PROGRAMME SPECIFICATION	

1	**Awarding Institution**	Newcastle University
2	**Teaching Institution**	Newcastle University
3	**Final Award**	BSc (Hons)
4	**Programme Title**	Accounting and Information Systems Economics and Information Systems Computing Science and Mathematics
5	**UCAS/Programme Code**	GL51, NG55, GG41
6	**Programme Accreditation**	N/A
7	**QAA Subject Benchmark(s)**	Computing
8	**FHEQ Level**	Honours
9	**Date written/revised**	August 2012

10 Programme Aims

This specification for component subject in a Joint Honours in Science Programme must be read in conjunction with the over-arching Joint Honours Programme Specification and one other component subject specification in combinations as outlined above.

The component subjects of Information Systems or Computing Science aim to:

1. To produce graduates with the in-depth knowledge and skills necessary to exploit computing systems throughout their professional life. Graduates will have a clear understanding of the practical, theoretical and professional foundations of key computing science topics. They will be able to apply relevant theory to the solution of practical problems, to the analysis of existing algorithms and techniques and development of applications of IT, building on standard software and hardware platforms
2. To provide a flexible structure that allows students to follow a general programme in Computing Science, or to specialise in their final year in one of four areas:
3. To provide a programme that equips students with subject-specific and transferable skills that will enable them to pursue a variety of careers within, and outside, the IT industry, including research.
4. To provide a programme which meets the FHEQ at Honours level and which takes appropriate account of the subject benchmark statements in Computing.

11 Learning Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas. The programme outcomes have references to the benchmark statements for Computing.
The following identifies the generic Intended Learning Outcomes. There will be variation depending on the options taken at Stage 3.

Knowledge and Understanding

On completing the programme students should have gained and able to demonstrate knowledge and understanding of:

A1. A diverse range of programming paradigms and languages supported by programming language principles

A2. The principles of software engineering

A3. Professional issues, including legal and ethical aspects of professional practice, professional development, social roles and effects of computing systems

A4. Communicating information

A5. Techniques for distributed and Internet programming

A6. Advanced knowledge of modern software engineering processes

A7. Knowledge of basic principles of advanced software CASE tools

A8. Awareness of software project management techniques

A9. Understanding of legal issues affecting software projects

Teaching and Learning Methods

Lectures are the main way of imparting knowledge and understanding (A1-A9), but tutorials are also used. Practical classes feature prominently, especially to support the Stage 1 programming modules (A1, A2). Visiting speakers provide seminars on aspects of being an IT professional (A3). Students are expected to contribute to their own learning experience by independent reading. They are provided with references to books which are categorised as *essential*, *recommended*, and *background* reading, as well as scientific papers and other learning materials including appropriate web URLs. In addition, an industrial placement will involve the development of knowledge within an industrial setting.

Assessment Strategy

Knowledge and understanding are assessed by means of closed and open book written examinations, and coursework, including team and individual project reports and log books (A1-A9).

Intellectual Skills

On completing the programme students should be able to understand and undertake:

B1. Carrying out the process of software development, including: the analysis of system requirements: the production of system specifications using appropriate models and techniques

B2. The use of a variety of advanced computer-based (including operating) systems

B3. The use and provision of network information services

B4. The use of a variety of programming languages and paradigms

B5. The design and implementation of user interfaces

B6. The introduction, customization and management of IT systems

B7. Giving advice and support to users in the operation of their IT systems

B8. Project management skills, including estimation and planning

B9. The application of IT systems to other subject areas depending on specialism

B10. Designing and building realistic distributed systems and Internet applications

B11. Integration of a wide variety of protocols and platforms

Teaching and Learning Methods

Coursework is used to develop many of these skills (B1-B11).

Assessment Strategy

Subject-specific and professional skills are assessed by coursework (B1-B11).

Practical Skills

On completing the programme students will have:

C1. The ability to conduct investigations using the technical and professional literature

C2. The ability to use and evaluate appropriate tools and techniques

C3. The ability to undertake empirical evaluation of alternative solutions

C4. The ability to solve problems by identifying suitable approaches to using computer-based systems.

Teaching and Learning Methods

All modules involve coursework, much of which involves problem solving skills (C4). This is especially so in projects where students need to select, evaluate and apply appropriate tools and techniques (C2). Here and elsewhere students will need to investigate possible alternatives in the technical and professional literature (C1, C3).

Assessment Strategy

Practical skills are assessed by a range of coursework (reports, design documents, etc.) (C1-C4).

Transferable/Key Skills

On completing the programme students should be able to use the following skills:

D1. Written communication
D2. Problem solving
D3. Interpersonal communication
D4. Initiative
D5. Adaptability
D6. Teamwork
D7. Numeracy
D8. Planning and organisation
D9. Computer literacy

Teaching and Learning Methods

Key skills feature throughout the programme; all students will have a basic level of numeracy (at least a C in GCSE Maths) and these skills are used and developed by exercises in the programming modules; computer literacy, problem solving, initiative and adaptability are necessarily covered throughout the programme.

Assessment Strategy

Key (transferable) skills are assessed by written presentations (D1-D9). Some skills are extensively practised but not easily assessed

12 Programme Curriculum, Structure and Features

Basic structure of the programme

This component is 50% of a three-year full-time programme.

Modules at Stage 1 and 1 provide strong foundation in the key knowledge and understanding and the practical skills required for a career in computing and/or information systems.
Stage 3 allows for specialisation and for students to match their optional choices with their other subject area

Key features of the programme (including what makes the programme distinctive)

The programme integrates learning through lectures and in practical sessions to develop both underpinning knowledge together with the skills needed by IT professionals.

Programme regulations (link to on-line version)

http://www.ncl.ac.uk/regulations/

13 Criteria for admission

Presented in overarching Joint Honours Programme Specification.

14 Support for Student Learning
Presented in overarching Joint Honours Programme Specification.

15 Methods for evaluating and improving the quality and standards of teaching and learning
Module reviews All modules are subject to review by questionnaires which are considered by the Board of Studies. Changes to, or the introduction of new, modules are considered at the School Teaching and Learning Committee and at the Board of Studies. Student opinion is sought at the Staff-Student Committee and/or the Board of Studies. New modules and major changes to existing modules are subject to approval by the Faculty Teaching and Learning Committee. Integration at Programme level is presented in the overarching Joint Honours Programme Specification.

16 Regulation of assessment
Presented in overarching Joint Honours Programme Specification.

In addition, information relating to the programme is provided in:
The University Prospectus (see http://www.ncl.ac.uk/undergraduate/) The School Brochure (contact enquiries@ncl.ac.uk) The University Regulations (see http://www.ncl.ac.uk/calendar/university.regs/) The Degree Programme Handbook

Please note. This specification provides a concise summary of the main features of the programme and of the learning outcomes that a typical student might reasonably be expected to achieve if she/he takes full advantage of the learning opportunities provided. The accuracy of the information contained is reviewed by the University and may be checked by the Quality Assurance Agency for Higher Education.

Annex

Mapping of Intended Learning Outcomes onto Curriculum/Modules

Compulsory modules are indicated in bold

Intended Learning Outcome	Description	Module codes (Compulsory in Bold)
A1	A diverse range of programming paradigms and languages supported by programming language principles	**CSC1011, CSC1014, CSC1015, CSC2511, CSC2512, CSC2513, CSC3501,** CSC3504
A2	The principles of software engineering	**CSC1011, CSC1014, CSC1015, CSC2511, CSC2512, CSC2513, CSC3002, CSC3003,** CSC3303
A3	Professional issues, including legal and ethical aspects of professional practice, professional development, social roles and effects of computing systems	**CSC1014, CSC1015, CSC2511, CSC2512, CSC3003,** CSC3501, CSC3504
A4	Communicating information	**CSC1014, CSC2512, CSC2513, CSC3003, CSC3501,** CSC3504
A5	Techniques for distributed and Internet programming	**CSC1014, CSC3504**
A6	Advanced knowledge of modern software engineering processes	**CSC3303**
A7	Knowledge of basic principles of advanced software CASE tools	**CSC3303**
A8	Awareness of software project management techniques	**CSC3303**
A9	Understanding of legal issues affecting software projects	**CSC3303**
B1	Carrying out the process of software development, including: the analysis of system requirements: the production of system specifications using appropriate models and techniques	**CSC1011, CSC1014, CSC2511, CSC2513, CSC3002, CSC3303,** CSC3504
B2	The use of a variety of advanced computer-based (including operating) systems	**CSC1011, CSC1014, CSC2511, CSC2513, CSC3002, CSC3501,** CSC3503, CSC3504
B3	The use and provision of network information services	**CSC1014, CSC1015, CSC2511, CSC2513, CSC3003, CSC3501,** CSC3504
B4	The use of a variety of programming languages and paradigms	**CSC1011, CSC1014, CSC2511, CSC3501,** CSC3504
B5	The design and implementation of user interfaces	**CSC1014, CSC2511, CSC2512, CSC3003, CSC3501,** CSC3503, CSC3504
B6	The Introduction, customization and management of IT systems	**CSC1014, CSC1015, CSC2513, CSC3501,** CSC3504

B7	Giving advice and support to users in the operation of their IT systems	**CSC1014, CSC1015, CSC3003, CSC3501,** CSC3504
B8	Project management skills, including estimation and planning	**CSC3303**
B9	The application of IT systems to other subject areas depending on specialism	**CSC1014, CSC3003, CSC3501,** CSC3504
B10	Designing and building realistic distributed systems and Internet applications	**CSC1014,** CSC3504
B11	Integration of a wide variety of protocols and platforms	**CSC1014, CSC3504**
C1	The ability to conduct investigations using the technical and professional literature	**CSC1014, CSC1015, CSC2511, CSC2512, CSC2513, CSC3002, CSC3003, CSC3501,** CSC3503, CSC3504
C2	The ability to use and evaluate appropriate tools and techniques	**CSC1011, CSC1014, CSC1015, CSC2511, CSC2512, CSC2513, CSC3003, CSC3501,** CSC3503, CSC3504
C3	The ability to undertake empirical evaluation of alternative solutions	**CSC1011, CSC1014, CSC1015, CSC2511, CSC2513, CSC3003,** CSC3006, CSC3503
C4	The ability to solve problems by identifying suitable approaches to using computer-based systems.	**CSC1011, CSC1014, CSC2511, CSC2513, CSC3002, CSC3003, CSC3501,** CSC3503, CSC3504,
D1	Written communication	**CSC1014, CSC1015, CSC2511, CSC2512, CSC3002, CSC3003, CSC3501,** CSC3303**,**
D2	Problem solving	**CSC1011, CSC1014, CSC1015, CSC2511, CSC2512, CSC2513, CSC3002, CSC3501,** CSC3503, CSC3504
D3	Interpersonal communication	**CSC1015, CSC2511, CSC2512, CSC3501,** CSC3303
D4	Initiative	**CSC1011, CSC1014, CSC1015, CSC2511, CSC2512, CSC2513, CSC3002, CSC3003, CSC3501,** CSC3504
D5	Adaptability	**CSC1011, CSC1014, CSC1015, CSC2511, CSC2512, CSC3501,** CSC3504
D6	Team work	**CSC1015**, CSC3303, **CSC3501**
D7	Numeracy	**CSC2512, CSC3501,** CSC3504
D8	Planning and organisation	**CSC1011, CSC1014, CSC1015, CSC2512, CSC2513, CSC3003,** CSC3303, **CSC3501,** CSC3504
D9	Computer literacy	**CSC1011, CSC1014, CSC1015, CSC2511, CSC2512, CSC2513, CSC3002, CSC3003, CSC3501,** CSC3504,