

## **BEng Hons Computer Science (6050)**

### **Programme Information**

- Programme Aims & Objectives
- Programme Structure Diagram
- Teaching and Learning Support Charter
- Programme Specification
- Sign-in Procedure (UK Border Agency)
- Attendance Monitoring
- Module Overview
- Timetable & Academic Calendar
- Programme Management
- Regulations

The latest information and guidance can be found on the Course Notice Board  
<http://scm.ulster.ac.uk/comp/>

## **Programme Aims & Objectives**

The discipline of computing science has underpinned recent technological advances in areas such as software engineering, telecommunications, advanced manufacturing and electronic commerce. The BEng Hons Computer Science programme of study is designed to produce graduates equipped to work as software professionals in the computing industry.

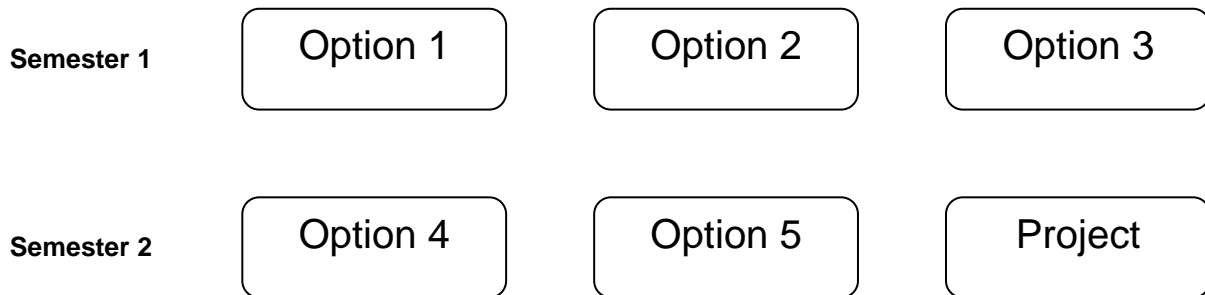
The overall aim of the course is to provide a broadly-based education in computing science which will produce graduates equipped to apply best practice in software engineering to the development of a wide range of information systems in organisations.

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

- To provide a systematic study of the theory and principles of programming and software engineering, computer hardware and software technologies, and the role of computing systems in organisations.
- To develop an ability to analyse computing problems and formulate practical solutions to these problems, coupled with the ability to critically evaluate the approach and techniques used.
- To provide opportunities for the development of practical skills in software development in a business/industrial context.
- To provide opportunities for the study at an advanced level of a range of computing techniques, technologies and applications.
- To develop key skills and competencies to support the student's progression into a career in the software industry or further academic study.

## Programme Structure Diagram

### Year 3



#### Semester 1

- Mobile Computing
- Formal Requirements Specification
- Intelligent Systems
- Interactive Web Computing

#### Semester 2

- Advanced Computer Networks
- Concurrent & Distributed Systems
- Natural Language Processing
- Software Engineering Management

Students are required to select three optional modules in Semester 1 and two in Semester 2.

## Teaching and Learning Support Charter

This Charter outlines the University's commitments to students and their responsibilities in relation to teaching and learning. A copy is available at:

<http://www.ulster.ac.uk/quality/qmau/t&l/supportcharter.pdf>

## Programme Specification

COURSE TITLE: BEng Hons Computer Science

PLEASE NOTE: This specification provides a concise summary of the main features of the BEng Honours Computer Science 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 teaching, learning and assessment methods of each module can be found in the module handbooks and online via the course notice board.

1. **AWARD INSTITUTION/BODY:** UNIVERSITY OF ULSTER
2. **TEACHING INSTITUTION:** UNIVERSITY OF ULSTER
3. **LOCATION:** Jordanstown
4. **ACCREDITED BY:** Not applicable
5. **FINAL AWARD:** BEng Honours in Computer Science
6. **MODE OF ATTENDANCE:** Full-time
7. **SPECIALISMS:** Computing
8. **COURSE/UCAS CODE:** 6050 / Not applicable
9. **DATE WRITTEN/REVISED** September 2011

### 10. EDUCATIONAL AIMS OF THE COURSE

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

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

- to provide a systematic study of the theory and principles of programming and software engineering, computer hardware and software technologies, and the role of computing systems in organisations.
- to develop an ability to analyse computing problems and formulate practical solutions to these problems, coupled with the ability to critically evaluate the approach and techniques used.

- to provide opportunities for the development of practical skills in software development in a business/industrial context.
- to provide opportunities for the study at an advanced level of a range of computing techniques, technologies and applications.
- to develop key skills and competencies to support the student's progression into a career in the software industry or further academic study.

## **MAIN LEARNING OUTCOMES**

The following reference points were used to inform the development of the programme and its learning outcomes:

- The University's vision and core strategic aims, teaching and learning strategy and policies;
- Current research and scholarship carried out by academic staff;
- The QAA Computing subject benchmark statement (2007) (B);
- The British Computer Society Guidelines on Course Exemption and Accreditation (2007)(P);
- The University Qualifications and Credit framework;
- Computing Curricula 2005 (ACM/IEEE Computer Society)

### **11.1 BEng Hons Computer Science**

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

#### **11.1K KNOWLEDGE AND UNDERSTANDING OF SUBJECT**

- K1** Programming fundamentals, data structures and algorithms, databases, human-computer interaction and software engineering (B, P)
- K2** Computer architecture, computer networks, systems software and web-based computing (B, P)
- K3** An engineering approach to the development of information systems in organisations (B, P)
- K4** Professional issues in information systems engineering (B, P)
- K5** Current developments in a range of advanced computing techniques, technologies and applications (B, P)

## Teaching and Learning Methods

Lectures will be used to present and illustrate basic theory and fundamental principles. Tutorials will be used to elaborate lecture content, provide problem solving opportunities and examine problem solutions in greater detail. Laboratory classes will enable hands-on experience of the practical application of theoretical concepts and allow elements of collaborative work. Class work will be supplemented by directed private study and may include access to online tutorial and study material.

## Assessment Methods

A wide variety of assessment methods will be used including class tests, collaborative coursework assignments and online assessments. Assessment of the knowledge base is principally through written examinations and submitted coursework assignments, enhanced in final year by the project report and oral presentations.

### 11.1I INTELLECTUAL QUALITIES

#### The ability to:

- I1 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)
- I2 Formulate design specifications for constructing information systems and apply problem solving skills in their specification and implementation (B, P)
- I3 Analyse and evaluate the extent to which an information system meets the criteria defined for its current use and future development (B, P)
- I4 Relate professional, legal, moral and ethical issues to the engineering and use of information systems (B, P)
- I5 Justify and communicate the technical and organisational rationale for a particular software solution (B)
- I6 Apply computing science fundamentals to the comprehension and evaluation of advanced hardware and software technologies (P)

## Teaching and Learning Methods

Intellectual qualities will be developed mainly through application of theory in laboratory practical classes, individual and collaborative coursework assignments, directed private study, professional work experience and final year projects.

## Assessment Methods

Class tests, individual and collaborative coursework assignments, individual project reports, individual presentations, oral and written examinations.

## 11.1P PROFESSIONAL/PRACTICAL SKILLS

### The ability to:

- P1** Specify, design, construct and test computer-based information systems (B, P)
- P2** Deploy best practice engineering processes, techniques and tools for the development and documentation of information systems (B, P)
- P3** Work collaboratively with others, recognising the different roles within a team and the different ways of organising teams (B, P)
- P4** Communicate effectively technical information to technical, management, user, and academic audiences (B, P)
- P5** Operate computing equipment effectively, based on an understanding of its hardware and software elements (B)

### Teaching and Learning Methods

Skills will be developed through tutorials, laboratory practical classes, individual and collaborative coursework, directed private study, written reports and oral presentations.

### Assessment Methods

Skills will be assessed by class-tests, individual and collaborative coursework assignments, individual project written reports and viva-voce examination, software demonstrations, individual presentations, poster presentations.

## 11.1T TRANSFERABLE SKILLS

### The ability to:

- T1** Learn in both familiar and unfamiliar situations making effective use of information retrieval skills and learning resources (B)
- T2** Communicate effectively using various media and with a variety of audiences (B)
- T3** Apply numeracy in both understanding and presenting cases involving a quantitative aspect (B)
- T4** Effectively use general information technology facilities (B)
- T5** Manage one's own learning and development including time management, organizational skills and awareness of entrepreneurship issues (B, P)

### Teaching and Learning Methods

Development of transferable skills operates across the programme in lectures and tutorials, laboratory practical classes, directed private study, individual and collaborative coursework.

### Assessment Methods

Assessment is through class-tests, coursework assignments, collaborative coursework, individual project written reports and viva-voce examination, software demonstrations, individual presentations, and poster presentations.

## 11.1 PROGRAMME LEARNING OUTCOMES MAP

**Please note:** The matrix displays only the measurable programme outcomes and where these are developed and assessed within the modules offered in the programme. There may be other outcomes detailed in the module descriptions (eg attitudes and behaviours) which are not assessed.

Modules		Outcomes																					
TITLE	CODE	K1	K2	K3	K4	K5	I1	I2	I3	I4	I5	I6	P1	P2	P3	P4	P5	T1	T2	T3	T4	T5	
<i>Compulsory</i>																							
Computer Science Project	COM534	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
<i>Options</i>																							
Mobile Computing	COM528	Y			Y	Y	Y	Y		Y		Y	Y	Y	Y				Y				Y
Formal Requirements Specification	COM583	Y		Y		Y	Y	Y	Y		Y	Y	Y	Y	Y			Y		Y			
Intelligent Systems	COM542	Y		Y		Y	Y	Y	Y		Y	Y	Y	Y				Y		Y			
Interactive Web Computing	COM554	Y	Y	Y		Y		Y	Y		Y	Y	Y	Y		Y		Y					
Advanced Computer Networks	COM548		Y	Y		Y	Y	Y	Y		Y	Y	Y	Y		Y	Y	Y		Y	Y		
Concurrent and Distributed Systems	COM577	Y	Y	Y		Y	Y	Y	Y		Y	Y	Y	Y			Y	Y					
Natural Language Processing	COM578	Y	Y	Y		Y	Y	Y	Y		Y	Y	Y	Y			Y	Y		Y	Y		
Software Engineering Management	COM582	Y		Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y	Y		Y			

## 12. STRUCTURE AND REQUIREMENTS FOR THE AWARD

The course consists of 120 credit points at level 6 and is of one year duration and is designed for students who already have an appropriate award at level 5 which can be mapped against the first 2 years of the BSc (Hons) Computing Science or the BEng (Hons) Software Engineering.

The programme consists of a compulsory project module and five optional modules, all at level 6.

Satisfactory completion of all modules leads to the award of the BEng (Hons) Computer Science. Pass requirements and honours classifications are detailed in section 16 below.

The language of instruction is English.

Module Title	Credit Level	Credit Points	Module Status	Sem	Award
<b>Year 4</b>					
Mobile Computing	6	20	Optional	1	1/6
Formal Requirements Specification	6	20	Optional	1	1/6
Intelligent Systems	6	20	Optional	1	1/6
Interactive Web Computing	6	20	Optional	1	1/6
Advanced Computer Networks	6	20	Optional	2	1/6
Concurrent & Distributed Systems	6	20	Optional	2	1/6
Natural Language Processing	6	20	Optional	2	1/6
Software Engineering Management	6	20	Optional	2	1/6
Computer Science Project	6	20	Compulsory	2	1/6

**Award:** BEng Hons Computer Science

### 13. SUPPORT FOR STUDENTS AND THEIR LEARNING

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

- An *induction programme* both before and during semester 1.
- The same *course director* manages each of the related courses (BSc Hons Computing Science, BEng Hons Software Engineering and BSc Hons Information and Communication Technologies) and thus has oversight of interactions between the courses (such as module sharing) as well as their internal operation.
- *Adviser of Studies* 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.
- The *Centre for English Language Teaching* (CELT) provides tailored support and classes throughout the year. These are included in the student timetable.  
See [http://international.ulster.ac.uk/CELT/first\\_page.html](http://international.ulster.ac.uk/CELT/first_page.html) for more information.
- The *Career Development Centre*, in addition to its standard career support, provides specific career development talks to computing students and arranges visits by a variety of firms in the computing industry. Close cooperation with the courses ensures that all careers events are well publicised to students by email and/or the course online notice board. See <http://careers.ulster.ac.uk/> for more information.
- The University's *Information Services Department* supports centralised computing facilities such as student e-mail accounts and access to the Internet. In addition computing students benefit from a wide range of specialised computing science resources provided in dedicated computer laboratories managed by the School's own Technical Services Engineers.
- The *course web site* (<http://scm.ulster.ac.uk/comp/>) is continuously maintained and so provides a focal point for access to any course related information such as recent announcements, timetables, links to module or other relevant University web sites, etc.
- Course handbook and module booklets
- Extensive library and other learning resources
- Intranet containing learning support material
- Direct contact with academic staff facilitated via email

#### 14. **CRITERIA FOR ADMISSION**

Applicants must satisfy the University's general entry requirements as set out in the prospectus or demonstrate their ability to undertake the course through the accreditation of prior experiential learning (APEL).

Applicants must have (or expect to obtain before the date of entry) a level 5 award that can be mapped to the first two years of the BSc (Hons) Computing Science or the BEng (Hons) Software Engineering.

#### 15. **EVALUATING AND IMPROVING THE QUALITY AND STANDARD OF TEACHING AND LEARNING**

**Quality and standards are evaluated and improved by the following means:**

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

- University processes for periodic re-approval of courses and annual subject monitoring
- Module reviews (include student input)
- Review of external examiner views expressed in assessment moderation, during Examination Board visits and in annual reports
- Annual course review prepared by the course committee
- Peer teaching observations and feedback
- Annual staff reviews

Committees with responsibility for monitoring and evaluating quality:

- Staff Student Consultative Committee
- Course committee
- Board of Examiners
- Faculty Academic Affairs Committee (includes student members)
- University Academic Affairs Committee (includes student members)

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

- Student-Staff Consultative Committee

- Student representatives on Faculty committees
- Student questionnaires on each lecturer

Staff development includes:

- Updating in the subject through research and scholarship
- Membership of the Higher Education Academy
- Consultancy
- Technology transfer
- University Staff Development programme
- Staff activity in the School of Computing hosted Higher Education Academy Subject Centre for Information and Computer Sciences.

In addition, there are University and Faculty strategies for teaching and learning.

## 16. REGULATION OF STANDARDS

### Assessment rules

The pass mark for each module is 40%. Where a module is assessed by a combination of coursework and examination a minimum mark of 35% shall be achieved in each element.

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

Class I	At least 70%
Class II (division i) (Ili)	At least 60% and less than 70%
Class II (division ii) (Ilii)	At least 50% and less than 60%
Class III	At least 40% and less than 50%

All modules contribute to the calculation of this percentage according to their credit points weighting.

### External Examiners

There is one external examiner for the course. External examiners are academic subject or professional experts appointed from outside the University. Their key functions are to contribute to the assurance of the

standards of the award and the fair treatment of students. They are involved in the moderation and approval of assessments and the moderation of the marking undertaken by internal examiners.

#### **17. INDICATORS OF QUALITY RELATING TO TEACHING AND LEARNING**

- The outcome of the QAA Institutional Audit (2010) to which the Computing Discipline Audit Trail was a major contributor: judgement of broad confidence.
- The Faculty 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, Statistics and Operational Research (2000).
- Some teaching staff are members of the Higher Education Academy.
- A number of the current Faculty staff have received the University's Distinguished Teaching Award.
- Research Assessment Exercise outcome (2008).
- External funding for learning and teaching initiatives.
- New staff and some existing staff have attained the Postgraduate Certificate in Higher Education Practice.
- Selected courses have been accredited by The British Computer Society.

## Sign-in Procedure (UK Border Agency)

All students are required to sign-in weekly during term time details as follows:

**Where:** School Office (16G24)

**When:** Thursday, 2.15 – 3.15pm

Your Student ID card is required on each occasion.

## Attendance Monitoring

The regulations for all courses at Ulster include a section on attendance requirements which indicates:

- Students are expected to attend all classes associated with the course and be punctual and regular in attendance.
- A student who has not been in attendance for more than three days through illness or other cause must notify immediately the Course/Subject Director. The student shall state the reasons for the absence and whether it is likely to be prolonged. Where the absence is for a period of more than five working days, and is caused by illness which may affect their studies, the student shall provide appropriate medical certification in accordance with the General Regulations for Students.
- Students who are absent without good cause for a substantial proportion of classes may be required to discontinue studies, in accordance with the General Regulations for Students.

Attendance will therefore be monitored on all modules across all years of study (undergraduate and postgraduate). Typically this will take the form of a sign-in sheet at each class (although other methods such as login records etc may also be used, particularly on online modules). This sheet will then be returned to the School Office where each student's attendance will be recorded electronically. Staff will then be able to periodically review a summary of each student's attendance and take any necessary action, such as interviewing a student to discuss their attendance.

Attendance at meetings with advisors of study or other staff will also be recorded.

It is acknowledged that there may be times that due to personal circumstances, attendance is not possible. However, it is important that in such circumstances you advise your Course Director as soon as practical, preferably in advance using an NA1 form.

Should you be contacted in relation to your attendance, it is important that you respond immediately and fully engage with the procedures. The School views the monitoring of attendance as a mechanism to help you maximise the benefit from your studies – it is not a “punishment”.

## **Module Overview**

### Year Three

#### **Mandatory Modules**

##### **COM534 (28899) – Computer Science Project (Dr Alexander Grigorash)**

Students are required to undertake a software development or information systems project during the final year of the course. The project module allows a selected problem area and software solution to be investigated in depth. Within the project, the student is expected to integrate and apply material from other modules in the course.

#### **Optional Modules**

### Semester 1

##### **COM583 (33672) Formal Requirements Specification : Dr Jun Liu**

The content of this module provides an in-depth treatment of formal requirements specification and studies the role of these activities in a range of software development models. The module underpins student project work and software development in a student's future career.

##### **COM527 (33639) Intelligent Systems : Dr Yaxin Bi**

Artificial Intelligence (AI) is an important field closely related to computing science. AI has contributed to the development of many other fields of computing science. Successful intelligent systems have been developed in various application areas. This module is offered for final year students who wish to (a) acquire knowledge of Artificial Intelligence that is useful itself for computing researchers and practitioners; (b) develop a better understanding of AI techniques and their practical applications.

##### **COM554 (33652) Interactive Web Computing : Professor Terry Anderson**

Interactive computing underpins most web-based and standalone applications. This module aims to equip students with a theoretical understanding and the practical skills necessary to develop modern interactive software. It places a significant, though not exclusive, emphasis on web and mobile user interfaces, reflecting the increasing prevalence of browser-based applications. Topics include GUI event handling, web browser architecture, XML, Ajax, XSLT, SVG, RSS, and usability issues.

##### **COM528 (39583) Mobile Computing : Dr Dewar Finlay & Dr George Moore**

Mobile computing devices are becoming ubiquitous and form a rapidly growing segment of the ICT industry. There is a need for graduates to have a firm understanding of and skills in application development for mobile devices, the models that surround their development and deployment as well as the particular challenges faced in developing for mobile devices.

### Semester 2

##### **COM548 (33649) Advanced Computer Networks : Dr Paul McCullagh**

Most computers exist in a distributed environment requiring exchange of information with other computers. In addition to ubiquitous LANs and WANs, applications range from personal area networks to high performance GRIDs. GUIs and multi-media consume bandwidth and faster communications are demanded. There is an increasing demand for mobile computing. This module advances underlying communication and networking theory by investigating the latest wireless networking architectures and protocols, using authoritative sources complemented by

lab based simulation to provide practical scenarios. Security of networks and protocols is discussed throughout.

**COM577 (33668) Concurrent Distributed Systems : Dr Piyush Ojha**

Most modern computer systems are now distributed in nature and concurrent by necessity. This course presents the fundamental concepts of such systems, and the various techniques that can be used to program them. It provides students with the foundations for using the technology in real world applications.

**COM578 (33669) Natural Language Processing : Dr Juan Carlos Augusto**

Natural language processing (NLP) is an application area of growing importance within computing, particularly when combined with speech technology. This module is offered for final year students who wish to acquire a detailed knowledge of spoken language technology and its applications.

**COM582 (33671) Software Engineering Management: Dr Ian McChesney**

The careful planning and control of project activities is essential to the delivery of successful software systems. The unique nature of software engineering projects requires a blend of generic project management skills and software specific project management and quality assurance capabilities. This module seeks to extend the student's knowledge of software engineering by introducing techniques and methods for the management of industrial software engineering projects.

Year 4 options may vary from time to time.

## Timetable & Academic Calendar

The course timetable will be distributed at induction and can also be viewed on the course noticeboard. These timetables are provisional and may be modified by module co-ordinators as required.

### DATES OF ATTENDANCE/EXAMINATIONS/VACATIONS : 2011/12

<b>Semester 1</b>	Monday 26 September 2011	Teaching begins
<b>(Autumn)</b>	Friday 16 December 2011	Teaching ends
	Monday 19 December 2011	Christmas Vacation begins
	Monday 26 December 2011 to Monday 2 January 2012	<b>University Closed</b> (Christmas)
	Friday 6 January 2012	Christmas Vacation ends
	Monday 9 January to Saturday 21 January 2012	Examination Period
	Friday 27 January 2012	Autumn Semester ends
<b>Semester 2</b>	Monday 30 January 2012	Teaching begins
<b>(Spring)</b>	Monday 19 March 2012	<b>University Closed</b> (St Patrick's Day)
	Monday 2 April 2012	Easter Vacation begins
	Monday 9 April to Friday 13 April 2012	<b>University Closed</b>
	Friday 13 April 2012	Easter Vacation ends
	Monday 7 May 2012	<b>University Closed</b> (May Day)
	Tuesday 8 May to Friday 11 May 2012	Revision week (non-teaching)
	Monday 14 May to Saturday 26 May 2012 (with possible extension to 29 May if required for first sit examinations)	Examination period
	Friday 1 June 2012	Spring semester ends
	Monday 2 to Tuesday 10 July 2012	Summer Graduation Ceremonies
<b>Resit Period</b>	Wednesday 15 August to Thursday 23 August 2012	Supplementary Examinations

## **Programme Management - Course Committee Membership**

Dr Paul Hanna	Head of School, Computing & Mathematics
Dr Nicola Ayre	Course Director
Professor Terry Anderson	Professor
Dr Juan Carlos Augusto	Lecturer
Dr Yaxin Bi	Lecturer
Dr Dewar Finlay	Senior Lecturer
Dr Alexander Grigorash	Lecturer (Project Co-ordinator)
Dr Jun Liu	Lecturer
Dr Ian McChesney	Senior Lecturer
Dr Paul McCullagh	Senior Lecturer
Dr George Moore	Lecturer
Dr Piyush Ojha	Lecturer
Dr Haiying Wang	Lecturer (Studies Advisor)

## Programme Management

Overall responsibility for the management of the programme of study lies with the *Course Committee* and the *Course Director* has responsibility for the day-to-day running of the course.

The *Course Committee* is a committee formed by those members of academic staff who have teaching responsibilities on the Course as well as the nominated studies advisors. This committee oversees all changes to the Course and has overall responsibility for its design and effective delivery. The Course Director is the Chairman of the Course Committee.

The *Staff-Student Consultative Committee* assists in informing the Course Committee. Class representatives are elected for each year of the course and these representatives are expected to bring forward any issues raised by the student group they represent.

The Course Committee reports, through School Board, to the Faculty's *Teaching and Learning Committee*, which in turn reports to *Faculty Board*. This is the normal route for all of the Faculty's Course Committee meeting minutes.

An *External Examiner* will be appointed by the University Council on the recommendation of Senate, to oversee and monitor standards etc. on the Course, after consideration of nominations from the Faculty Teaching and Learning Committee.

Student progression is the responsibility of the *Board of Examiners*, whose membership includes the Course Committee and the External Examiner.

A member of the course committee, known as the *Project Co-ordinator*, takes responsibility for organising the final year projects on the course. The role of the Project Co-ordinator involves collating project topics from academic staff and allocating students to projects and project supervisors. The Project Co-ordinator also organises all aspects of project assessment and collates the marks from various sources into an overall project mark.

## Student Support and Guidance

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

- An extended *Induction Programme* that introduces all aspects of the course, including course management, PC laboratory facilities and usage rules, basic study skills, introduction to student support services, library services and the examinations process. In addition support and guidance on issues such as the transition to University life, study skills, requirements for submitting coursework, understanding plagiarism, plus general student support is provided.
- The Centre for English Language Teaching (CELT) provides tailored support and classes throughout the year. These are included in the student timetable. See [http://international.ulster.ac.uk/CELT/first\\_page.html](http://international.ulster.ac.uk/CELT/first_page.html).
- Support for *Personal Development Planning (PDP)* to help students get the most from their time at University. Through a structured approach, it helps students organize and reflect upon the knowledge and skills they are developing. The PACE system supports the recording of PDP activity.
- Provision of a *Faculty Student Handbook* that contains essential information for students studying within the Faculty of Engineering. This handbook provides details of all of the key issues in relation to the faculty including academic structures, student support, study requirements, career and further study options etc.
- Provision of a *programme specific Student Handbook* that contains the essential information for students enrolled on this particular programme. This handbook provides details of all of the key issues in relation to the programme including learning outcomes, assessment strategy, rules and regulations etc.
- Each module is supported by the provision of a *Module Handbook* upon commencement of the module. The handbook provides details of all of the key issue relevant to the module such as learning outcomes, assessment schedule, reading material etc.
- Each student is allocated a *Studies Advisor* who has the responsibility of assisting students in their personal and career development. Studies Advisors are charged with assisting their students in adapting to the requirements of a University environment and are required to meet with their students on a regular basis so that any problems can be identified at an early stage and corrective action taken. Where problems are of a more serious nature or require more specialist advice, students may be directed to other senior teaching staff, the Course Director, University Counselling Service or Medical Services.
- The University's centralised *Department of Student Support* is available to help students achieve the maximum benefit from their University life. Students encounter personal challenges in learning and in living within the university environment. The purpose of the Department of Student Support is to assist students, not only in relation to academic achievement, but also in their social and personal development. There are a number of areas that are of particular use to students and these include Accommodation Services, Health Services, Nursery Care, Students Union and Student Development (which includes Counselling & Guidance).

- The University's *Careers Service* provides a comprehensive careers information, guidance and job search advisory service for students during their course and beyond graduation. In the final year of the course, weekly sessions are run by the Careers Services for students on this course, advising students on job searching, employment opportunities, CV preparation, and interview skills. See <http://careers.ulster.ac.uk/> for more information.

## Regulations

UNIVERSITY OF ULSTER

- | <b>1</b> | <b>COURSE TITLE</b>                  | <b>COURSE CODE</b> |
|----------|--------------------------------------|--------------------|
|          | <b>BEng Honours Computer Science</b> | <b>6050</b>        |
- 
- 2**    **MODE OF ATTENDANCE**  
Full-Time
- 3**    **DURATION**  
One year
- 4**    **LOCATION**  
Jordanstown
- 5**    **FACULTY**  
Faculty of Computing and Engineering
- 6**    **ADMISSION REQUIREMENTS**
- 6.1    Applicants must satisfy the University's general entry requirements as set out in the prospectus or demonstrate their ability to undertake the course through the accreditation of prior experiential learning (APEL).
- 6.2    Applicants must have (or expect to obtain before the date of entry) a level 5 award that can be mapped to the first two years of the BSc (Hons) Computing Science or the BEng (Hons) Software Engineering.
- 7**    **EXEMPTIONS**
- 7.1    There is no advance standing for BEng Hons Computer Science.
- 8**    **PLACEMENT/STUDY ABROAD**  
Not Applicable.
- 9**    **ATTENDANCE REQUIREMENTS**
- 9.1    Students are expected to attend all classes associated with the programme and be punctual and regular in attendance.
- 9.2    A student who has not been in attendance for more than three days through illness or other cause must notify immediately the Course Director. The student shall state the reasons for the absence and whether it is likely to be prolonged. Where the absence is for a period of more than five working days, and is caused

by illness which may affect their studies, the student shall provide appropriate medical certification in accordance with the General Regulations for Students.

- 9.3 Students who are absent without good cause for a substantial proportion of classes may be required to discontinue studies, in accordance with the General Regulations for Students.

## **10. RULES GOVERNING STUDENT CHOICE**

- 10.1 Modules are offered as indicated in the attached table (See Section 17). Revisions may be made in accordance with the University's quality assurance procedures. Module availability may vary and may depend on a maximum or minimum limit set for the number of students taking the module.

## **11. EXAMINATION AND ASSESSMENT**

- 11.1 The performance of candidates shall be assessed by the Board of Examiners in accordance with the Regulations Governing Examinations in Programme of Study.
- 11.2 Candidates shall be assessed in the modules for which they have enrolled in each year of study. At the discretion of the Board of Examiners candidates may be required to attend a viva voce examination.
- 11.3 Within each module candidates shall be assessed by a combination of coursework and examination in accordance with the attached table.
- 11.4 The pass mark for the module shall be 40%. Where a module is assessed by a combination of coursework and examination a minimum mark of 35% shall be received in each element.

## **12. SUBMISSION OF COURSEWORK**

- 12.1 Coursework shall be submitted by the dates specified by the course committee.
- 12.2 Students may seek prior consent from the course committee to submit coursework after the official deadline; such requests must be accompanied by a satisfactory explanation, and in the case of illness by a medical certificate. This application shall be made to the Course Director.
- 12.3 Coursework submitted without consent after the deadline shall not normally be accepted.

## **13. PROGRESS**

- 13.1 Subject to 14 hereof, candidates are required to pass all modules in each year of study in order to proceed to the next. Progress from semester 1 to semester 2 is automatic.

## 14. CONSEQUENCES OF FAILURE

- 14.1 Candidates who fail to satisfy the Board of Examiners in assessment may be permitted at the discretion of the Board to re-present themselves as specified in 14.2 for one or more supplementary examination and repeat such coursework or other assessment requirements as shall be prescribed by the Board. Such candidates may be exempted at the discretion of the Board from the normal attendance requirements. Where candidates are required to repeat coursework or to take a supplementary examination the original mark in the failed element shall be replaced by a mark of 40% or the repeat mark whichever is the lower for the purpose of calculating the module result.
- 14.2 In each year, other than the final year, the consequences of failure shall normally be as follows:

### Failure at the First Attempt

Failure in modules with an overall value up to and including 60 credit points	Repeat specified examinations and/or coursework in the failed modules (examinations August).
---	--

Failure in modules with an overall value of between 60 and 80 credit points	Repeat specified examinations and/or coursework in the failed first semester module(s) (examinations January) and of specified examinations and/or coursework in the second semester modules (examinations May) with or without attendance.
---	---

Failure in modules with an overall value of more than 80 credit points	Withdraw from the programme.
--	------------------------------

Failure by candidates in year 2 of sandwich courses	Exceptionally second year students on sandwich courses may be permitted to commence the placement period, pending a requirement to represent themselves for supplementary written examinations or to repeat coursework.
---	---

### Failure at the Second Attempt

Failure in modules with an overall value up to and including 20 credit points	Provided that the module(s) are not prerequisite(s) which must be passed, proceed to next year and repeat <i>once only</i> specified examination(s) and/or coursework in the failed module(s) at the next examination period (January or May).
---	--

Failure in modules with an overall value up to and including 40 credit points (except as above) Repeat *once only* specified examination(s) and/or coursework in the failed module(s) at the next examination period (January or May or August if semester already repeated) with or without attendance (progress to next year not permitted).

Failure in modules with an overall value of more than 40 credit points Withdraw from the programme.

#### 14.3 Failure in the Final Year (Honours degree)

In the final year the consequences of failure shall normally be as follows:

Failure in modules with an overall value up to and including 40 credit points Repeat *once only* specified examination(s) and / or coursework in the failed module(s) in consideration for Honours classification (examinations August).

Failure in modules with an overall value of more than 40 credit points Withdraw from the programme.

### 15. **CLASSIFICATION OF FINAL RESULT**

#### **BEng Honours Computer Science**

15.1 The overall Honours classification of successful candidates shall be based on the assessment results from all Level 6 modules. The weighting of each module's contribution to the overall mark shall be determined by the module credit value.

The table at section 17 indicates the contribution of each module to the final award.

#### Classification of Final Result (Honours degree)

The following percentages shall be used to determine candidates' overall gradings:

Class I	At least 70%
Class II (division i) (Iii)	At least 60% and less than 70%
Class II (division ii) (Iiij)	At least 50% and less than 60%
Class III	At least 40% and less than 50%

## 16. ILLNESS AND OTHER EXTENUATING CIRCUMSTANCES

### 16.1 In any year other than final year:

The Board of Examiners may in the case of candidates who are prevented by illness or other sufficient cause from taking or completing the whole or part of the assessment during the programme, or whose results are substantially affected by illness or other sufficient cause, permit the candidates to complete, take, or repeat the assessment in one or more modules at an approved subsequent date.

### 16.2 Final year (Honours Degree):

The Board of Examiners may in the case of candidates who are prevented by illness or other sufficient cause from taking or completing the whole or part of the final stage assessment or whose results are substantially affected by illness or other sufficient cause:

- (a) permit the candidate to complete, take, or repeat as candidates for the Honours degree, the assessment in one or more modules at an approved subsequent date **or**
- (b) deem the candidate to have passed and recommend the award of an Aegrotat Honours Degree.

16.3 Before an Aegrotat award is recommended a candidate must have signified that he or she is willing to accept the award.

## 17. REVISIONS TO REGULATIONS

These regulations may be revised during the student's period of registration in accordance with the procedures approved by Senate.

Yr/Level	Sem	Module Title	Code	Credit Value	Status	Asst. Methods %EX	Asst. Methods %CW	Contribution to the overall mark of the Final Award
3/6	1	Formal Requirements Specification	COM583	20	O	75	25	1/6
3/6	1	Intelligent Systems	COM542	20	O	75	25	1/6
3/6	1	Interactive Web Computing	COM554	20	O	50	50	1/6
3/6	1	Mobile Computing	COM528	20	O	-	100	1/6
3/6	2	Advanced Computer Networks	COM548	20	O	75	25	1/6
3/6	2	Concurrent & Distributed Systems	COM577	20	O	75	25	1/6
3/6	2	Natural Language Processing	COM578	20	O	50	50	1/6
3/6	2	Software Engineering Management	COM582	20	O	75	25	1/6
3/6	2	Computer Science Project	COM562	20	C	-	100	1/6

**Table 1 - Honours Degree Modules**

**Key:**

C = Compulsory

O = Optional

BEng Hons Computer Science students have a free choice from the options available.