The British Computer Society (BSC) as meeting the academic requirements for full membership of BCS. Professional accreditation is an attractive feature to many employers since it validates the academic programme as providing a qualification recognised by the professional body.</p> <p>Note: In this case professional accreditation only applies to on campus students. Not students studying via off campus centres.</p>													
<p><b>6. What a graduate should know and be able to do on completion of the programme</b> (objectives and learning outcomes)</p> <p>To gain the qualification the learner will have demonstrated: i) subject knowledge and understanding ii) cognitive skills iii) discipline-related practical and professional skills and iv) other general skills and capabilities (e.g. key/transferable/common) as specified in the learning objectives/outcomes for approved modules in the programme. Further details of module outcomes can be found in the programme document.</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"><i>Knowledge and understanding in the context of the subject(s)</i></th> <th style="width: 50%;"><i>Subject-specific practical/professional skills</i></th> </tr> </thead> <tbody> <tr> <td>1. Understanding of the stages of the systems life cycle</td> <td>1. plan, monitor, control, implement and document a small software system to defined standards</td> </tr> <tr> <td>2. Knowledge of the tools and techniques that can be used at the different stages of the life cycle</td> <td>2. investigate and document a well-defined system to a standard using appropriate tools.</td> </tr> <tr> <td>3. Understanding of the systems, program and data modelling/ design techniques that are fundamental to systems development and corresponding skills</td> <td>3. produce a requirements specification using a standard method</td> </tr> <tr> <td>4. Structured design skills in a range of</td> <td>4. evaluate, select and justify the</td> </tr> </tbody> </table>				<i>Knowledge and understanding in the context of the subject(s)</i>	<i>Subject-specific practical/professional skills</i>	1. Understanding of the stages of the systems life cycle	1. plan, monitor, control, implement and document a small software system to defined standards	2. Knowledge of the tools and techniques that can be used at the different stages of the life cycle	2. investigate and document a well-defined system to a standard using appropriate tools.	3. Understanding of the systems, program and data modelling/ design techniques that are fundamental to systems development and corresponding skills	3. produce a requirements specification using a standard method	4. Structured design skills in a range of	4. evaluate, select and justify the
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5. computer applications	hardware and software requirements needed to meet a well-defined set of requirements	
5. Understand the gathering, processing, storage and management of data	5. design, implement and test a database using an industry-standard database package.	
6. The role in organisations and the basic technology of computer networks	6. use software development tools, operating systems and the internet	
<i>Cognitive skills in the context of the subject(s)</i>		
1. Capacity to identify and solve problems and to develop a systematic approach to reaching a solution	7. design and implement user interactions and interfaces	
2. ability to apply concepts	<i>Other skills (e.g. key/transferable) developed in subject or other contexts</i>	
3. competence in evaluating alternatives	1. communicate effectively both in writing and orally	
4. capability to transfer skills/knowledge to new areas	2. numerical skills appropriate to a computer systems developer	
5. competence in designing new products or services	3. work competently as part of a team	
6. ability to use a range of thought processes	4. ability to investigate and design solutions for routine and non-routine problems	
7. ability to critically evaluate the work of others and own contribution to a project	5. research a new area in Computing as a basis for a project	
	6. carry out a substantial piece of independent work	

## 7. Qualities, Skills & Capabilities Profile

The educational and training goals of the programme seek to develop and demonstrate the following qualities, skills, capabilities and values in its graduates

A Cognitive	B Practical	C Personal & Social	D Other
Problem Solving	Analysis and Design Skills	Team-working	
Application of Concepts	Programming Skills	Communication	
Powers of critical evaluation	QA and Testing Skills	Time management	
Transfer skills/knowledge	Database Skills	Working with 'users'	
Design new products	Technical documentation	Career development and planning	
Flexibility of thought	Evaluation of hardware and software	Professional Development	
Research skills	User interaction design		
Clarification of Objectives	Formal Presentation		

## **8. Subjects Studied, Levels, Credits and Qualifications**

3 years full-time; 4-5 years part-time; organised on 2 semesters per year basis.

**Part 1** comprises 6 level 1 20 credit modules, or equivalent

**Part 2** comprises 6 level H2 20 credit modules, or equivalent AND

6 level H3 20 credit modules, or equivalent

	<b>Core Modules</b>	<b>Dissertation/Project</b>	<b>Optional Modules</b>
<i>Bachelor Honours degree - 360 credits</i>			
<b>Part 2 Level 3</b>	CST3007 Professional Issues in Computing;	CST3100 Computing Project 40 credit individual project (for single subject pathway) involving self-managed integration, extension and practical application of knowledge	CST3003 Advanced Database Systems CST3005 Client Server Solutions LCT3009 Electronic Commerce CST3104 Internet Security CST3006 Object Oriented Methods 2 CST3008 Software Engineering CST3106 User Interface Design CST3009 Web and Systems Based Programming CST3108 Advanced Systems Design CST3107 Integrating Business Web Sites
<i>HE Diploma - 240 credits</i>			
<b>Part 2 Level 2</b>	CST2502 Data Structures and Algorithms CST2503 Database Theory and Practice CST2508 Object Oriented Methods 1 CST2507 Networks and Communications CST2511 Systems Analysis		CST2514 Building Office Applications CST2501 Visual Programming 2 LCT2506 Internet 2 CST2505 Human Computer Interaction.
<i>HE Certificate - 120 credits</i>			
<b>Part 1 Level 1</b>	LCT1023 Core Skills; CST1010 Information Systems LCT1019 Networking Basics CST1205 Introduction to Programming CST1206 Programming and Design		CST1203 Computerised Financial Systems LCT1000 Internet 1 CST1202 Visual Programming 1

## 9. Learning, Teaching and Assessment Strategy

### Learning and Teaching Methods

A combination of lectures, supervised and unsupervised practical work, directed study, Case Study weeks, group-working and a project

### Assessment Methods

Assessments are linked to the student outcomes for each module.

Types of assessment include:

Examinations Coursework reports  
Coursework to produce a program/ model a system  
Project to produce and document a piece of software

### Assessment Classification System

Description	Mark Range	Degree Class
Work of Exceptional Quality	70 - 100	I
Work of Very Good Quality	60-69	II.i
Work of Good Quality	50-59	II.ii
Work of Satisfactory Quality	40-49	III
Borderline fail	35-40	Fail
Clear Fail	0-34	Fail

The definitions of the above criteria are:

#### Work of Exceptional Quality

Virtually all of the relevant information/skills accurately deployed. Excellent and exceptional grasp of theoretical, conceptual, analytical and practical elements. Very effective integration of theory, practice and information in relation to the objectives of the assessment. Substantial evidence of originality and creativity as appropriate to the subject.

#### Work of Very Good Quality

Most of the relevant information/skills accurately deployed. Good grasp of theoretical, conceptual, analytical, practical elements. Effective integration of theory, practice and information in relation to the objectives of the assessment. Significant evidence of originality and creativity as appropriate to the subject.

#### Work of Good Quality

Some of the relevant information/skills accurately deployed. Adequate grasp of theoretical, conceptual, analytical and practical elements. Fair integration of theory, practice and information in relation to the objectives of the assessment. Some evidence of originality and creativity as appropriate to the subject.

#### Work of Satisfactory Quality

Some omissions in the deployment of information/skills. Some grasp of theoretical, conceptual, analytical and practical elements. Limited integration of theory, practice and information in relation to the objectives of the assessment. Limited evidence of originality and creativity as appropriate to the subject.

#### Borderline Fail

Deficiencies or omissions in information, skills, theoretical, conceptual, practical elements. Limited integration of these in relation to the assessed work's objectives. Some relevant content and marginal evidence of skills, knowledge or creativity which could, in the light of overall performance, constitute the basis for a pass grade in the examiners' judgement.

#### Clear Fail

Little evidence of the information, skills, theoretical, conceptual, analytical, creative or practical elements relevant to the assessment. Mainly irrelevant and/or incorrect information provided. Scant evidence of understanding of the requirements of the assessment.

## 10. Other Information

### Date programme first to be offered

1999

### Admissions Criteria

*The standard minimum requirements for the pathway are as follows:*

2 A Level passes + 3 subjects at GCSE with grade C or above including English Language and Mathematics

OR

3 passes at Scottish Certificate 'Higher' grade + 2 passes at standard grade

OR

BTEC National Certificate/Diploma

OR

Advanced GNVQ

OR

NVQ Level III

OR

Pass in Access to Higher Education course

OR

Irish Leaving Certificate

OR

Other equivalent qualifications

Applicants who have successfully completed an HND/C in a Computing subject and who have 3 Merits at Level 2 will be accepted onto the degree. We will grant an exemption from all level one modules and we will grant exemptions from any level 2 modules for which the applicant has a merit in an equivalent level 2 HND/C module. Students who have the requisite merit profile from Bolton Institute's current HND in Computing may be able to acquire a maximum of six exemptions and will therefore need a minimum of two semesters to complete their degree.

### Non Standard Entry

Applicants who do not have any of the above qualifications are regarded as non-standard applicants. To be considered for entry, non-standard applicants must normally be at least 21 years of age on 1st September of the year in which their programme begins.

Non-standard applicants will normally attend an informal interview with the course leader, in order to assess their level of academic competence as well as experience and motivation.

### Indicators of Quality and Standards

Validated by panel with two external subject specialists

External verifier

Internal yearly quality monitoring cycle

## MAPPING OF LEARNING OUTCOMES TO MODULES

### BSc Computing

	K 1	K 2	K 3	K 4	K 5	K 6	S 1	S 2	S 3	S 4	S 5	S 6	S 7	C 1	C 2	C 3	C 4	C 5	C 6	C 7	O 1	O 2	O 3	O 4	O 5	O 6	
<b>LEVEL 1 MODULES</b>																											
LCT1023							X										X	X	X		X	X					
CST1203		X			X			X						X			X			X		X					
CST1010	X		X	X	X	X				X	X												X				
LCT1000		X	X	X	X					X	X	X		X	X	X						X					
LCT1019					X				X					X	X	X	X			X		X					
CST1205			X	X						X	X			X	X					X							
CST1206	X			X		X								X			X	X					X	X			
CST1202	X	X				X								X					X			X					
<b>LEVEL 2 MODULES</b>																											
LCT2506		X				X				X				X		X	X	X					X	X			
CST2514	X			X		X		X	X	X		X			X	X	X	X									
CST2502			X								X	X			X				X			X		X		X	
CST2503			X	X	X					X	X	X			X		X					X					
CST2505	X		X			X					X	X			X	X											
CST2507					X	X	X					X	X		X	X		X				X					

<b>CST2508</b>		<b>X</b>	<b>X</b>	<b>X</b>					<b>X</b>			<b>X</b>		<b>X</b>		<b>X</b>	
<b>CST2511</b>	<b>X</b>		<b>X</b>		<b>X</b>	<b>X</b>	<b>X</b>		<b>X</b>			<b>X</b>		<b>X</b>	<b>X</b>		
CST2501		<b>X</b>		<b>X</b>	<b>X</b>	<b>X</b>				<b>X</b>		<b>X</b>	<b>X</b>		<b>X</b>	<b>X</b>	
<b>LEVEL 3 MODULES</b>																	
CST3003			<b>X</b>	<b>X</b>					<b>X</b>	<b>X</b>	<b>X</b>					<b>X</b>	
CST3005					<b>X</b>	<b>X</b>	<b>X</b>					<b>X</b>	<b>X</b>			<b>X</b>	
LCT3009	<b>X</b>			<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>			<b>X</b>	<b>X</b>			<b>X</b>		<b>X</b>	<b>X</b>
CST3006		<b>X</b>	<b>X</b>	<b>X</b>					<b>X</b>			<b>X</b>	<b>X</b>	<b>X</b>		<b>X</b>	<b>X</b>
CST3104					<b>X</b>				<b>X</b>	<b>X</b>	<b>X</b>		<b>X</b>	<b>X</b>		<b>X</b>	
<b>CST3007</b>	<b>X</b>		<b>X</b>							<b>X</b>	<b>X</b>	<b>X</b>		<b>X</b>	<b>X</b>	<b>X</b>	
CST3008	<b>X</b>	<b>X</b>	<b>X</b>			<b>X</b>	<b>X</b>	<b>X</b>		<b>X</b>	<b>X</b>		<b>X</b>	<b>X</b>	<b>X</b>		
CST3108			<b>X</b>	<b>X</b>			<b>X</b>		<b>X</b>	<b>X</b>	<b>X</b>		<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
CST3009				<b>X</b>	<b>X</b>				<b>X</b>	<b>X</b>			<b>X</b>	<b>X</b>		<b>X</b>	
CST3107				<b>X</b>	<b>X</b>			<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>		<b>X</b>		<b>X</b>		
<b>CST3100</b>				<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>		<b>X</b>							

Kn, Sn, Cn, On are Knowledge, Subject-specific, Cognitive and Other learning outcomes respectively. Refer to the Programme Specification for a definition of each learning outcome.

Core modules are shown in bold. An X at a row/column intersection indicates that the specified module supports the specified learning outcome.

## Mapping of Assessment Methods to Modules

### BSc Computing

	CW %	EX %	ICA %	PRA %	PRE %	IS %
<b>LEVEL 1 MODULES</b>						
<b>LCT1023</b>	<b>100</b>					
CST1203	<b>50+50</b>					
<b>CST1010</b>	<b>50+50</b>					
LCT1000	<b>70</b>	<b>30</b>				
<b>LCT1019</b>	<b>30</b>	<b>50</b>		<b>20</b>		
<b>CST1205</b>			<b>100</b>			
<b>CST1206</b>			<b>100</b>			
<b>CST1202</b>	<b>50</b>		<b>50</b>			
<b>LEVEL 2 MODULES</b>						
LCT2506	<b>30</b>	<b>30</b>	<b>40</b>			
CST2514	<b>50+50</b>					
<b>CST2502</b>	<b>40+60</b>					
<b>CST2503</b>	<b>50</b>	<b>50</b>				
CST2505	<b>50</b>	<b>50</b>				
CST2507	<b>50</b>	<b>50</b>				
<b>CST2508</b>	<b>40+60</b>					
<b>CST2511</b>	<b>50</b>	<b>50</b>				
CST2501	<b>50+50</b>					
<b>LEVEL 3 MODULES</b>						
CST3003	<b>50</b>	<b>50</b>				
CST3005	<b>25</b>	<b>50</b>		<b>25</b>		
LCT3009	<b>50</b>	<b>50</b>				
CST3104	<b>50</b>	<b>50</b>				
CST3006	<b>50</b>	<b>50</b>				
<b>CST3007</b>	<b>50</b>				<b>50</b>	
CST3008	<b>50</b>	<b>50</b>				
CST3108	<b>50</b>	<b>50</b>				
CST3009	<b>20</b>		<b>50</b>	<b>30</b>		
CST3107	<b>50</b>	<b>50</b>				
<b>CST3100</b>			<b>10</b>		<b>45</b>	<b>20+25</b>

## **Assessment Type Codes**

**CW** Coursework  
**EX** Examination  
**ICA** In-class assessment  
**PRA** Practical  
**PRE** Presentation  
**IS** Independent study

