Course Specification

BSc (Hons) Computing and Information Systems

PLEASE NOTE.

This specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he or she takes full advantage of the learning opportunities provided. More detailed information on the specific learning outcomes, content and the learning, teaching and assessment methods of each module can be found in the course and module handbooks.

1. AWARDING INSTITUTION/BODY: UNIVERSITY OF ULSTER
2. TEACHING INSTITUTION: UNIVERSITY OF ULSTER
3. LOCATION: JORDANSTOWN
4. COURSE ACCREDITED BY: 
5. FINAL AWARD: BSc (Hons) in Computing and Information Systems
6. MODE OF ATTENDANCE: Part-time
7. SPECIALISMS: Computing and Information Systems
8. UCAS CODE -
9. QAA SUBJECT UNIT: Computing

10. Educational Aims And Objectives Of The Course

The overall aim of the course is to provide a broadly-based education in computing and information systems which will produce graduates equipped to apply best practice to the development and management of a wide range of information systems in organizations.

In support of this, the course has the following objectives:

- Equip students with a knowledge and understanding of the theory and principles underlying computing and information systems.
- Enable students to develop an ability to analyze computing and information systems problems and formulate practical solutions to these problems from both a strategic and tactical level, coupled with the ability to critically evaluate the approach and techniques used.
- Develop students’ ability to work within a team.
- Develop students in a range of key skills, personal qualities and attitudes essential to support the student’s progression into a career in the computing and information systems industry or further academic study.

11. Main Learning Outcomes

The course provides opportunities for students to achieve and demonstrate the following learning outcomes.

(Reference points used in defining the learning outcomes were the QAA Computing subject benchmark statement (2000) (B) and The British Computer Society Guidelines on Course Exemption and Accreditation (2001)(P)).
11A  Subject Related Qualities

Knowledge and Understanding of:
A1  The essential facts, concepts, principles, theories and practices relating to programming, systems development and information resource management. (B,P)
A2  The problems and criteria involved in planning and using information systems within an organisation and their impact and implications. (B,P)
A3  The methods used in defining and assessing criteria for the evaluation of information systems. (B)
A4  The professional, legal, moral and ethical issues relevant to the computing industry. (B,P)
A5  Current developments in a selection of advanced software techniques, technologies and applications (e.g. databases, distributed information systems, information systems support for management, knowledge based systems) (B,P)

Learning and Teaching Methods: lectures, tutorials, laboratory practical classes, directed private study, video, individual and group-based coursework.

Assessment Methods: class-tests, assessed coursework assignments, written examinations.

11B  Intellectual Qualities

The ability to:
B1  Abstract and model data and facts pertaining to the requirements of an information system for the purposes of comprehension, analysis, specification and communication (B,P)
B2  Analyze and evaluate the extent to which information systems planning and information resource management can help organisations improve their investment in information systems (B,P)
B3  Relate professional, legal, moral and ethical issues to the engineering and use of information systems (B,P)
B4  Formalise and articulate a logical argument in the respective disciplines. (B,P)
B5  Structure ideas, proposals and designs effectively using rational and reasoned arguments for presentation to a range of audiences. (P)
B6  Apply computing and information systems fundamentals to the comprehension and evaluation of advanced IS practice. (P)

Learning and Teaching Methods: lectures, tutorials, laboratory practical classes, directed private study, individual and group-based coursework.

Assessment Methods: class-tests, coursework assignments, group-based coursework, individual project written reports and viva-voce examination, individual presentations, written examinations.

11C  Professional / Practical Skills

The ability to:
C1  Plan for and identify the role of computer-based information systems within an organisation (B,P)
C2  Deploy best practice engineering processes, techniques and tools for the planning and development of information systems (B,P)
C3  Work as member of a team, recognizing the different roles within a team and the different ways of organizing teams (B,P)
C4 Communicate effectively technical information to technical, management, user, and academic audiences (B,P)
C5 Effectively manage information resources using appropriate tools and techniques (B)
C6 Recognise the professional, legal, moral and ethical principles relevant to the computing industry. (B,P)

Learning and Teaching Methods: lectures, tutorials, laboratory practical classes, directed private study, individual and group-based coursework, industrial placement.

Assessment Methods: class-tests, coursework assignments, group-based coursework, individual project written reports and viva-voce examination, software demonstrations, individual presentations, poster presentations, placement reports from students and supervisors.

11D Transferable/Key Skills

The ability to:
D1 Learn in both familiar and unfamiliar situations making effective use of information retrieval skills and learning resources. (B)
D2 Communicate effectively using various media and with a variety of audiences. (B)
D3 Apply numeracy in both understanding and presenting cases involving a quantitative aspect. (B)
D4 Effectively use general information technology facilities. (B)
D5 Manage one's own learning and development including time management, organizational skills and awareness of entrepreneurship issues. (B,P)
D6 Appreciate the need for continuing professional development in recognition of the need for lifelong learning. (B,P)

Learning and Teaching Methods: lectures and tutorials (D1, D3, D5, D6), laboratory practical classes (D1, D3-D6), directed private study (D1, D3-D6), individual and group-based coursework (D1-D6).

Assessment Methods: class-tests (D1, D3-D5), coursework assignments (D1-D6), group-based coursework (D1-D6), individual project written reports (D1-D6) and viva-voce examination (D1-D6), software demonstrations (D1-D5), individual presentations (D2-D6), poster presentations (D2-D5).
## Module Outcome Map

### Core Modules

<table>
<thead>
<tr>
<th>Modules</th>
<th>CODE</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>TITLE</td>
<td>A1</td>
<td>A2</td>
</tr>
<tr>
<td>Human Computer Interaction</td>
<td>COM308J1</td>
<td>Y</td>
</tr>
<tr>
<td>Introduction to Knowledge Based Systems</td>
<td>COM340J2</td>
<td>Y</td>
</tr>
<tr>
<td>Systems Development and Quality Control</td>
<td>COM624J1</td>
<td>Y</td>
</tr>
<tr>
<td>Distributed Information Systems</td>
<td>COM541J2</td>
<td>Y</td>
</tr>
<tr>
<td>Project Management</td>
<td>COM617J2</td>
<td>Y</td>
</tr>
<tr>
<td>Information Resource Management</td>
<td>COM616J1</td>
<td>Y</td>
</tr>
<tr>
<td>IS Project</td>
<td>COM618J4</td>
<td>Y</td>
</tr>
</tbody>
</table>

### Optional Modules

<table>
<thead>
<tr>
<th>Modules</th>
<th>CODE</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>TITLE</td>
<td>A1</td>
<td>A2</td>
</tr>
<tr>
<td>Information Systems Support for Management</td>
<td>COM407J4</td>
<td>Y</td>
</tr>
<tr>
<td>Strategic Planning for Information Systems</td>
<td>COM625J4</td>
<td>Y</td>
</tr>
<tr>
<td>Advanced Programming</td>
<td>COM326J2</td>
<td>Y</td>
</tr>
<tr>
<td>Advanced Database Systems</td>
<td>COM571J1</td>
<td>Y</td>
</tr>
</tbody>
</table>

This matrix summarises the main measurable outcomes. There may be other outcomes detailed in the module descriptions (e.g. attitudes and behaviours) that are not assessed.
12 Course Structure and Requirements for the Award

This is a three-year part time course. Over the three years students will take nine modules (three per year). Three of these modules will be at Level 2 and six at Level 3.

Year 1  60 points at Level 2  three 20 point modules
Year 2  60 points at Level 3  three 20 point modules
Year 3  60 points at Level 3  one 10 point module, one 20 point module and one 30 point module

The modules within the course, the level at which each is studied, its credit ratings and, where appropriate, its contribution towards the classification of the final award are shown below.

Year 1

<table>
<thead>
<tr>
<th>Sem</th>
<th>Module Title</th>
<th>Credit Level</th>
<th>Points</th>
<th>Contribution To Classification</th>
<th>Module Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Human Computer Interaction</td>
<td>2</td>
<td>20</td>
<td></td>
<td>Core</td>
</tr>
<tr>
<td>2</td>
<td>Introduction to Knowledge Based Systems</td>
<td>2</td>
<td>20</td>
<td></td>
<td>Core</td>
</tr>
<tr>
<td>1 &amp; 2</td>
<td>Information System Support for Management</td>
<td>2</td>
<td>20</td>
<td></td>
<td>Optional</td>
</tr>
<tr>
<td>1 &amp; 2</td>
<td>Advanced Programming</td>
<td>2</td>
<td>20</td>
<td></td>
<td>Optional</td>
</tr>
</tbody>
</table>

Year 2

<table>
<thead>
<tr>
<th>Sem</th>
<th>Module Title</th>
<th>Credit Level</th>
<th>Points</th>
<th>Contribution To Classification</th>
<th>Module Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Systems Development &amp; Quality Control</td>
<td>3</td>
<td>20</td>
<td>1/6</td>
<td>Core</td>
</tr>
<tr>
<td>2</td>
<td>Distributed Information Systems</td>
<td>3</td>
<td>20</td>
<td>1/6</td>
<td>Core</td>
</tr>
<tr>
<td>1 &amp; 2</td>
<td>Strategic Planning For Information Systems</td>
<td>3</td>
<td>20</td>
<td>1/6</td>
<td>Optional</td>
</tr>
<tr>
<td>1 &amp; 2</td>
<td>Advanced Database Systems</td>
<td>3</td>
<td>20</td>
<td>1/6</td>
<td>Optional</td>
</tr>
</tbody>
</table>

Year 3

<table>
<thead>
<tr>
<th>Sem</th>
<th>Module Title</th>
<th>Credit Level</th>
<th>Points</th>
<th>Contribution To Classification</th>
<th>Module Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Project Management</td>
<td>3</td>
<td>10</td>
<td>1/12</td>
<td>Core</td>
</tr>
<tr>
<td>2</td>
<td>Information Resource Management</td>
<td>3</td>
<td>20</td>
<td>1/6</td>
<td>Core</td>
</tr>
<tr>
<td>1 &amp; 2</td>
<td>IS Project</td>
<td>3</td>
<td>30</td>
<td>1/4</td>
<td>Core</td>
</tr>
</tbody>
</table>

Only second and third year (level 3) modules contribute to the classification of the award of the Degree.

Students will take SIX core modules and TWO optional modules. The University and the Colleges of Further Education will determine what combination of optional modules to deliver. All students will have to submit a 30 point dissertation.

Satisfactory completion of each pre-final year of the course is normally a pre-requisite for progression to the subsequent year. Satisfactory completion of Year 3 leads to the award of the degree with Honours. Pass requirements and honours classifications are detailed in section 16 below.
13 Support For Students And Their Learning

Students and their learning are supported in a number of ways:

- A series of phased Induction sessions provide timely advice on the key aspects of the course and services provided by the University. These are for students in their first year and are delivered by members of staff from the Faculty and the University departments responsible for providing the central learning resources and student services.

- A Faculty Student Handbook provides a guide to life as a student within the Faculty of Engineering. It welcomes students to the University and the Faculty, gives detailed information on Faculty structure, staff contact information, teaching and learning resources, health and safety and student support services. It also provides advice concerning assessment and how to approach study.

- A Course Student Handbook provides all the necessary information about the course. It includes information on the teaching staff, outline information on modules studied and the course calendar. It contains the course specification and the current course regulations.

- Module Handbooks describe the content of each module delivered in a particular year. These provide students with the module teaching and assessment schedules and a list of the recommended texts.

- A faculty Adviser of Studies for the Jordanstown campus provides a single first point of reference for both new and continuing students. The advisor of studies is an experienced member of staff with the responsibility of assisting students in their personal and career development.

- A centralised Counselling Service is available to students who are experiencing problems with aspects of their lives other than the strictly academic. However, if these problems are affecting their studies or academic progress the faculty advisor of studies and appropriate members of the course team co-operate to provide recommended help and advice to the student concerned.

- A centralised Careers Service is available to help students determine their future career and support their applications for employment. Direct advice is provided through a series of lectures to the final year during the first semester of the students’ final year. This provides advice and direction to students and enables them to make meaningful use of the careers service during the remainder of the year.

Students and their learning are also supported via:

- A course web site
- Extensive library and other learning resources
- Computer laboratories with a wide range of software
- Intranet containing learning support material
- Student e-mail accounts and full access to the Internet
- Advertised availability hours for academic staff in addition to email contact

14. Criteria For Admission To The Course

Applicants must satisfy the University’s general entry requirements and specific requirements for admission to the course are detailed below:

- Students must have:
  - a Higher National Diploma in Computing or a related discipline with an all merit bearing profile in the final year
  - or have passed with commendation an Associate Batchelor Degree in Computing
  - or a foundation degree with commendation in Computing or a related discipline
Applications from mature students with lesser qualifications e.g. Higher National Certificate in Computing or a related discipline with an all merit bearing profile in the final year plus four years relevant work experience will also be considered. Normally such applicants will be interviewed.

15. Evaluating And Improving The Quality And Standard Of Learning And Teaching

Mechanisms for the review and evaluation of teaching, learning, assessment, the curriculum and outcome standards:

- **Module reviews**: Each module co-ordinator takes responsibility for evaluating the content and delivery of each module they present. The evaluation is informed by student feedback and the course committee reviews the evaluations.
- **Annual Subject Monitoring**: Each year, all courses within the Faculty are reviewed to ensure their effectiveness and identify opportunities for improvement.
- **Peer teaching observations and feedback**: Each year, each member of teaching staff is expected to have at least one of their lectures observed by a colleague who provides informal feedback on performance.
- **Annual staff reviews**: A teaching questionnaire for each member of teaching staff each year is completed by students to help identify strengths and weaknesses in their performance. The University administers this evaluation and the results are discussed with the Head of School.

Committees with responsibility for monitoring and evaluating quality:

- The **Course Committee**: This committee oversees all changes to the Course and has overall responsibility for its design and effective delivery.
- The **Staff-Student Consultative Committee**: Class representatives are appointed for each year of the course. They are expected to bring forward any issues raised by the student group they represent.
- Board of Examiners
- Faculty Teaching and Learning Committee
- University Teaching and Learning Committee

Mechanisms for gaining student feedback on the quality of their learning experience:

- Staff-Student Consultative Committee
- Student representatives on School and Faculty boards
- **Module Evaluation** (questionnaires / module forum / module freeform responses). In addition, each module co-ordinator must also take responsibility for evaluating the content and delivery of each module they present. The evaluation is informed by student feedback, and the Course Committee reviews the evaluations.

Staff development includes:

- **Students Questionnaires**: A teaching questionnaire is completed for each member of teaching staff each year to help identify strengths and weaknesses in their performance. The University administers this evaluation and the results are discussed with the Head of School.
- Updating in the subject through research and scholarship
- Membership of the ILT
- Consultancy and technology transfer
- University Staff Development Programme
16. REGULATION OF STANDARDS

Assessment rules
The pass mark for each module in years 1 - 3 is 40%. The pass mark for each assessment element in a module (coursework, examination) is 40%. There is limited provision both for the condonement of failed modules having no assessment element mark below 35% and for the resitting of failed assessment elements. To pass each year of the course candidates must obtain either a pass or a condoned failure in each module taken.

The following percentages are used for determining candidates’ overall gradings of Honours degree courses:

<table>
<thead>
<tr>
<th>Class</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I</td>
<td>At least 70%</td>
</tr>
<tr>
<td>Class II (division i) (IIi)</td>
<td>At least 60% and less than 70%</td>
</tr>
<tr>
<td>Class II (division ii) (IIii)</td>
<td>At least 50% and less than 60%</td>
</tr>
<tr>
<td>Class III</td>
<td>At least 40% and less than 50%</td>
</tr>
</tbody>
</table>

Only Level 3 modules contribute to the honours classification. All modules contribute equally according to their points weighting (20 point modules contribute one sixth, 10 point modules one twelfth and 30 point modules one quarter.)

External examiners
An external examiner is appointed by the University Council on the recommendation of Senate, after consideration of nominations from the Faculty Teaching and Learning Committee. The full duties of an external examiner are set out in the University’s Code of Practice. They include:

- Approval and moderation of examination papers and other forms of assessment for Years 2 and 3.
- Consideration and revision of the standard of marking for Years 1 - 3.
- Ensuring comparability with similar courses at other institutions as regards course content and the standard of marking of examination papers and other forms of assessment.
- Providing valuable feedback to the Course Committee by submitting annual reports outlining any strengths or weaknesses of the course and the assessment procedures.
- Submitting to the Pro-Vice-Chancellor a report on standards of the Course.

The External Examiner may assist the Course Committee in reaching decisions on borderline candidates, and may subject such candidates to viva-voce examination.

17. Indicators Of Quality Relating To Learning And Teaching

- The Faculty of Engineering was given a satisfactory rating by the QAA subject review process for its provision of Computing Science Teaching (1994) and attained 22 in the QAA Subject Review of Mathematics (2000).
- Some Faculty members are also members of the Institute of Learning and Teaching.
- A number of the current Faculty’s staff have received the University’s Distinguished Teaching Award.
- The Faculty was given a rating of 4 in Computer Science (Unit 25) in the 2001 Research Assessment Exercise.
- External funding for learning and teaching initiatives.
- The Faculty hosts the national LTSN centre for information and computing science.