Student Handbook

Web and Multimedia Awards

CertHE / DipHE / BSc / BSc(Hons)	**Web Development**
CertHE / DipHE / BSc / BSc(Hons)	**Web Multimedia**
CertHE / DipHE / BSc / BSc(Hons)	**Web Design (subject to validation)**
CertHE / DipHE / BSc / BSc(Hons)	**Web Programming**
CertHE / DipHE / BSc / BSc(Hons)	**Web Enterprise**
CertHE / DipHE / BSc / BSc(Hons) / BEng	**Multimedia Computing**
CertHE / DipHE / BSc / BSc(Hons) / BEng	**Computing Science: Web Development**
CertHE / DipHE / BSc / BSc(Hons)	**Internet Technology**

Faculty of Computing, Engineering and Technology

Author: Fiona Knight

Welcome to the Faculty of Computing, Engineering and Technology By The Dean

It is my pleasure to welcome you as a student to the Faculty of Computing, Engineering and Technology. You are joining a multidisciplinary community of about 3000 students and over 150 staff, involved in education, research and practice in all areas of computing, engineering and advanced technology. We all hope that you will find your time with us to be enjoyable and productive. An education in any area is a challenging prospect, but developing your creativity, skills and resourcefulness in such a fast changing discipline as computing in this new millennium has many benefits, in vocational practice or many other future careers.

We are committed to creating a productive, efficient and friendly atmosphere within the Faculty and welcome your partnership in this, but if you are experiencing problems, the staff are there to help you.

Professor Michael Goodwin
Dean of the Faculty of Computing, Engineering and Technology

Part 1 – Award Information

1 Introduction

Hello and welcome, my name is Fiona Knight, and I am the Scheme Leader for Web and Multimedia in the Faculty of Computing, Engineering and Technology. I hope you find the information in this handbook helpful and enjoy your studies. If you require any help during your time at Staffordshire University please contact me using the details in the next section.

The scheme consists of a set of awards that lead to a Bachelor of Engineering (BEng), Bachelor of Science (BSc) or Bachelor of Science with Honours (BSc Hons). The awards aim to produce problem solvers, highly skilled in the tools and techniques appropriate to the relevant industries of their awards.

You will study a diet of core and option modules on your degree. A module is a 12 week programme of study, usually comprising of 1 lecture and 2 tutorials per week. You will be expected to attend all of your classes. Core modules must be studied and passed to graduate on your named award. Option modules can be chosen from a selection available. Your award will have some commonality with other awards in the scheme, so you will be taught with students from a number of different awards.

Good luck with all your studies! **J**

2 Useful Contacts and Resources

The following is a list of useful names and numbers to contact when needed

2.1 Academic Officers

Web and Multimedia Scheme Leader – award / level leader for all Web and Multimedia Awards
Fiona Knight; room: K246; phone: (01785) 353524; e-mail: F.L.Knight@staffs.ac.uk

Placement Tutor – in overall charge of placements.
Ian Sunley; room: K218; phone: (01785) 353418; e-mail: G.I.Sunley@staffs.ac.uk

Final Year Project Tutor – in overall charge of the final year project
Rob Kinmond; room: K336; phone: (01785) 353305; e-mail: R.M.Kinmond@staffs.ac.uk

2.2 Administrative and pastoral support.

Administrator – administrative support for Web and Multimedia Awards
Kate Biggin; room: K243; phone: (01785) 353347; e-mail: K.Biggin@staffs.ac.uk

Placements Manager – day to day management of the Placements Unit.
Maria-Louise Feenan; room: K216; phone: (01785) 353257; e-mail: M.Feenan@staffs.ac.uk

Student Advisor – general pastoral support and guidance.
Janice Kalisz; room: K232; phone: (01785) 353345; e-mail: J.C.Kalisz@staffs.ac.uk

A full list of contact information may be found for academic, admin and technical staff at

http://www.staffs.ac.uk/faculties/comp_eng_tech/new_students/General_Faculty_Information.jsp

3 Internet Resources

The purpose of the Student Handbook is to provide you with information concerning the rationale and contents of the Web And Multimedia Scheme. It attempts to answer many of the questions you may ask throughout your study at Staffordshire University.

- Various up to date information is held on the Internet at the following address: http://www.staffs.ac.uk/faculties/comp_eng_tech/about_the_faculty/currstu.jsp

  There you can find up to date details of module class timetables, assessment deadlines, tutors, modules and this handbook.

- The modules you take have learning support material held in a system called Blackboard that is available at: http://Blackboard.staffs.ac.uk

- Information about the library may be found at http://library.staffs.ac.uk/#focus

- Information about Information Services may be found at http://www.staffs.ac.uk/uniservices/infoservices/

- Information about the facilities available in the various computing laboratories may be found at http://www.fcet.staffs.ac.uk/current_students/labs.htm

- Facebook group – 'Staffordshire University Web And Multimedia Students'

- Twitter - http://twitter.com/StaffsWebMult

3.1 Glossary

Module	A unit of study with a defined learning outcomes, curriculum and assessment. The module definition is to found in the module specification for the module. Each module has a number of Credits, associated with it. A single module is worth 15 Credits and notionally requires 150 hours of learning activity to complete. This learning activity being divided between time for class contact hours with staff, independent study and assessment. The number of allocated learning hours rises in proportion to the number of Credits attributed to a module at the rate of 10 hour per credit. All modules are multiples of the basic unit of 15 Credits. So for example, a double module will be worth 30 Credits and will have a learning time of 300 hours.
Core module	This is a module that you must take and pass to qualify for a given award title or range of titles.
Award Option	This is a module chosen from a list of Award Option modules. Award Option modules are studied in conjunction with the core modules and form the prescribed set of modules for a particular named award.
Computing Option	A Computing Option is a module which is specifically for students taking Awards within the Computing Degree Scheme. These modules can be found at the back of this handbook.

General Option	This is a module which you can choose from a set of modules which have been designed to complement your Award. This is to allow you to broaden your knowledge and skills base if you wish by taking some supplementary studies in addition to your main subject area. More specifically for students on the Web and Multimedia Scheme, a general option slot is where modules can be chosen from either, a) the full list of Computing Scheme modules at the relevant level (and multimedia options for multimedia computing students), provided the modules have not already been taken and any module specific admission requirements are met; Or b) the modules on the University General Option list, **excepting modules from the University IT Programme** – again provided the module has not already been taken and any module specific admission requirements are met. See http://www.staffs.ac.uk/modules/options/index.php If the module you choose is from a) above then the module will count as a specific option module. If the module you choose is from b) above, then it will count as a general option module. The available modules may be subject to constraints such as timetabling, disqualified combinations and pre-requisites.
Curriculum	The subject content of your studies. This can be used to refer to a single module or to the content of a package of modules.
Co-requisites	Co-requisites are those modules that you must take as a package. All the Level C core modules can be considered to be co-requisites. We have defined co-requisites to make sure that there is sufficient shape and coherence in your programme of study to make it a rewarding and interesting experience. A co-requisite is therefore a module which must be studied in addition to and normally at the same time as a particular module.
Designated Award	This refers to the award onto which a student is registered. It defines a programme of study i.e. a combination of modules that will lead to a degree with a specific name e.g. BSc (Hons) Computing Science.
Disqualified Combinations	Although rare on the Scheme, disqualified combinations are those modules which you cannot study together. This is normally because the content of the modules overlaps in some way, such that by taking both you would not cover the equivalent of two-modules learning.
Grade (Point)	On completion of the assessment of a module, you will be assigned a grade for that module in the range 0 to 15. In considering your performance at the end of a Level, grades will be averaged to produce grade point average for the Level (weighted by the size of the module). The Level H project counts as 3 separate grades.
Level	This indicates the academic level at which study is to be undertaken – Certificate level (module level 1), Intermediate level (module level 2) and Honours level (module level 3). Normally it corresponds to one year of study for full-time students. However, students may take modules from different levels at the same time, provided that they meet the requirements for their award.
Learning Time	The total time needed to complete the classes, private study and assessments for a module.
Programme of Study	This refers to the collection of core and option modules which make up your Award.

Pre-requisites	A pre-requisite is defined as a specific requirement that you must meet before you can take a module. In a similar way as entry to an Award was dependent on your achieving A-Level or BTEC passes for example, or having other prior knowledge, for some modules you will have to be 'qualified' to take them. This will normally mean studying for a module at an earlier level in the Award. Pre-requisites are specified to make sure that you have the knowledge and skills you will need to be successful in your chosen modules. Please refer to the Undergraduate Modular Framework Regulations for a more detailed description of this term in particular the distinction between the terms 'Pre-requisites' and 'Special Admissions Requirements'.
Route	A route is the specification of core and option modules which define a named Award e.g. Computer Science.
Scheme	The term Scheme is used to refer to a collection of awards that belong together academically. Schemes define a structure of study which ensures coverage of fundamental knowledge and skills within a particular academic area, while permitting some specialisation in specific areas within the area.
Special Admissions Requirements	The information given here provides you with the details as to the type of background knowledge you will be expected to have accumulated prior to the start of a module. This knowledge may have been acquired by studies which you have undertaken before entering the University. Further details are given in the Undergraduate Modular Framework Regulations handbook, in particular the distinction between the terms 'Special Admissions Requirements' and 'Pre-requisites'.
Teaching block	A period of study into which the year is divided, that may include induction, learning, assessment and academic counselling. There are currently two teaching blocks in each academic year.

4 Educational Aims And Overview

4.1 Guiding Philosophy

These awards aim to help you to develop sufficient knowledge and skills to be of significant value within industry, commerce and academic research in web and/or multimedia, but also to have the ability to develop your skills and understanding, after you have qualified, as new ideas and products emerge.

Professional accreditation by the British Computer Society influences the design of the Scheme. What this means to you is that your degree is recognised by Computing Professional Bodies and on completion you may apply for professional membership of this society.

4.2 Educational Aims of the Programme

The guiding philosophy is realised by a programme of study with the following educational aims.

1. Provide a sound general education in computing.
2. Provide a sound specialist education in web and/or multimedia
3. Enable the student to achieve the highest award within his or her overall ability.
4. Enable the student to specialise in depth in areas corresponding to his or her ability and choice.
5. Whenever possible, give a practical emphasis to the student's studies.
6. Provide a programme in which the student's general education is enhanced, including transferable skills.
7. [Sandwich awards only]Enable the student, by means of a one-year period of supervised work in an industrial, commercial or public service setting, to gain relevant experience in the computing profession, and as far as possible gainfully to exploit that experience during the student's final year.
8. Produce graduates who are fitted to undertake employment in industry, commerce or public service as computing professionals, or (for those with suitable degree classification) to undertake programmes of further study or research in appropriate institutions.
9. Ensure that the student has as wide a range of choice and flexibility as possible, whilst ensuring that individual awards are coherent and meaningful.

5 Overview of Web And Multimedia Degrees

In this area there are 6 award titles. These consist of one general web award (Web Development), one focused multimedia award (Multimedia Computing) and 4 focused web award titles. The focused web awards are

- Web Multimedia
- Web Design
- Web Programming
- Web Enterprise

There are also 2 awards that have been replaced by the awards listed above (Computing Science: Web Development, Internet Technology) and these two will not have any new students at level 1 from September 2008, and no new students at level 2 from September 2009.

All these awards are available at CertHE, DipHE, BSc and BSc(Hons) routes.

The **general award** (Web Development) is very flexible and allows the opportunity for study across all the different areas of web development, including design, programming, multimedia and enterprise. It permits you to develop a programme of study from the web modules on offer at the various different levels, and allows you to develop your own pattern of expertise.

The **focused awards** define a focus of study (through specific core and option groups) within a specified field of web and multimedia computing, allowing some specialisation whilst still providing a broad base of foundation knowledge. In the case of focused awards, the award title is intended to provide a guarantor of the development of a level of expertise within a specific area and provides a mechanism by which that expertise can be branded.

Intermediate awards of **Certificate of Higher Education and Diploma in Higher Education** are available to you if you do not wish to proceed beyond levels C (Certificate) and I (Intermediate) respectively, provided you meet the qualification requirements. The Certificate of Higher Education is restricted to the Computing Science title.

An **ordinary degree** is offered for each award title in the Scheme. This is to enable you, if you have difficulty in completing the Honours degree due to academic or other problems, to transfer onto a degree that will make it easier to complete an award successfully. However, if you successfully complete an ordinary degree, you may at a later date apply to return as a direct entrant onto level H of the Web and Multimedia Scheme to complete an Honours degree. The ordinary degrees are unclassified and are available as sandwich or non-sandwich awards. You need to be aware, however, that an ordinary degree is a lower award than an Honours degree, although it is a higher award than a Diploma of Higher Education.

You may enrol onto a **sandwich or non-sandwich** version of any of the award titles. However, we strongly encourage you to enrol onto a sandwich version. This is because the Faculty believes that students gain great benefit from the completion of an industrial placement and wish to reflect that belief by a giving students a strong recommendation to pursue a sandwich version. Transfer between sandwich and non-sandwich versions of award titles is covered in detail in part one section 16.4. The main principles are that transfer from a non-sandwich version to a sandwich version is relatively unrestricted, transfer from a sandwich to a non-sandwich version is only unrestricted during level C, after which it becomes subject to the student meeting various qualifying criteria (these criteria are set out in detail in part one section 16).

This is for 3 reasons:

a) It embeds the seriousness with which the Faculty views the industrial placement period as an important element of its awards, although it accepts that some students do not wish to engage in a placement and thus offer the opportunity for such students to undertake non-sandwich awards without prejudice.

b) It embeds the seriousness with which the Faculty wants the students to view the placement period. If the placement remained purely optional throughout, then no real commitment to the placement and the process of finding a placement is required from the student. However, where the placement forms a mandatory component of their sandwich award and transfer to a non-sandwich version is only possible, after level C, in exceptional circumstances, then serious commitment is required and is clearly recognised as required by the students involved.

c) The continued viability of a placement period is dependent upon planning and resourcing which in turn requires the number of students needing placements to be known and to be stable. This is not achievable if students may transfer to a non-sandwich version of their award at will, and at any time. At the very least we need to be assured of appropriate commitment from the students prior to the placement unit using resources to pursue placements for students. In particular it cannot afford to engage with employers about individual students having a placement with them only for the student then, or at a later time, to repudiate the placement and the process followed in finding them a placement, on the basis that they now wish to transfer to a non-sandwich version of their award. Good relations with companies are essential to maintain any placements at all. Students changing their mind would greatly inconvenience an employer and jeopardise the placement activity as a whole.

The **maximum and minimum periods of study** for each of the different types of award is given in the Undergraduate modular Framework Regulations that may be found at:
www.staffs.ac.uk/current/regulations/academic/index.php

6 Learning Outcomes

The Web and Multimedia Scheme provides you with opportunities to develop and demonstrate knowledge, understanding, cognitive and practical skills, within the discipline of web and / or multimedia, and also provides a solid underpinning in computing. Learning outcomes identify the nature of the abilities and skills you are expected to achieve, by the time you graduate from the Scheme.

The Scheme learning outcomes are mapped onto the abilities and skills identified by the Computing Benchmark Statement. The Computing Benchmark Statement is a statement developed by senior academics in computing under the auspices of the Qualifications Assurance Agency (QAA) to provide a statement identifying the sort of knowledge and skills that a Bachelors degree in computing should aim to develop in it's students. These abilities and skills broadly fall into three categories of computing-related cognitive abilities, computing related practical abilities, and transferable skills, all of which are developed within the context of the computing discipline. Please see the Programme Specification for the scheme (available from the Faculty website) if you want any further information about the Computing Benchmark Statement.

Please note that the learning outcomes represent the learning outcomes associated with the achievement of the award of an Honours degree (level H), Diploma in Higher Education (level I) and Certificate of Higher Education (level C) and the Ordinary degree. The learning outcomes given for a particular level are therefore cumulative and do not solely relate to the learning achieved at a given level, but to the learning achieved over the award period that culminates in that level. A detailed table of learning outcomes can be found in the programme specification at the faculty web site.

7 Overall Structure

For the sandwich Bachelor awards the normal structure is four years with a two year programme studied at the University, followed by a one year industrial placement, and then a final year at the University. For the non-sandwich Bachelor awards the normal structure is three years studied at the University. Students may follow any of the routes in the scheme in part-time mode as long as they observe the structure and general phasing of the equivalent full-time route they are following.

The ordinary degrees are only available to students up to the end of level 2 or for direct entrants with suitable qualifications (see part one section 16 for more details).

A module is a unit of study with defined learning outcomes, curriculum and assessment. The module definition is to found in the module specification for the module. Each module has a number of Credits associated with it. Credits are not grades, but a measure used within many Universities to allow students not only to transfer to other Awards within the University but also to transfer to another University.

A single module is worth 15 Credits and notionally requires 150 hours of learning activity to complete, being divided between time for class contact hours with staff, independent study and assessment. All modules are multiples of the basic unit of 15 Credits. So for example, a double module will be worth 30 Credits and will have a learning time of 300 hours. Further details are given in the Undergraduate Modular Framework Regulations.

The scheme has a computing core which is 5 modules at level C, 2 modules at level I, and a project, worth 3 modules, at level H. This allows any student to transfer to the computing science award should they wish to become less specialist. There is also a web development core, which allows any student on one of the more specialist web routes (Web Design, Web Programming, Web Multimedia and Web Enterprise) to transfer to Web Development should they wish to at any time. The remaining credits are the award modules and option modules.

A level of study indicates the academic level at which study is to be undertaken – Certificate level (module level 1), Intermediate level (module level 2) and Honours level (module level 3). Normally a level corresponds to one year of study for full-time students. For full-time students this is normally 120 credits per year. In the web and multimedia scheme, each level consists of 105 credits of core or specific option modules that form the programme of study for a given award title at each level. In addition 15 credits must to be taken in the general option slot, either as a further specific credit module or as a general option module.

The general option slot permits you to choose from a list of modules, some of which are outside the subject discipline of computing (e.g. some business modules may be available as general options). This is to allow you to broaden your knowledge and skills base if you wish by taking some supplementary studies in addition to your main subject area. More specifically a **General Option** slot is where modules can be chosen from either,

a) the full list of computing modules (and multimedia option modules in the case of multimedia computing) at the level you are currently at (see appendices 1 and 2), provided you have not already taken the modules and you have met any module specific admission requirements;
Or
b) the modules on the University General Option list, excepting modules from the University IT Programme – again provided you have not taken the module and you have met any module specific admission requirements OR a module from the computing (and multimedia options if on multimedia computing) at a different level than the one you are currently at.

If the module you choose is from a) above then the module will count as a specific option module. If the module you choose is from b) above, then it will count as a general option module. The further study within computing that you could take within the general option slot includes modules from the list from an earlier level (so you can fill in some gaps from an earlier level if you want). However, please remember this is only when a module is being counted as your general option slot choice. Also, please again note that computing students are disqualified from taking modules on from the University IT Programme as general options (although you may always take them as additional modules - ask your scheme leader about this).

If you study part-time then you will take 2 (or more) years to complete a level of study, although you cannot take more than 4 years per level and 8 years in total for an honours degree. Please see the Undergraduate Modular Framework Regulations for further details.

Level C

Level C provides the foundation for all the awards. 75 Credits of modules are common to all the awards. There are 30 credits worth of specialist modules and a 15 credit general option slot.

The general option slot permits you to take more general interest modules from across the University or from within Computing.

Level I

At Level I the various awards begin to diverge away from each other in terms of the award cores and option groups. There are 30 credits of modules which are core to all the awards, a 15 credit general option slot, and the rest are modules specific to the award route. Web Development offers you the most choice of modules, allowing you to specialise or choose several disciplines within web development.

Since the Scheme core is equivalent to the general award (Computing Science), then all students who pass the Scheme core will fulfil the award structure requirements for the Computing Science award and may thus change to that award should they find that their choice of focused award in due course becomes unsuitable.

Industrial placement

The industrial year of the programme follows level I and normally requires the completion of 48 weeks in relevant supervised work experience. The supervised work experience is essential for all sandwich routes within this scheme. As far as possible the work experience should be related to the route followed by the student.

See part one section 11 and 16 for Scheme specific regulations relating to the Industrial placement.

The placement is represented by a placement module which is core to all the sandwich awards on the Scheme, however, the industrial placement module is 0 credit rated and does not contribute to the classification of an award, although it must be passed for the award of a sandwich degree.

Level H

At level H all awards, except the ordinary degrees, have a 45 Credit major project, which for best fit with the Undergraduate Modular Framework Regulations is organised into 3 15 Credit modules. Students registered on a focused award title are required to complete a project within the academic area of that award title. No Honours student can achieve an Honours award without passing the project modules.

There is also a 15 credit general option and the rest of the level is made up of specialist modules. An ordinary degree student will study 60 level H credits. The structure of those credits is given by the 60 credits, after the 45 credit project and the 15 credit general option have been excluded, that remain from the structure of the honours degree that corresponds to the named ordinary degree they are registered on.

8 Individual Award Structure and Content

Each Award has its own individual structure. In the following pages details will be given of the individual award structures. You can obtain details of all modules referred to in the following diagrams by logging into the Faculty of Computing, Engineering and Technology home page on the Internet http://www.staffs.ac.uk/faculties/comp_eng_tech/about_the_faculty/currstu.jsp

Please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available).

8.1 Web Development

Computing applications all increasingly rely on the use of the internet and web technologies. Web Development is an award for those wishing to become specialist in design and development of computing for the web and related technologies. This award allows you to study all areas of web development from design, programming, media and enterprise. The award allows you to specialize at a later stage should you wish to, or stay a generalist in web development. Students will study the latest technologies and programming languages suitable for web development.

Levels C and I of the award will give you a solid foundation in computing for web development including web page design and development, web standards such as XHTML, CSS, programming concepts, database development, media for the web, making web sites useable and hardware for web development. This will also include programming in the latest web languages, including PHP, ASP.NET, JSP and ActionScript, and options will allow you to gain knowledge in the use of media in the web, Adobe software such as Flash and Flex, E-Commerce, or develop your networking skills with our CISCO academy.

Level H builds on this foundation developing in more specific modules, and gaining advanced skills in web development and topics such as Web standards, XML, web services and Web 2.0. Options will allow you to further the skills you gained at Level C and I. The final year project will allow you to demonstrate the skills you have developed over your course.

LEVEL C

LEVEL C	CE00371-1 Introduction to Software Development	CE00867-1 Hardware, Networks and Servers for Interactive Computing	CE00819-1 Maths For Interactive Computing	CE00301-1 Web Design And Development
	CE00882-1 Object Oriented and Event Driven Programming	CE00839-1 System Modelling	Award Option	General Option

Award Option [taken in either semester depending on module choice] **one** from:
CE00367-1 Introductory Business Concepts (Semester 1)
CE00291-1 Introduction to Multimedia Applications
CE00126-1 Introduction to Networking with LANs and WANS
CE00752-1 Introduction to Design Concepts for Computing
CE00753-1 Web: Cause and Effect
CE00869-1 Algorithms and Data Structures in C

GENERAL OPTION

The general option can be chosen from the following, although please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available):

a) the full list of Scheme modules at level C (see part one appendix 2), provided the modules have not already been taken and any module specific admission requirements are met;
Or
b) the modules on the University General Option list, excepting modules from the University IT Programme – again provided the module has not already been taken and any module specific admission requirements are met.

LEVEL I

For award options, and general options the number of each type of module in each semester shown in the diagram is only meant as an example and could occur differently in practice, subject to the constraint that the total number of each type remains the same – see option lists below for specific details.

LEVEL I	CE00315-2 Professional & Enterprise Development	CE00856-2 Database Systems	CE00975-2 Web Design and Development 2	Award Option
	Award Option	Award Option	Award Option	General Option

AWARD OPTION [taken in either semester depending on module choice] from:

CE00374-2 Graphical User Interfaces: Design and Implementation
CE00406-2 Dynamic Data Interchange
CE00526-2 Concurrent Programming in C#
CE00527-2 Further Object Oriented Programming
CE00685-2 Design Reflection
CE00828-2 Interface Design and Interactions
CE00840-2 Media for the Web
CE00843-2 Web Database Programming
CE00844-2 Web Media Programming
CE00850-2 Web Programming with Servlets and JSP
CE00952-2 Web Design
CE00953-2 Web Application Development
CE00954-2 E- Marketing and SEO
CE00955-2 Service Oriented Architecture For Web Applications (Starts 2010/11)
CE00956-2 Multimedia Effects

GENERAL OPTION:
The general option can be chosen from the following, although please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available):

a) the full list of scheme modules at level I or level C (see part one appendix 2), provided the modules have not already been taken and any module specific admission requirements are met;
Or
b) the modules on the University General Option list, excepting modules from the University IT Programme – again provided the module has not already been taken and any module specific admission requirements are met.

If you are registered for a sandwich degree you must do an industrial placement between levels I and H, usually lasting one year.

LEVEL H

For award options, computing options and general options the number of each type of module in each semester shown in the diagram is only meant as an example and could occur differently in practice, subject to the constraint that the total number of each type remains the same – see option lists below for specific details.

LEVEL H	CE00835-3 Project: Planning, Management, Communication and Appraisal	CE00958-3 Web Project	Award Option	Award Option
	CE00836-3 Project: Research, Analysis and Artefact Design	CE00837-3 Project: Artefact Realisation, Testing and Evaluation	Award Option	General Option

AWARD OPTION [taken in either semester depending on module choice] from:

CE00313-3 Ubiquitous Computing
CE00329-3 Distributed Computer Systems
CE00331-3 Advanced Programming Language Concepts
CE00332-3 Advanced Database Systems
CE00333-3 Algorithmics
CE00342-3 Mobile Multimedia and Gaming
CE00348-3 Project Management
CE00362-3 Design Patterns
CE00461-3 On-Line Gaming
CE00722-3 Further Web Applications
CE00841-3 Web Standards and Semantic Web
CE00845-3 Web Services
CE00846-3 Building Web Applications
CE00847-3 Further Media for the Web
CE00848-3 Further Web Media Programming
CE00874-3 Enterprise Applications with Java Enterprise Edition
CE00957-3 Web Architecture (starts 2010/11)
CE00976-3 E-Business Strategies and Models (starts 2010/11)

GENERAL OPTION:
The general option can be chosen from the following, although please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available):

a) the full list of Scheme modules at level H, I or C (see part one appendix 2), provided the modules have not already been taken and any module specific admission requirements are met;
Or
b) the modules on the University General Option list, excepting modules from the University IT Programme – again provided the module has not already been taken and any module specific admission requirements are met.

8.2 Web Multimedia

There is a rise in the number of Rich Internet Applications being produced, which incorporate web technologies, graphics, and video to increase the user experience. Web technologies are also being used in the development of widgets for desktop computing, and also increasingly mobile devices. Web Multimedia is an award for those wishing to become specialist in the design and development of such applications and also create high media / broadband web sites and convert media to make it suitable for web delivery.

Levels C and I of the award will give you a good foundation in computing including programming, hardware and databases, and then specialises in web development of high media web sites and rich internet applications. This includes converting and creating media for web delivery, web design, web standards, web development in Adobe Flash and Microsoft Silverlight, programming in Adobe Action Script and Flex and .NET, and streaming video and audio in Flash, Real and Windows Media, and streaming servers. You will also build web applications in languages such as PHP and ASP.NET

Level H expands on the knowledge gained previously, and also covers topics such as SMIL, SVG, web standards, and live web broadcast, on-line game development and podcasting. You can also take options to develop further skills in gaming, or building up further web multimedia skills.

LEVEL C

LEVEL C	CE00371-1 Introduction to Software Development	CE00867-1 Hardware, Networks and Servers for Interactive Computing	CE00819-1 Maths For Interactive Computing	CE00301-1 Web Design And Development
	CE00882-1 Object Oriented and Event Driven Programming	CE00839-1 System Modelling	CE00291-1 Introduction to Multimedia Applications	General Option

GENERAL OPTION

The general option can be chosen from the following, although please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available):

a) the full list of Scheme modules at level C (see part one appendix 2), provided the modules have not already been taken and any module specific admission requirements are met;
Or
b) the modules on the University General Option list, excepting modules from the University IT Programme – again provided the module has not already been taken and any module specific admission requirements are met.

LEVEL I

LEVEL I	CE00315-2 Professional & Enterprise Development	CE00856-2 Database Systems	CE00975-2 Web Design and Development 2	CE00840-2 Media for the Web
	CE00953-2 Web Application Development Or CE00952-2 Web Design Or CE00956-2 Multimedia Effects	CE00844-2 Web Media Programming	CE00828-2 Interface Design and Interactions	General Option

GENERAL OPTION:
The general option can be chosen from the following, although please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available):

a) the full list of Scheme modules at level I or level C (see part one appendix 2), provided the modules have not already been taken and any module specific admission requirements are met; Or
b) the modules on the University General Option list, excepting modules from the University IT Programme – again provided the module has not already been taken and any module specific admission requirements are met.

If you are registered for a sandwich degree you must do an industrial placement between levels I and H, usually lasting one year.

LEVEL H

LEVEL H	CE00835-3 Project: Planning, Management, Communication and Appraisal	CE00958-3 Web Project	CE00847-3 Further Media for the Web	General Option
	CE00836-3 Project: Research, Analysis and Artefact Design	CE00837-3 Project: Artefact Realisation, Testing and Evaluation	CE00461-3 On-Line Gaming	CE00848-3 Further Web Media Programming

GENERAL OPTION:
The general option can be chosen from the following, although please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available):

a) the full list of Scheme modules at level H, I or C (see part one appendix one), provided the modules have not already been taken and any module specific admission requirements are met; Or
b) the modules on the University General Option list, excepting modules from the University IT Programme – again provided the module has not already been taken and any module specific admission requirements are met.

8.3 Web Design

Front end web design is becoming increasingly important to attract people to a web site, and make a web site more useable. Web design is also becoming more important as a multitude of devices, from desktop to mobile, and handheld games devices and TV can view web pages. Students studying this degree will become a specialist in the technologies involved and the principles involved in web design. They will also gain a solid foundation in computing, including databases and programming, so that they can communicate and interact with people who will be developing the back end to web applications.

Levels C and I of the award will give you a good foundation in computing concentrating on the technologies concerned with web design and how web designers can communicate with web programmers. They will study design concepts for computing, user interfaces, web design, web media, media conversion for web site delivery, web standards. They will study how to gather user requirements and convert those into reality using prototype interfaces. They will become specialist in CSS, user interactions, accessibility and human computer interaction, and use the latest tools such as Dreamweaver, Flash and Microsoft Expression Studio to design the interfaces of web applications. Students will also study the basics of programming, hardware and databases to enable them to understand and work with web programmers. They will also be given the opportunity to take options in e-commerce, e-marketing, multimedia and web programming modules to further their knowledge, or take up options in a different area of computing such as games or forensics.

Level H builds on the previous levels to further their knowledge in the technologies involved in web design. They will also look at future interfaces in the world of ubiquitous computing as many of these interfaces can utilize internet technologies, and look at how web standards have an impact on web design. Options will allow you to further the skills you gained at Level 1 and 2. The final year project will allow you to demonstrate the skills you have developed over your course.

LEVEL C

LEVEL C	CE00371-1 Introduction to Software Development	CE00867-1 Hardware, Networks and Servers for Interactive Computing	CE00819-1 Maths For Interactive Computing	CE00301-1 Web Design And Development
	CE00882-1 Object Oriented and Event Driven Programming	CE00839-1 System Modelling	CE00752-1 Introduction To Design Concepts For Computing	General Option

GENERAL OPTION

The general option can be chosen from the following, although please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available):

a) the full list of Computing Degrees Scheme modules at level C (see appendix 2), provided the modules have not already been taken and any module specific admission requirements are met;
Or
b) the modules on the University General Option list, excepting modules from the University IT Programme – again provided the module has not already been taken and any module specific admission requirements are met.

LEVEL I

For award options, and general options the number of each type of module in each semester shown in the diagram is only meant as an example and could occur differently in practice, subject to the constraint that the total number of each type remains the same.

LEVEL I	CE00315-2 Professional & Enterprise Development	CE00856-2 Database Systems	CE00975-2 Web Design and Development 2	CE00840-2 Media for the Web (can be taken either in semester 1 or 2)
	CE00952-2 Web Design	CE00828-2 Interface Design and Interactions	Award Option (can be taken either in semester 1 or 2)	General Option (can be taken either in semester 1 or 2)

AWARD OPTION [taken in either semester depending on module choice] from:
CE00953-2 Web Application Development
CE00844-2 Web Media Programming
CE00954-2 E- Marketing and SEO
CE00374-2 Graphical User Interfaces: Design And Implementation
CE00685-2 Design Reflection

GENERAL OPTION:

The general option can be chosen from the following, although please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available):

a) the full list of Computing Degrees Scheme modules at level I or level C (see appendix 2), provided the modules have not already been taken and any module specific admission requirements are met;
Or
b) the modules on the University General Option list, excepting modules from the University IT Programme – again provided the module has not already been taken and any module specific admission requirements are met.

If you are registered for a sandwich degree you must do an industrial placement between levels I and H, usually lasting one year.

LEVEL H

LEVEL H	CE00835-3 Project: Planning, Management, Communication and Appraisal	CE00958-3 Web Project	CE00313-3 Ubiquitous Computing	CE00847-3 Further Media for the Web
	CE00836-3 Project: Research, Analysis and Artefact Design	CE00837-3 Project: Artefact Realisation, Testing and Evaluation	CE00841-3 Web Standards and Semantic Web	General Option

GENERAL OPTION:
The general option can be chosen from the following, although please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available):

a) the full list of Computing Degrees Scheme modules at level H, I or C (see appendix 2), provided the modules have not already been taken and any module specific admission requirements are met;
Or
b) the modules on the University General Option list, excepting modules from the University IT Programme – again provided the module has not already been taken and any module specific admission requirements are met.

8.4 Web Programming

Traditional programming techniques are being used increasingly in developing web applications. Students who study this degree will become specialist in programming web applications, but could also apply those programming skills to any area of computing. They will fundamentally be involved in creating the back-end to web applications and work closely with web designers to interact with any front end that has been designed.

Levels C and I of the award gives you a solid foundation in computing, especially programming, hardware and databases, and then specializes in programming web applications using current languages, including PHP, ASP.NET, JSP, used in the web. Options will allow you to gain programming skills in Action Script or Flex, or more traditional programming languages, or take a look at other areas of computing such as web design, games programming, programming for mobile devices or security.

Level H will expand on these skills and also covers areas such as web standards, and web services, and you will be given the option to study further programming or other areas of computing. The final year project will allow you to demonstrate the skills you have developed over your course.

LEVEL C

LEVEL C	CE00371-1 Introduction to Software Development	CE00867-1 Hardware, Networks and Servers for Interactive Computing	CE00819-1 Maths For Interactive Computing	CE00301-1 Web Design And Development
	CE00882-1 Object Oriented and Event Driven Programming	CE00839-1 System Modelling	CE00753-1 Web: Cause and Effect Or CE00869-1 Algorithms and Data Structures in C	General Option

GENERAL OPTION

The general option can be chosen from the following, although please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available):

a) the full list of Computing Degrees Scheme modules at level C (see appendix 2), provided the modules have not already been taken and any module specific admission requirements are met;
Or
b) the modules on the University General Option list, excepting modules from the University IT Programme – again provided the module has not already been taken and any module specific admission requirements are met.

LEVEL I

For award options, and general options the number of each type of module in each semester shown in the diagram is only meant as an example and could occur differently in practice, subject to the constraint that the total number of each type remains the same – see option lists below for specific details.

LEVEL I	CE00315-2 Professional & Enterprise Development	CE00856-2 Database Systems	CE00975-2 Web Design and Development 2	CE00843-2 Web Database Programming
	CE00953-2 Web Application Development	CE00850-2 Web Programming with Servlets and JSP	Award Option	General Option

AWARD OPTION [taken in either semester depending on module choice] from:
CE00374-2 Graphical User Interfaces: Design and Implementation (Sem 2)
CE00406-2 Dynamic Data Interchange (Sem 2)
CE00526-2 Concurrent Programming in C# (Sem 2)
CE00527-2 Further Object Oriented Programming (Sem 1)
CE00828-2 Interface Design and Interactions (Sem 2)
CE00840-2 Media for the Web (Sem 2)
CE00844-2 Web Media Programming (Sem 2)
CE00952-2 Web Design (Sem 2)

GENERAL OPTION:
The general option can be chosen from the following, although please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available):

a) the full list of Computing Degrees Scheme modules at level I or level C (see appendix 2), provided the modules have not already been taken and any module specific admission requirements are met;
Or
b) the modules on the University General Option list, excepting modules from the University IT Programme – again provided the module has not already been taken and any module specific admission requirements are met.

If you are registered for a sandwich degree you must do an industrial placement between levels I and H, usually lasting one year.

LEVEL H

For award options, and general options the number of each type of module in each semester shown in the diagram is only meant as an example and could occur differently in practice, subject to the constraint that the total number of each type remains the same – see option lists below for specific details.

LEVEL H	CE00835-3 Project: Planning, Management, Communication and Appraisal	CE00958-3 Web Project	CE00845-3 Web Services	Award Option
	CE00836-3 Project: Research, Analysis and Artefact Design	CE00837-3 Project: Artefact Realisation, Testing and Evaluation	CE00957-3 Web Architecture	General Option

AWARD OPTION [taken in either semester depending on module choice] from:
CE00313-3 Ubiquitous Computing
CE00329-3 Distributed Computer Systems
CE00331-3 Advanced Programming Language Concepts
CE00332-3 Advanced Database Systems
CE00333-3 Algorithmics
CE00342-3 Mobile Multimedia and Gaming
CE00362-3 Design Patterns
CE00461-3 On-Line Gaming
CE00841-3 Web Standards and Semantic Web
CE00848-3 Further Web Media Programming
CE00874-3 Enterprise Applications with Java Enterprise Edition

GENERAL OPTION:
The general option can be chosen from the following, although please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available):

a) the full list of Computing Degrees Scheme modules at level H, I or C (see appendix 2), provided the modules have not already been taken and any module specific admission requirements are met;
Or
b) the modules on the University General Option list, excepting modules from the University IT Programme – again provided the module has not already been taken and any module specific admission requirements are met.

8.5 Web Enterprise

The web is used as a tool for business and enterprise. Students who study this award will look at both web development and business/enterprise and the way these interact together in the world of e-marketing and e-commerce. This degree will also be suitable for any student who wishes to start their own company in the web design and development.

Level C and level I of this award will allow students to gain a good foundation in computing, and study web site design and development using current languages such as ASP.NET and PHP, develop web media, and cover areas such as business and management, e-marketing, and e-commerce. Options will allow students to look into other areas of web development or business, or look at other areas of computing such as multimedia, security or networks.

Level H will expand on the areas covered previously and also cover areas including project management and web standards. You will learn to understand the needs of a client, and be able to plan and develop web projects. Options will allow you to further the skills you gained at Level C and I. The final year project will allow you to demonstrate the skills you have developed over your course.

LEVEL C

LEVEL C	CE00371-1 Introduction to Software Development	CE00867-1 Hardware, Networks and Servers for Interactive Computing	CE00819-1 Maths For Interactive Computing	CE00367-1 Introductory Business Concepts
	CE00882-1 Object Oriented and Event Driven Programming	CE00839-1 System Modelling	CE00301-1 Web Design And Development	General Option

GENERAL OPTION

The general option can be chosen from the following, although please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available):

a) the full list of Computing Degrees Scheme modules at level C (see appendix 2), provided the modules have not already been taken and any module specific admission requirements are met;
Or
b) the modules on the University General Option list, excepting modules from the University IT Programme – again provided the module has not already been taken and any module specific admission requirements are met.

LEVEL I

LEVEL I	CE00315-2 Professional & Enterprise Development	CE00856-2 Database Systems	CE00975-2 Web Design and Development 2	CE00955-2 Service Oriented Architecture For Web Applications
	CE00953-2 Web Application Development	CE00952-2 Web Design	CE00954-2 E- Marketing and SEO	General Option

GENERAL OPTION:
The general option can be chosen from the following, although please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available):

a) the full list of Computing Degrees Scheme modules at level I or level C (see appendix 2), provided the modules have not already been taken and any module specific admission requirements are met;
Or
b) the modules on the University General Option list, excepting modules from the University IT Programme – again provided the module has not already been taken and any module specific admission requirements are met.

If you are registered for a sandwich degree you must do an industrial placement between levels I and H, usually lasting one year.

LEVEL H

For award options, and general options the number of each type of module in each semester shown in the diagram is only meant as an example and could occur differently in practice, subject to the constraint that the total number of each type remains the same – see option lists below for specific details.

LEVEL H	CE00835-3 Project: Planning, Management, Communication and Appraisal	CE00958-3 Web Project	CE00841-3 Web Standards and Semantic Web or CE00845-3 Web Services or CE00313-3 Ubiquitous Computing or CE00957-3 Web Architecture	CE00976-3 E-Business Strategies and Models
	CE00836-3 Project: Research, Analysis and Artefact Design	CE00837-3 Project: Artefact Realisation, Testing and Evaluation	CE00348-3 Project Management	General Option

GENERAL OPTION:
The general option can be chosen from the following, although please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available):

a) the full list of Computing Degrees Scheme modules at level H, I or C (see appendix 2), provided the modules have not already been taken and any module specific admission requirements are met;
Or
b) the modules on the University General Option list, excepting modules from the University IT Programme – again provided the module has not already been taken and any module specific admission requirements are met.

8.6 Multimedia Computing

Digital Media is increasing and there is a multitude of devices now that can deliver such media. Also there is an increase of the use of media on desktop environments such as desktop Widgets in environments such as Microsoft Vista and Opera browsers. A student studying Multimedia Computing will become specialist in creating and converting digital media. This will include graphics, both 2D and 3D, video, animation and music. Students will make media suitable and useable for all areas of computing including computer based delivery, games, interactive TV, DVD, web, special effects, and mobile devices. You will also gain skills in areas of multimedia design, computing to enable back-end systems to interact with media, the use of multimedia in education, and podcasting.

Levels C and I of the award will introduce multimedia - music, film, animation and graphics using the latest technologies. You will build skills in 3D creation using tools such as 3DS Max, skills in Video effects, using Adobe After Effects, skills in the development of media for the web in Flash and Action Script, and Microsoft Expression. All of this will be backed up with computing skills in areas such as hardware for multimedia, databases and programming. You will use the latest software from companies such as Adobe and Microsoft. Options will allow students to develop skills in games design and development, music, film, developing your own business or other areas of computing such as web applications or network computing.

LEVEL C

There is no BEng students starting after 2007/08

LEVEL C	Introduction to Software Development	Hardware, Networks and Servers for Interactive Computing	Maths For Interactive Computing	General Option
	Object Oriented and Event Driven Programming	Introduction To Multimedia Applications	System Modelling	Introduction To 3D Modelling

GENERAL OPTION

The general option can be chosen from the following, although please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available):

a) the full list of Scheme modules at level C (see part one appendix 2), provided the modules have not already been taken and any module specific admission requirements are met;
Or
b) the modules on the University General Option list, excepting modules from the University IT Programme – again provided the module has not already been taken and any module specific admission requirements are met.
Or
c) The modules CE00012-1 Digital Image Production or CE00784-1 Audio For Production 1 can be taken as a general option at level C.

LEVEL I

For award options, multimedia options and general options the number of each type of module in each semester shown in the diagram is only meant as an example and could occur differently in practice, subject to the constraint that the total number of each type remains the same – see option lists below for specific details.

LEVEL I	CE00315-2 Professional & Enterprise Development	CE00856-2 Database Systems	CE00840-2 Media for the Web	Multimedia Option
	CE00956-2 Multimedia Effects	CE00828-2 Interface Design and Interactions	CE00719-2 Multimedia Animation	General Option

MULTIMEDIA OPTION:
Choose **one** module from the Level I modules listed in appendix one of this handbook, provided the modules have not already been taken and any module specific admission requirements are met. Please note that the availability of modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available).

GENERAL OPTION:
The general option can be chosen from the following, although please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available):

a) the full list of Scheme modules at level I or level C (see part one appendix 2), provided the modules have not already been taken and any module specific admission requirements are met;
Or
b) the full list of multimedia modules at level I (see part one appendix 1), provided the modules have not already been taken and any module specific admission requirements are met;
Or
c) the modules on the University General Option list, excepting modules from the University IT Programme – again provided the module has not already been taken and any module specific admission requirements are met.

If you are registered for a sandwich degree you must do an industrial placement between levels I and H, usually lasting one year.

LEVEL H

For award options, multimedia options and general options the number of each type of module in each semester shown in the diagram is only meant as an example and could occur differently in practice, subject to the constraint that the total number of each type remains the same – see option lists below for specific details.

LEVEL H	CE00835-3 Project: Planning, Management, Communication and Appraisal	CE00847-3 Further Media for the Web	CE00720-3 Multimedia Systems	Multimedia Option
	CE00836-3 Project: Research, Analysis and Artefact Design	CE00837-3 Project: Artefact Realisation, Testing and Evaluation	CE00342-3 Mobile Multimedia And Gaming	General Option

MULTIMEDIA OPTION:
Choose **one** module from the Level H modules listed in appendix one of this handbook, provided the modules have not already been taken and any module specific admission requirements are met. Please note that the availability of modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available).

GENERAL OPTION:
The general option can be chosen from the following, although please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available):

a) the full list of Scheme modules at level H, I or level C (see part one appendix 2), provided the modules have not already been taken and any module specific admission requirements are met;
Or
b) the full list of multimedia modules at level H or I (see part one appendix 1), provided the modules have not already been taken and any module specific admission requirements are met;
Or
c) the modules on the University General Option list, excepting modules from the University IT Programme – again provided the module has not already been taken and any module specific admission requirements are met.

8.7 Computing Science: Web Development / Internet Technology

These awards have been replaced by Web Development from 2008/09, therefore no level C students will be on this award from 2008/09, no level I from 2009/10 and so on.

LEVEL H

For award options, and general options the number of each type of module in each semester shown in the diagram is only meant as an example and could occur differently in practice, subject to the constraint that the total number of each type remains the same – see option lists below for specific details.

LEVEL H	CE00835-3 Project: Planning, Management, Communication and Appraisal	Award Option	Award Option	Award Option
	CE00836-3 Project: Research, Analysis and Artefact Design	CE00837-3 Project: Artefact Realisation, Testing and Evaluation	Award Option	General Option

AWARD OPTION [taken in either semester depending on module choice] from:
CE00313-3 Ubiquitous Computing
CE00329-3 Distributed Computer Systems
CE00331-3 Advanced Programming Language Concepts
CE00332-3 Advanced Database Systems
CE00333-3 Algorithmics
CE00342-3 Mobile Multimedia and Gaming
CE00348-3 Project Management
CE00362-3 Design Patterns
CE00461-3 On-Line Gaming
CE00722-3 Further Web Applications
CE00841-3 Web Standards and Semantic Web
CE00845-3 Web Services
CE00846-3 Building Web Applications
CE00847-3 Further Media for the Web
CE00848-3 Further Web Media Programming
CE00874-3 Enterprise Applications with Java Enterprise Edition
CE00957-3 Web Architecture (starts 2010/11)
CE00958-3 Web Project
CE00976-3 E-Business Strategies and Models (starts 2010/11)

GENERAL OPTION:
The general option can be chosen from the following, although please note that the availability of some modules may be constrained by lack of resources and insufficient student numbers (your scheme leader will be able to let you know which may not be available):

a) the full list of Scheme modules at level H, I or C (see part one appendix 2), provided the modules have not already been taken and any module specific admission requirements are met;
Or
b) the modules on the University General Option list, excepting modules from the University IT Programme – again provided the module has not already been taken and any module specific admission requirements are met.

9 Ordinary Degrees

This award is intermediate between the Diploma in Higher Education and a BSc(Honours) degree. It is intended to enable those of you who have difficulty in completing the Honours degree due to a variety of academic or other problems, to be successful in completing a degree. However, if you are awarded the Ordinary degree, you may at a later date apply to return as direct entrants onto level H of the Computing Degree Scheme to complete an Honours degree.

The Ordinary degree is available with any title within the Scheme, and all titles will have the 8 Scheme learning outcomes defined at the Ordinary degree level, and for the focused award titles only, the relevant award specific learning outcomes defined for level H. The structure of the focused Ordinary award, by including all level 3 core modules, excepting the final year project, and all level 3 award specific option groups of the corresponding honours degree, guarantees that the award specific learning outcomes at level H are satisfied.

The criteria for transfer from an Honours degree to the Ordinary degree and for direct entry onto the Ordinary degree are given in part one section 17.

The Ordinary degree is unclassified and is available as a sandwich award or non-sandwich award.

9.1 Structure

An ordinary degree will require the study of 60 level H credits. The structure of those credits is given by the 60 credits, after the 45 credit project and the 15 credit general option have been excluded, that remain from the structure of the honours degree that corresponds to the named ordinary degree they are registered on (noting the exceptions given below). Thus those credits studied will include all level 3 core modules, excepting the final year project, and all award specific option groups of the honours degree that corresponds to the named ordinary degree you are registered on. The only exception to this is the ordinary degree in Computing Science (the general award) which may include a 15 credit level H general option.

10 Professional Accreditation and Certification

10.1 Professional body certifications

In general the awards in the scheme are accredited both by the British Computer Society (BCS) and by the Institute for the Management of Information Systems (IMIS). This means that the education and the awards offered by the Scheme are recognised as preparing you for careers as computing professionals.

The **BCS accreditation** means that if you achieve an honours degree within the Scheme, you will be exempted from the Part 1 and Part 2 examinations, and the Project, components of BCS membership qualification. However, to be eligible for the Project exemption you must pass the components of the final year project without any referrals. Given that new awards are validated as part of the Scheme from time to time, such awards cannot be granted the normal exemptions until the BCS has had an opportunity to view the work of students on that award. However, once accredited students on such new awards will be granted the exemptions retrospectively. Further information about the BCS is available from http://www.bcs.org/

The **IMIS accreditation** means that if you achieve an honours degree within the Scheme, you will be eligable for Associate membership of IMIS. Further information about the IMIS is available from http://www.imis.org.uk/

10.2 Proprietary certifications - CISCO

There are a number of modules that you can take as part of the Scheme which together prepare you for examinations that lead to CISCO Certified Network Associate (CCNA) and CISCO Certified Network Professional (CCNP) qualifications.

For CCNA these are:

Introduction to Networking with LANs and WANs(level 1) - preparation for CCNA parts 1 and 2.
LAN Switching and WAN Networks (level 2) - preparation for CCNA parts 3 and 4.

For CCNP these are:

Advanced Routing (level 2) – preparation for CCNP part 1.
Remote Access Networks (level 2) – preparation for CCNP part 2.
Advanced Switching (level 3) - preparation for CCNP part 3.
Network Troubleshooting (level 3) - preparation for CCNP part 4.

11 Industrial Placement

All students on a sandwich award undertake a mandatory period of industrial work experience, where the student is expected to engage in professionally valid work. This is usually during the third year, following completion of level I studies. This is normally a salaried year, the company employer paying the students for their work.

During this period, you will gain experience of the practical application of the theoretical topics of your award. This direct and responsible experience of work greatly enhances your employability. You are expected to reflect upon that experience to enhance your general as well as specific employment skills. The process of finding a placement involves you in the completion of CVs, applications, interviews and the whole employment selection process, thus providing excellent experience ahead of the final year.

There are hundreds of companies who have links with the University. Some are large blue chip companies others are small independent firms which are spread all over the country. There are some placements in Europe. Over the years students have managed to find work all over the world. The Faculty has a Placement Office that will help you to get your placement organised. Their responsibility is to act as a link between you and organisations that are willing to take students on a placement. They will advertise vacancies and advise you on your CV, and give you any advice you need. You must contact them to apply for any position that they advertise. Firms have their own methods for dealing with applications. You will be invited for interview and may find yourself competing not only with your fellow students, but also with students from other institutions. Obviously, it is up to you to get the job! The majority of these placements are paid so you will be earning a salary perhaps for the first time. You have to work for at least 48 weeks in continuous employment and are required to produce a report at the end of your placement which forms part of your assessment. You are allocated a Faculty tutor who will visit you normally twice a year to keep track of your progress.

11.1 Industrial placement learning outcomes

The role of the placement is to provide you with an opportunity to broaden and deepen your experience of the development of computing-based solutions to problems and to do so in a professional context. This permits you to consolidate a number of level I learning outcomes and thus improve your preparedness for level H.

The placement does not have an identified credit level or credits associated with it. Thus the learning outcomes for the placement do not relate to a credit level.

Given that the placement occurs after level I, no level I and thus no DipHE learning outcomes can be dependent upon the placement. Also given that non-sandwich versions of the awards are available then, then the level H learning outcomes cannot be made to depend upon the completion of a placement. Thus the learning outcomes for the placement do not contribute to the Scheme learning outcomes.

The wide variety of placement organisations and placement job roles makes it impossible to be sufficiently prescriptive over your specific learning experiences as to be able to guarantee support for learning outcomes in pre-defined elements or areas of computing. The learning outcomes for the industrial placement thus focus on the organisational and professional context of the placement, rather than on the development of subject specific expertise.

The following are the industrial placement learning outcomes:

1. Understand and apply the methods employed in, and the constraints and requirements imposed on, the development and use of computing systems within an organisation.

2. Exercise professional judgement based on an understanding of both technical and non-technical issues relevant to the development and use of computing based systems in an organisation

3. Understand the need for, and develop proper, professional inter-personal relationships and comply to the work discipline and legitimate expectations of an organisation.

4. Relate the practices of a real organisation to the principles and concepts of computing.

11.2 Assessment of the industrial placement

In order to qualify for the award of a sandwich degree the industrial placement period must be passed. Failure in the industrial placement will require a repeat of an industrial placement as a referral. Only one referral attempt is allowed and must normally occur within 18 months.

To pass the industrial placement you must have,

1. completed, normally, 48 weeks of relevant work experience (32 weeks for Bridging course students),
2. achieved at least 40% in the placement report,
3. achieved an aggregate mark of 40% or more.

Where the aggregate mark achieved by a student is >= 40%, but either of the pass criteria 1. or 2. above are not fulfilled, then the grade point recorded will be a 3.

The industrial placement cannot be subject to compensation.

11.3 Progression and the industrial placement

If you are registered on a sandwich award then normally, in order to progress onto level H you must pass the industrial placement, in addition to fulfilling any other criteria specified by the University Undergraduate Modular Framework regulations. However, exceptionally you may be allowed to proceed onto level H without completing an industrial placement. You will still be required to pass an industrial placement before you can be awarded a sandwich degree.

For more detail on the requirements and processes involved in finding and undertaking a placement see the placement website at
http://www.staffs.ac.uk/faculties/comp_eng_tech/placements/index.jsp

12 Final Year Project

During your studies, you will be introduced to several new skills, many of which are designed to help you with your final year project. You will also find that your work experience is invaluable. Your project will be one of the most important assessments of your degree. To start with, it is yours, often conceived by you, certainly developed and progressed by you. It is nothing to fear as it will become something you will be very proud of and eager to demonstrate and present to prospective employers. Full details of the requirements and assessment of the project are contained in a separate handbook. The project is Award specific, in other words you will have to do a Multimedia Computing type project if you are studying Multimedia Computing - each award has a somewhat different emphasis, which must be included in your project.

The final year project is seen as a very significant component of your final year studies. As such the Award Board tends to treat the project modules differently from other modules at level H. There are programme specific regulations governing the project (see part one section 16.4). In particular, these programme specific regulations mean that Award Boards **will limit the maximum degree classification that you can achieve on a resit if you were to fail some of your project modules and will apply compensation to project modules less generously than it might do elsewhere**. You should read the regulations that relate to the project and **you need to bear this in mind when allocating your effort between your final year modules**.

All information regarding the Final Year Project can be found on **www.fcet.staffs.ac.uk/projector**

The project manager will implement project development policy and will co-ordinate the selection and supervision of Level 3 projects within your chosen Award.

You are able to choose your project and wherever possible an appropriate supervisor, with whom you will arrange regular (normally weekly) progress meetings. Projects are second assessed by another academic to ensure consistency. The project manager will provide advice and guidance should problems arise that cannot be solved between yourself and your project supervisor or second assessor.

Although it is appreciated that students will come to the project with varying levels of previous knowledge and skills, work on the production of the project artefact and the project documentation (including artefact support documentation) will only be credited if it is carried out while you are registered for the project modules. Any such work should be referenced in the normal way. So for example code that was developed prior to the commencement of the project modules (even if developed by yourself and hence not plagiarism) will receive no marks – you can use the code, but you must make it clear that it is code that you developed previously which you are re-using.

12.1 General requirements and expectations of the project

The development and expression of a computing solution to a problem

Essential to the project is that it should be constituted by the development and expression of a computing based solution to a problem. Some form of implementation is, therefore, required.

It should be noted that the requirements for the project expected within the Computing Degrees Scheme, is independent of any expectations that accrediting bodies such as the British computer Society may have.

The level of intellectual demand required

For the project, the problem and the computing based solution need to be appropriate for level H in terms of the intellectual skills required to complete it i.e. it has to be of sufficient complexity for an honours project. As a guide, it is reasonable to say that the project should be something in terms of difficulty that someone could only be expected to start after having studied computing for 2 years full-time at a University, and requires from such a person 45 Credits worth of work to complete. If it can be done as a whole, or individual modules that constitute it can be done, to the same standard, by an enthusiastic amateur, who is self-taught from a few books/the internet, etc, then it is not adequate as an honours project. Projects are intended to express the achievement of someone who is on the verge of becoming a computing professional, and not the achievement of a hobbyist.

The issue of standards is an important qualifier however. A keen amateur may attempt to produce a software artefact of a type that a student may also produce legitimately as part of their final year project. However, in such circumstances the computing student should produce an artefact close to a professional standard, whereas the artefact produced by an amateur would be significantly flawed. I would expect that the amateur's work would fail as an expression of both academic and professional competence.

The key test as to whether something may be adequate as a project is the question: Could a project or given specific component modules be undertaken to the expected standards (both professional and academic) by someone without the education in computing that students on the Scheme have received? If the answer to this question is yes, then the project is inadequate and needs to be rejected or enhanced in suitable ways in order to make it acceptable.

13 Scheme Management

To understand the Scheme and to know where you fit in, you need to know how it is managed. Students are represented so that they may contribute to decisions that are made. Your input is just as vital as the academics and managers, indeed over the last few years changes have been made to the Scheme, to the manner of presentation of a module, assessments etc. as a direct result of student opinion. At the beginning of each Academic Year, the Scheme leader will ask for volunteers to be Student Representatives; those volunteers will then be elected by the students. Student Representatives are there to represent the views of the students in their year.

As well as voicing your opinions to your student representative you can also talk to your scheme leader directly. In addition, your scheme leader will hold, at least twice a year, an open forum to which all students on a given level are invited to attend in order to raise any issues and provide feedback concerning any aspects of the Scheme or its management.

The day to day running of the Scheme is the responsibility of the award leader, but there are other academics also involved. These are:

- Module leaders
- Industrial placement tutors
- Industrial tutors
- Personal Tutors
- Project Manager
- Project Supervisors

All modules have an individual module leader who is responsible for the delivery and assessment of the module. Any problems at module level should be referred to them. At the end of Level C, presentations from the industrial placement tutors will tell you how to complete your CV and how to apply for placements. They will arrange your interviews as appropriate and will help you look for a placement. An industrial tutor will be allocated to supervise you during the placement.

The project manager will implement project development policy and will co-ordinate the selection and supervision of Level 3 projects within your chosen Award.

14 Teaching, Learning And Assessment In The Scheme

14.1 Study Skills

This Handbook cannot act as a manual on study skills. However, the following books are recommended to you:

Rowntree, Derek, *Learn How To Study: A Guide for Students of All Ages*, Time Warner Paperbacks, 1998, ISBN: 0751520888.
Cottrell, Stella, *The Study Skills Handbook*, Palgrave Macmillan, 2003, ISBN: 1403911355.

The University also has a website that contains useful information and links to other resources.
http://www.staffs.ac.uk/keyskills/

14.2 Organisation of independent study time

Each module has a total number of learning hours associated with it. For a 15 Credit module this is 150 hours (it is worked out at 10 hours per credit). These learning hours are intended to give an indication of the total number of hours that are likely to be involved in studying and completing the assessment for a given module. However, some of you may need to spend more time than the hours indicated (some may spend need to spend less), largely depending on your prior familiarity and level of competence with the skills and knowledge required as an admission's requirement for the module, or actually covered by the module.

Out of this total learning hours some of the hours will have been allocated to class contact (lectures, tutorials, practicals, etc.). However, the bulk of the learning hours will be given over to independent (non-class contact) learning activity (which includes assessments and preparation for them). It is up to you to plan the time available and allocate appropriate amounts of time to the various activities you must do for the module.

Example time allocation:
The following is intended to be an example of how you could allocate time among the different activities for a typical 15 Credit module (with 36 hours of class contact at 3 per week, 50% assignment, 50% 2 hour exam). However, the exact allocation of hours is dependent upon you and the module you are taking.

Total learning hours = 150 hours. Subtracting 36 hours for class contact, gives 114 hours for independent activity. 2 hours is given to the exam, leaving 112 hours which you need to allocate between,
i) exam preparation;
ii) assignment completion;
iii) weekly lecture/tutorial/practical preparation, reading and exercise completion.

Please note that in the following **work hours** are taken as hours of productive work and not total elapsed time between starting and finishing some task e.g. coffee, meal, comfort and relaxation breaks and breaks for any other activity are not included.

You could allow 48 work hours in total for the weekly work on the material covered in the lectures, tutorials, practicals for that week – associated reading, note-taking, completion of tutorial/practical exercises, etc. This gives you 4 work hours to be spent each week (in addition to the class hours) working on the material being covered that week.

This leaves 64 hours for the assessment. This could be divided into 32 work hours of exam revision (= 4 ½ days of full-time work on revision) and 32 work hours spent on the assignment (= 4 ½ days of full-time work on the assignment).

There is of course a trade-off in the allocation of time between the various different activities. To a large extent if you decide not to give much time to the weekly lecture/tutorial/practical material, then your level of understanding of the material will be much poorer when it comes to the revision for the exam. This would require you to spend many more hours in exam revision to achieve the same level of preparedness as you would have achieved had you spent some significant proportion of your time on the weekly work. Similarly, the completion of the assignment activities would normally be facilitated by having achieved a foundation of knowledge, understanding and skills in the weekly work. Thus if you were to allocate 0 hours to the weekly work in addition to the class contact time, then it may be possible that you would need to spend an additional 24 work hours on revision for the exam (= almost 3 ½ days of full-time exam revision) and 24 work hours on the assignment (= almost 3 ½ days of full-time assignment work) in order to achieve the same level of exam preparedness and assignment completion as under the allocation of time given above as an example. Given the limited total time available, it is likely that there would be insufficient actual time available for you to complete either the exam preparation or assignment work to a standard that you might otherwise be capable of. **Thus time spent on lecture review and doing associated reading, completion of weekly tutorial/practical exercises and note-taking are all very well worth activities.**

Also it should be noted that **attendance at timetabled classes** is not only a requirement placed on you by a regulation of the university, but it is also very time-effective. If you attend a lecture for example, then subsequent review of the lecture and reading associated with it will be much easier than attempting to understand the lecture notes/slides without having attended the lecture. It will probably take you more than 1 work hour to achieve the same level of understanding as someone who has attended the lecture. Thus non-attendance at classes is actually only increasing your total workload.

14.3 Approaches to teaching

We recognise that your ability to manage your own learning will improve as you progress through the levels of your award. As a result the class contact hours decrease from level C (typically 48 hours per 15 credits) to level I and H (with typically 36 hours per 15 credits).

Also the nature of the class contact is tailored to the nature of the learning activities required from you. Knowledge and the introduction of concepts, theories, principles and techniques/methodologies occurs in lectures, whereas the testing of understanding and application of concepts, theories, principles and techniques/methodologies to the solution of various problems occurs in tutorials and laboratory based practical classes. This is reflected in the comparative proportions of lecture to tutorial/practical in the modules. Typically a very practical and skill oriented subject, such as learning to express conceptual understanding of processes through the application of a programming language has a much greater proportion of tutorial or laboratory based work, whereas a module that focuses more on the development of fundamental conceptual understanding has a larger proportion of lectures.

The development of the learning outcomes of the modules was guided by the need to ensure that where a module is core to an award title the learning outcomes of the module are designed so that completion of the module learning outcomes manifests the achievement of the relevant award learning outcomes.

14.4 Approaches to assessment

The aim is to use the most appropriate assessment strategy for testing the achievement of the learning outcomes. Broadly the learning outcomes required for the achievement of the Scheme's awards consist of,

a) those that are more theoretical/conceptual and knowledge based, and
b) those that are more practical and skills oriented.

This pattern is repeated for the learning outcomes of the individual modules which constitute the unit of development and assessment for the requisite learning outcomes.

Evidence of the achievement of the first type of learning outcome takes the form of verbalised description, explanation, discussion, critical evaluation, etc (depending upon level of study) of some concept, theory, principle or technique/methodology. Assessment thus typically takes the form of an opportunity to verbalise the knowledge and understanding e.g. written reports, answers to exam questions, etc. Evidence of achievement of the second type of learning outcome normally takes the form of the expression of the skill concerned through the completion of some of the stages in the process of the solution of a given problem. Assessment thus typically takes the form of an opportunity to construct a (possibly partial) problem solution e.g. programming assignment, production of analysis and design documentation, etc.

Module learning outcomes often require both types of learning outcome and thus adopt assessments that in general respect this division of learning with the most appropriate assessment strategy being used for testing the achievement of the relevant learning outcomes.

We try to take your workload into account, as far as possible, when defining assessments. In line with the University's and Faculty assessment strategies, modules will have normally no more than 2 pieces of summative assessment per 15 credits. In addition the Faculty has adopted an assessment guidelines which relates the size of the assessment activity to the weighting of the assessment. The current guidelines are expressed by the tables below.

Exam or test guidelines

Weighting of exam/test component	Duration of exam/test component
100% (exams only)	3 hours
70% (exams only)	2 hours
50% (exam or test)	2 hours (class tests still have maximum of one hour)
30% (tests only)	1 hour maximum

Assignment guidelines where written reports are produced

Weighting of assignment component	Length of assignment component (calculated on the basis of 200 words per 1 credit of weighting) – these are typical
100%	3000 words
50%	1500 words
30%	1000 words

14.5 Preparation for examinations and tests

Apart from ensuring that you allocate sufficient time for exam/test revision, there are a number of other activities you would be well advised to do in preparation for the exam:

- Attend any revision classes and take due note of any information and advice given.
- Make sure you understand the format of the exam and conditions under which the exam is to be taken i.e. how many questions of various types you are expected to complete, exam length, any materials you are allowed/provided with or not allowed e.g. calculator or mathematics equation sheet, etc.
- Find out when and where the exam is to be held and produce a revision timetable and stick to it.
- Read through the lecture notes, tutorial/practical work and any model answers that might have been provided in order to make sure that,
    - you understand the content of the lectures, tutorials, practical work, etc. If you don't understand then you will need to do additional work with background reading and asking colleagues and members of staff for additional explanation.
    - make revision notes of your own which re-expresses the content of the module in your own words – these may be very summary if you understand the concepts covered very well. Remember the revision notes should cover the tutorial work as well as the lectures.
- Review your revision notes regularly ideally until you no longer need to consult them i.e. you can run through the revision notes accurately without looking at them.
- Do not become discouraged if you do not understand something the first time you look at it. It is very common that something will need to be reviewed several times before you understand it.
- Try to explain some idea/concept to another person or even to yourself. Does it appear to make sense the way you have explained it? If it doesn't then you probably need to do some more work on your understanding.
- Try and relate what has been covered to other things you already understand.
- Obtain and work through any past papers if you can hold of them – it is best to do so only after you have done some revision.
- Work through the tutorial exercises without looking at any model answers to see if you can solve them for yourself. If you can't then you need to extra work until you can.
- Try and make up your own exam paper – think of possible questions that could be asked and try to produce a marking scheme (how many marks to be given for each point someone might correctly cover/explain in an answer). Then try and answer your questions. You can do this under exam conditions and then check your answers i.e. mark them for yourself. See how you do. Then revise further your weak points.

15 Personal Development Planning (PDP) Within The Scheme

Personal Development Planning (PDP) is a set of activities and an approach to your studies which the University wants to encourage all students to engage in. Essentially, it encourages you to reflect on your life and career goals and expectations, in order to analyse what skills and knowledge you need in order to accomplish those goals. It encourages you to try to integrate your academic studies with the rest of your life and aims to try to help you appreciate the relevance and context of your studies. It also will try to help you become equipped with the set of skills that will help you take a more proactive approach to your life and the place of academic study and lifelong learning within it.

Personal Development Planning (PDP) has been embedded within the Scheme in a number of different ways.

- At level C it is largely embedded in the personal tutor's role. It is coupled with the process of induction and later in the year with the need to firm up on the choice of modules for the second year.
- At level I, the Professional and Enterprise Development module explicitly requires you as part of your developing professionalism, to reflect upon your career/life goals and what actions and learning objectives you need to pursue in order to facilitate the achievement of those goals.
- In the industrial placement there is an explicit requirement to reflect upon the placement experience and relate it to your personal development.
- Finally, at level H, the project supervisor's role will include facilitating your reflection upon your development in the final year ahead of progression into employment, research or training.

Please refer to the materials and resources you were handed out/introduced to during your induction period for additional practical advice.

16 Programme Specific Regulations

Programme specific regulations are regulations which are in addition to those specified in the University Undergraduate Modular Framework Regulations. They allow for award and Schemes to have regulations that are specifically tailored for them.

16.1 Industrial placement

The responsibility for finding a suitable placement rests with the student. While the Faculty will support a student in finding a placement through its placement unit, it does not guarantee that a placement will be found for every student who wants one. This reflects the reality that placements involve a third party, the placement employer, who is under no obligation to offer a placement or take any specific students on as placement students. Ultimately such decisions reside with the employer and thus cannot be mandated by the University.

The industrial placement normally requires the completion of 48 weeks in relevant supervised work experience. Normally a student enrolled on a sandwich award must pass the sandwich year to progress to level H. However, in exceptional circumstances the completion of the industrial placement may be deferred until after the completion of level H. Where this occurs such students will still be required to pass an industrial placement before they can be awarded a sandwich degree.

A student who fails the industrial placement period will only be allowed one further attempt. The referral attempt must normally occur within 18 months. Failure at the second attempt will mean that the student cannot further progress on a sandwich award. The student would have to transfer onto an appropriate non-sandwich full-time award in order to continue on the Computing Degrees Scheme.

To be eligible for the award of either an Honours degree, or an Ordinary degree, with a sandwich, a student must pass the industrial placement period.

16.2 Final year project

In order to qualify for the award of an Honours degree all 3 project modules must be passed (this includes passes by compensation and/or referral). A maximum of one project module may be compensated and normally compensation will only be applied if the project module to be compensated has a grade point 3. A grade point 1 or 0 will never be compensated.

If, at the first attempt one or more of the project modules are failed and have not been compensated (subject to the compensation regulation above), then upon successful completion of referrals in those modules, the maximum degree classification that can be awarded is limited to the base classification the student achieved as a result of their first attempt at level H, except where the overall score is less than 4, in which case a third class honours degree is specified as the maximum.

Note that referral does not refer to re-assessment that is being undertaken as if for the first time.

16.3 Minimum threshold marks.

In order to achieve a pass in a module, a minimum of 30% is required in each component of assessment (separate components being those identified in the weighting between assessments shown in the module descriptor). If less than 30% is achieved in a given component of assessment and an aggregate mark is achieved, over all assessments, of >= 40%, then the grade point given for the module is a 3. Where the aggregated mark is less than 40%, then the grade point given for the module is that normally associated with the given mark. Failure of a module due to failure to achieve >= 30% in each component of assessment, may still be subject to compensation and condonement.

16.4 Transfer between a sandwich and a non-sandwich award

Students may opt to transfer from a non-sandwich award to an appropriate sandwich award at any time.

Students may transfer from a sandwich version of their award to a non-sandwich version at any time up until the end of week 4 of level I. However, after week 4 of level I, the transfer is only permitted if one or more of the following criteria are met,

1) a student is unable, for valid reasons e.g. extenuating circumstances, to undertake or complete an industrial placement;
2) a student, having attempted the industrial placement, has failed it;
3) a student has BOTH been unable to secure a placement 12 months after the start of level I i.e. by the end of the September following level I (for September entrants) or the start of January (for January entrants) AND has a portfolio of evidence, agreed with the Placements Unit, that shows that the student has made a bona fide attempt to obtain a placement.

17 Criteria For APEL And Transfer Within The Scheme

If you wish to transfer from one award to another within the Scheme or between sandwich and non-sandwich, or honours and ordinary degrees or wish to apply to have prior learning accredited, then you should **talk to your scheme leader for guidance and they will take you through the process involved**. The following section sets out the award specific rules governing such admission and transfers.

Transfer between award titles within the Scheme.

You may transfer between different awards within the Scheme provided that the set of modules that you have passed match the award structure of the award onto which you wish to transfer. Where your set of modules is deficient then your scheme leader will advise you on which modules you will be required to pass in order to qualify for the award you want to transfer onto. You may be allowed to transfer onto the new award before you have a complete set of modules that map onto the new award structure. However, any such transfer is strictly on the condition that you should complete such modules as are necessary in order to make your set of modules conform to the requirements of the award structure of the award you have transferred onto.

Application for APL

In general terms the University is willing to give appropriate exemptions to some of its modules if a you are able to demonstrate that the learning outcomes of the module have been achieved by some accredited study or experience elsewhere. There are limits placed on the amount of exemptions that may be granted. The procedure for making an application for APL and the policy governing APL is available at http://www.staffs.ac.uk/images/apel_pol_student_hbook_tcm68-12705.pdf

18 Opportunity For Flexible Transfer To Other Awards In The University

The Faculty of Computing, Engineering and Technology offer a number of awards in computing and computing related fields as well as awards in technological areas that may be of interest to students who have broadly technical interests. It may become apparent that you have made a mistake in your choice of award scheme. You may feel that an award with greater business coverage would suit you better, or one that focuses on various media technologies and their application, or you need something with more substantial low level electronic hardware content. In these cases you may be able to transfer to an award in the Business Computing Degrees Scheme or to one of the awards in the technology or engineering areas offered by the Faculty. Some of these awards have modules in common with the Computing Degrees Scheme, thus you may be able to use some of the modules that you have already passed as counting towards the achievement of the relevant award.

If you feel that you may have made a mistake over the general area of study, then you are advised in the first instance to **contact your personal tutor or the Student Advisor** who can then discuss with you various options for transfer to other awards, should you wish to do so.

19 Appendix 1 - Multimedia Options

For details of the module specifications for these modules please see the University website http://www.staffs.ac.uk/current/student/modules/

Level I

CE00074-2 3d Modelling For Film
CE00078-2 3d Graphics Technology For Film
CE00310-2 Web Applications
CE00341-2 AI Methods
CE00353-2 User Centred Systems Development
CE00374-2 Graphical User Interfaces: Design and Implementation
CE00375-2 Fundamentals of Mobile Computing
CE00376-2 Imaging and Special Effects
CE00377-2 Computer Graphics
CE00386-2 Windows Game Programming
CE00399-2 Biometrics I
CE00439-2 Networking And Embedded Control Of Animatronics
CE00526-2 Concurrent Programming in C#
CE00540-2 3d Character Animation
CE00541-2 3d Computer Animation
CE00546-2 3d Body Modelling
CE00547-2 3d Facial Modelling
CE00656-2 2d Game Texturing
CE00685-2 Design Reflection
CE00742-2 Games Engines Modification
CE00744-2 Architecture For Concept Design
CE00763-2 Music Promotion And Marketing
CE00768-2 Advanced Narratology
CE00821-2 Learning and Innovation
CE00843-2 Web Database Programming
CE00844-2 Web Media Programming
CE00850-2 Web Programming with Servlets and JSP
CE00851-2 Programming Physics and AI Engines for Games
CE00854-2 Network and Grid Computing
CE00881-2 LAN Switching and WAN Networks [CCNA 3&4]
CE00883-2 Principles and Practices of Software Production
CE00921-2 Decision Theory and Cybernetics
CE00922-2 Programming For Mobile and Handheld Devices
CE00955-2 Service Oriented Architecture For Web Applications
CE00953-2 Web Application Development
CE00952-2 Web Design
CE00954-2 E- Marketing and SEO
CE00975-2 Web Design and Development 2
CE62024-2 Questionnaire and Data Analysis
CE62027-2 Mathematics and Algorithmics

Level H

CE00011-3 DVD Technology
CE00019-3 Video Recording And Production
CE00307-3 Simulation, Visualisation and Virtual Reality
CE00313-3 Ubiquitous Computing
CE00332-3 Advanced Database Systems
CE00334-3 Further AI
CE00336-3 Image Processing, Computer Vision and Pattern Recognition
CE00339-3 Information Systems Development Trends
CE00348-3 Project Management
CE00363-3 Further Programming for Mobile Devices
CE00385-3 AI Engines for Games
CE00389-3 Real-Time Rendering and Animation
CE00391-3 Advanced Windows Game Programming
CE00403-3 Biometrics II
CE00461-3 On-Line Gaming
CE00505-3 Advanced Visual Media Applications
CE00530-3 Digital Film And 3d Technology
CE00654-3 Handheld Games Design
CE00657-3 Compositing For Film And Video
CE00661-3 Matchmoving For Film And Video
CE00722-3 Further Web Applications
CE00841-3 Web Standards and Semantic Web
CE00845-3 Web Services
CE00846-3 Building Web Applications
CE00847-3 Further Media for the Web
CE00848-3 Further Web Media Programming
CE00852-3 Practical Games Strategies
CE00870-3 Real-Time Systems
CE00874-3 Enterprise Applications with Java Enterprise Edition
CE00875-3 Character AI
CE00923-3 Strategic and Tactical Thinking In Games
CE00925-3 Further Programming For Mobile and Handheld Devices
CE00957-3 Web Architecture
CE00976-3 E-Business Strategies and Models
CE63024-3 Survey Design and Analysis

20 Appendix 2 – Modules available for general options

Listed below are modules in computing that can also be taken as general options if not already done as core, award options or multimedia options

For details of the module specifications for these modules please see the University website http://www.staffs.ac.uk/current/student/modules/

Level C Modules

CE00056-1	Introduction to Programming 3D Applications
CE00126-1	Introduction to Networking with LANs and WANs [CCNA 1&2]
CE00291-1	Introduction to Multimedia Applications
CE00301-1	Web Design and Development
CE00367-1	Introductory Business Concepts
CE00369-1	Introduction to Computer Games and Graphical Systems
CE00370-1	Introduction to AI
CE00371-1	Introduction to Software Development
CE00398-1	Introduction to Security Technologies
CE00462-1	Introduction to 3D Modelling
CE00601-1	Introduction to Mobile and Wireless Technology
CE00819-1	Mathematics for Interactive Computing
CE00830-1	Introduction to Knowledge Management
CE00839-1	Systems Modelling
CE00855-1	Introduction to Operating Systems
CE00867-1	Hardware, Networks and Servers for Interactive Computing
CE00868-1	Introduction to Forensic Tools and Techniques
CE00869-1	Algorithms and Data Structures in C
CE00872-1	Introduction to Logistics and Database Technology
CE00882-1	Object Oriented and Event Driven Programming
CE00752-1	Introduction To Design Concepts for Computing
CE00753-1	Web: Cause and Effect
CE61001-1	Applied Quantitative Methods

Level I Modules

CE00125-2	Introduction to IP Telephony
CE00310-2	Web Applications (only 2008/09)
CE00314-2	Further Programming Concepts in C++
CE00315-2	Professional and Enterprise Development
CE00317-2	Management and Planning
CE00321-2	System Development Methods
CE00341-2	AI Methods
CE00343-2	Software Development for Mobile Computing Applications
CE00352-2	System Programming and Computer Control Systems
CE00353-2	User Centred Systems Development
CE00373-2	Computer Systems: Low Level Techniques
CE00374-2	Graphical User Interfaces: Design and Implementation
CE00375-2	Fundamentals of Mobile Computing
CE00376-2	Imaging and Special Effects
CE00377-2	Computer Graphics
CE00379-2	IT Systems for Business
CE00386-2	Windows Game Programming
CE00399-2	Biometrics I
CE00405-2	Data Management
CE00406-2	Dynamic Data Interchange
CE00409-2	Practical Systems Management
CE00417-2	Enterprise Information Systems
CE00463-2	Object-Oriented System Development
CE00526-2	Concurrent Programming in C#
CE00527-2	Further Object Oriented Programming
CE00596-2	Investigating Operating Systems
CE00719-2	Multimedia Animation
CE00804-2	Hardware and Software Systems and Networks
CE00821-2	Learning and Innovation
CE00823-2	Service Management and Service Oriented Architecture
CE00828-2	Interface Design and Interactions
CE00840-2	Media for the Web
CE00843-2	Web Database Programming
CE00844-2	Web Media Programming
CE00849-2	Further Programming for 3D Applications
CE00850-2	Web Programming with Servlets and JSP
CE00851-2	Programming Physics and AI Engines for Games
CE00854-2	Network and Grid Computing
CE00856-2	Database Systems
CE00861-2	Advanced Routing [CCNP 1]
CE00863-2	Converged Networks [CCNP 2]
CE00864-2	Introduction to Network Security
CE00866-2	Database Security
CE00881-2	LAN Switching and WAN Networks [CCNA 3&4]
CE00883-2	Principles and Practices of Software Production
CE00884-2	Data Recovery, Tracing and Evidence Gathering in Computer Systems
CE00921-2	Decision Theory And Cybernetics
CE00922-2	Programming For Mobile And Handheld Devices
CE00955-2	Service Oriented Architecture For Web Applications
CE00953-2	Web Application Development
CE00952-2	Web Design
CE00955-2	E- Marketing and SEO
CE00956-2	Multimedia Effects
CE00975-2	Web Design and Development 2
CE62020-2	Business Forecasting and Planning
CE62022-2	Mathematics Software with Applications
CE62023-2	Probability and Statistical Modelling
CE62024-2	Questionnaire and Data Analysis
CE62025-2	Spreadsheet Modelling Techniques
CE62027-2	Mathematics and Algorithmics

Level H Modules

CE00303-3	Critical Issues in Managing Information Systems
CE00307-3	Simulation, Visualisation and Virtual Reality
CE00313-3	Ubiquitous Computing
CE00329-3	Distributed Computer Systems
CE00331-3	Advanced Programming Language Concepts
CE00332-3	Advanced Database Systems
CE00333-3	Algorithmics
CE00334-3	Further AI
CE00336-3	Image Processing, Computer Vision and Pattern Recognition
CE00337-3	Learning Technology through Project-Based Learning
CE00339-3	Information Systems Development Trends
CE00340-3	Legal and Evidentiary Aspects of Forensic Computing
CE00342-3	Mobile Multimedia And Gaming
CE00346-3	Strategic Information Management
CE00348-3	Project Management
CE00349-3	E-Commerce/M-Commerce Systems: Strategy and Management
CE00355-3	Advanced HCI and Usability
CE00360-3	Computer Systems Security
CE00362-3	Design Patterns
CE00363-3	Further Programming for Mobile Devices
CE00364-3	3D Computer Graphics
CE00383-3	Advanced Programming for 3D Applications
CE00385-3	AI Engines for Games
CE00389-3	Real-Time Rendering and Animation
CE00391-3	Advanced Windows Game Programming
CE00397-3	Forensic Data Gathering, Reconstruction and Analysis
CE00403-3	Biometrics II
CE00404-3	Malicious Software and Security Programming
CE00407-3	Management of Database Systems
CE00461-3	On-Line Gaming
CE00720-3	Multimedia Systems
CE00722-3	Further Web Applications (Just 2008/09)
CE00822-3	Service Science
CE00831-3	Knowledge Management in Organisations
CE00841-3	Web Standards and Semantic Web (starts 2009/10)
CE00845-3	Web Services (Sem 1 from 2009/10)
CE00846-3	Building Web Applications
CE00847-3	Further Media for the Web
CE00848-3	FURTHER WEB MEDIA PROGRAMMING
CE00852-3	Practical Games Strategies
CE00860-3	Advanced Wireless Networks
CE00862-3	Advanced Switching [CCNP 3]
CE00865-3	Network Service Quality [CCNP 4]
CE00870-3	Real-Time Systems
CE00871-3	Safety Critical and Embedded Systems
CE00874-3	Enterprise Applications with Java Enterprise Edition
CE00875-3	Character AI
CE00876-3	Low Level Graphics Concepts
CE00879-3	Information Systems Engineering in Industry
CE00923-3	Strategic And Tactical Thinking For Games
CE00925-3	Further Programming For Mobile And Handheld Devices
CE00927-3	Software Development Techniques For Restricted Systems
CE00957-3	Web Architecture
CE00976-3	E-Business Strategies and Models
CE00958-3	Web Project
CE63024-3	Survey Design and Analysis
CE63025-3	Spreadsheet Automation with VBA
CE63030-3	Chaos and Fractals
CE63031-3	Financial Modelling with Decision Making
CE63032-3	Mathematical Modelling
CE63033-3	Operational Research

Part 2 – General Student Information

See Website