PROGRAMME SPECIFICATION

glyndŵr
PRIFYSGOL GLYNDŴR WRECSAM
GLYNDŴR UNIVERSITY WREXHAM

Awarding body/institution	University of Wales
Teaching institution	Glyndŵr University
Details of accreditation by a professional, statutory or regulatory body	
Final award/s available	MRes Computer Science Postgraduate Certificate (PgC) in Computer Science
Award title	Computer Science
UCAS code	
Relevant QAA subject benchmark statement/s	Computing
Other external and internal reference points used to inform the programme outcomes	The following reference points were used in designing the programme: • QAA Computing subject benchmark statement • Benchmark standards for computing proposed by the Council of Professors and Heads of Computing • QAA Framework for Higher Education Qualifications in England, Wales and Northern Ireland • QAA Code of Practice for the assurance of academic quality and standards in HE • Regulations for Glyndŵr University Modular Masters Degrees • British Computer Society (BCS) Guidelines for Exemption and Accreditation • Glyndŵr University and School of Computing & Communications Technology Teaching Learning and Assessment policies and strategies • University policy on equal opportunities.
Mode/s of study	Full Time Part Time
Language of study	English

Date at which the programme specification was written or revised	January 2009 Programme validated June 2009

Aims of the programme

Master of Research Aims

1. To enable students to develop a broad based and relevant knowledge of and competence in the use of research methods in computer science.
2. To give students an advanced understanding of and competence with, the hardware and software available and/or needed for the development and use of computer systems
3. To develop the students' professional attitudes and the interpersonal skills required by a practitioner in industry.
4. To provide an appreciation of the current state and future directions of technological advances in computer science
5. To provide sufficient breadth and depth of experience in up-to-date methodologies to significantly advance the career prospects of graduates within the IT industry, and/or equip them to undertake research in computer science.

Post Graduate Certificate of Higher Education Aims:

1. To produce graduates possessing awareness, knowledge and practical skills in at the modern computer science specialisations (Networking, Multimedia, Web and Mobile development, Professional Issues and Professional Practice)
2. To give students an advanced understanding of and competence with, the hardware and software available and/or needed for the development and use of computer systems
3. To develop the students' professional attitudes and the interpersonal and entrepreneurial skills required by a practitioner in industry.
4. To provide sufficient breadth and depth of experience in up-to-date methodologies to advance the career prospects of graduates within the IT industry.
5. To provide an appreciation of the current state and future directions of technological advances in computer science

Intended learning outcomes of the programme*

On successful completion of the programme a graduate should demonstrate knowledge and skills as follows:

A: Knowledge and Understanding

PG Certificate Level

A1. Demonstrate comprehensive, detailed, state-of-the-art knowledge of the

specialist area(s) (Networking, Multimedia, Web and Mobile development, Professional Issues and Professional Practice) covered by the programme within the context of the broader discipline of Computer Science.

A2. Demonstrate knowledge of research methodology appropriate to this level of work.

A3. Demonstrate clear and confident understanding of the theoretical and empirical limits and boundaries of the specialist area(s), and of the range of methods of study and types of judgments employed by advanced practitioners.

Masters Level

The 'Masters' stage of the programme will build upon the knowledge and understanding developed at the taught stages by providing knowledge and understanding of those aspects of research methodology that are appropriate to the specialist area(s) covered by the programme. It will also require the student to develop detailed knowledge and understanding of the particular area in which the advanced independent-study project associated with the 'Masters' stage of the programme is carried out.

Students will again be expected in addition to the understanding developed at the PG Certificate stage:

A4. Utilise information resources and demonstrate how to access these to obtain state-of-the-art knowledge of current computer systems technology.

A5. Demonstrate a sufficiently detailed knowledge of research methods appropriate specifically to their 'Masters' advanced independent-study project, together with detailed knowledge of the particular area in which the project is carried out.

A6. Demonstrate clear and confident understanding of appropriate research methodology and detailed understanding of the particular area in which the 'Masters' project is carried out.

B: Intellectual/Cognitive Skills

PG Certificate Level

B1. **Application**: Work autonomously or with minimal guidance where appropriate, carry out confident and accurate selection and application of principles and procedures appropriate to the resolution of a range of situations and professional problems associated with the specialist area(s) covered by the programme.

B2. **Analysis:** Work autonomously or with minimal guidance where appropriate, identify and classify principles and ideas in contemporary information sources and situations to professional standards; analyse rigorously, effectively, critically and creatively; cope with complexity.

B3. **Synthesis:** Work autonomously or with minimal guidance where appropriate, bring together facts/ideas/elements in support of an argument or case presented to professional standards; confidently evolve alternative solutions and concepts.

B4. **Evaluation:** Work autonomously or with minimal guidance where appropriate, confidently integrate theory with professional/vocational practice; evaluate theories, processes, solutions and outcomes critically and effectively; use the evaluations of others critically, reflectively and constructively.

B5. **Problem-Solving:** Work autonomously or with minimal guidance where appropriate, identify, define and resolve a range of problems associated with the specialist area(s) covered by the programme, work to professional standards.

Masters Level

Students will again be expected in addition to the skills developed at the PG Certificate stage:

B6. **Application:** Demonstrate mastery of the principles, techniques and procedures associated with the advanced independent-study project carried out during the 'Masters' stage, including the ability to work effectively from information provided , with little or no guidance.

B7. **Analysis:** Demonstrate mastery of the analytical skills associated with the 'Masters' stage project, again working autonomously or with minimal guidance where appropriate.

B8. **Synthesis:** Demonstrate the full range of skills needed to plan and manage a 'Masters'-level project and produce a report/dissertation/thesis or other suitable research output on same working to a detailed specification and to professional standards.

B9. **Evaluation:** Demonstrate the full range of evaluative skills associated with the 'Masters' stage project, including the effective exercise of judgement based on incomplete and/or contradictory information.

B10. **Problem-Solving:** Demonstrate professional competence in participating in the identification of a suitable 'Masters' project task and seeking a satisfactory solution that meets the specific requirements of the problem.

C: Subject Specific Skills

PG Certificate Level

C1 : Make effective use of a range of theories, techniques, programming languages, operating systems, design support tools and development environments

C2 : Specify, design, implement, test and document a computer-based system

C3 : Work as a member of a development team, contributing to the planning and execution of a shared design and implementation task

C4 : Propose, plan, undertake and report a self-directed individual programme of investigation, design and implementation

Masters Level

Students will again be expected in addition to the skills developed at the PG Certificate stage:

C5 : Undertake a significant computing related thesis which involves an analytical, rigorous and critical approach to problem identification, solution and evaluation;

C6 : Synthesise the knowledge, skills and theories from the computing areas covered by the programme in order to solve a complex problem that may require the integration of different computing techniques and / or technologies

D: Key Skills

PG Certificate Level

D1. **Communication and Presentation Skills:** Engage effectively in a range of independent roles; debate in a confident, professional manner; produce detailed critiques and coherent project reports to professional standards; give confident, high-quality oral and other presentations in a wide range of contexts appropriate to the specialist area(s) covered by the programme.

D2. **Numeracy:** Practise and demonstrate professional competence in the full range of numerical/mathematical skills associated with the specialist area(s) covered by the programme.

D3. **IT Skills:** Practise and demonstrate professional competence in the full range of IT skills associated with the specialist area(s) covered by the programme.

D4. **Learning Skills:** Work autonomously or with minimal guidance where appropriate, directing and managing own learning using the full range of resources and study techniques appropriate to the specialist area(s) covered by the programme.

D5. **Interactive and Group Skills:** Interact confidently and effectively within a range of learning and professional groups, as appropriate to the specialist area(s) covered by the programme; demonstrate appropriate negotiating, role, leadership and group-support skills to professional standards.

Masters Level

Students will again be expected in addition to the skills developed at the PG Certificate stage:

D6. **Communication and Presentation Skills:** Produce a detailed, professional research report/dissertation/thesis or other suitable research output to the specification laid down for the advanced independent-study project; present and defend this against in-depth examination in an appropriate live context.

D7. **Numeracy:** Demonstrate mastery of the specialist numerical/mathematical skills associated with the particular area in which the 'Masters' stage advanced independent-study project is carried out, including appropriate data analysis/statistical skills.

D8. **IT Skills:** Demonstrate mastery of the specialist IT skills required to carry out the 'Masters' stage project, including search skills, data-analysis skills, data-presentation skills and document-production skills.

D9. **Learning Skills:** Work autonomously or with minimal guidance where appropriate, direct and manage own development of mastery of the various research-methodology skills associated with the 'Masters' stage project.

D10. **Interactive and Group Skills:** Demonstrate the various skills required to work effectively with a research supervisor and with any other support staff

Distinctive features of the programme

The proposed MRes Computer Science programme consists of 80 credits of taught material and a 100 credit research project. It is designed to build on students' understanding of computing and information systems (as taught in a typical undergraduate degree with a substantial computer science and information systems content, or in a conversion MSc) by offering a one-year (or two-years part-time) supervised research project in one of the following areas of advanced study:

- Professional Issues and Professional Practice
- Networking techniques,
- Web systems development.
- Multimedia

The programme consists of two stages, comprising the taught element and a project / dissertation. The taught element comprises of two compulsory taught modules and two optional specialist taught modules from one chosen theme included to enable a student to specialise their studies according to their particular background and interests. The compulsory modules are those that must be undertaken by all students and provide the foundational skills and knowledge required for the research programme.

Students who complete the programme successfully will have gained advanced critical and evaluative perspectives of this discipline, together with analytical and creative problem solving abilities and an in-depth theoretical and practical knowledge in their chosen area of

study, which they will be able to use in:

- analysis of problems,
- evaluation of technology options,
- deployment of appropriate solutions,
- research into, and development of, new technologies.

Additional support will be provided through the University wide 'Research Methods Programme' and 'Generic Skills Programme'.

Teaching, learning and assessment strategies used to enable outcomes to be achieved and demonstrated

The programme is delivered using a mixture of formal lectures, practical and tutorial sessions, guided reading and student centred learning.

The broad nature of the programme including common and specialist elements necessitates the use of a broad range of teaching techniques. Lectures are used as the main delivery mechanism, typically supplemented by supervised problem and lab classes, and group discussion. Some modules include group and small-scale project work, with student-led seminars and presentations. Blackboard and a range of other online tools are used to support teaching. The School also operates a number of specialist computer labs, with teaching based around the lab facilities.

The programme is assessed by a combination of traditional written examinations and continuous assessment, including essays and computer programming problems. The dissertation includes an element of assessment by oral, poster and/or demonstration representation of project work. All modules are assessed at the end of the semester in which they are taught.

The Welsh Language

The School will offer Welsh medium assessment, (including written assignments, examinations, projects and theses) to students and will provide assessment in accordance with the student's linguistic preference.

The School will offer and establish the need for Welsh medium assessment as part of its registration processes. Where a qualified tutor is available, students will then be allocated to a tutor who is able to assess the work in Welsh. At present, the School does not have enough bilingual tutors or full-time academic staff who are able to assess through the medium of Welsh. Where a need for Welsh medium assessment has been identified and no appropriate Welsh speaking tutor/assessor is available, the written assessment will be translated into English. This translation will be conducted by University qualified translators.

The School will collect data on the linguistic preferences of students during the registration process. This data will be used, where possible, to offer students academic and other support in the Welsh language and enable the University to assess the demand to develop bilingual educational provision further.

A range of advisory and study support services provided for students and prospective

students are available in both English and Welsh in the University.

Additionally the programme team would wish to develop the language skills of students taking this programme. The University already offers modules in Welsh as a second language at HE level to students studying degrees which involve working with the public e.g. social work, nursing, youth and community work. It is anticipated that the MSc students whose first language is not Welsh, or who wish to improve their Welsh skills (either an improver or a new learner) would be offered these sessions as an extra module outside the programme. The University's investment in its Second Language Centre ensures that this aspiration can be delivered from within existing arrangements.

Assessment regulations that apply to the programme

Regulations for Glyndŵr University Modular Masters Degrees

Programme structures and requirements, levels, modules, credits and awards*

Module Title	Core/ Optional	Level	Existing Module Code*	Credit Value
Post Graduate Study and Research Methods	C	M	COMM50	20
Future & Emerging Technology	C	M	COMM51	20
IT Project Management	O A1	M	COM703	20
Professional Challenges in Computing	O A2	M	COM704	20
Multimedia Development Environments	O B1	M	COM705	20
Applied Sound and Music Production	O B2	M	COM706	20
Networking Hardware & Software	O C1	M	COMM52	20
Networking Techniques & Technologies	O C2	M	COMM53	20
Commercial Website Design & Development	O D1	M	COM707	20
Internet and Mobile Application Development	O D2	M	COM708	20
Research Project	C	M	COM709	100

Student choose paired options A1, A2 or B1, B2 or C1, C2, or D1, D2

Criteria for admission to the programme

The standard entry requirement for the MRes programme is an Honours Degree of at least 2:1 classification or equivalent in any science-based degree with a strong computing and/or engineering element. Graduates from other application areas may be accepted at the discretion of the Admissions Tutor. In some cases applicants with substantial commercial or industrial experience can be accepted, subject to interview and references.

English Language Requirements

In addition to the academic entry requirements, overseas students require a TOEFL score of 600 (paper) or 237 (computer), or an IELTS score of 6.5 (with no sub-part less than 6.0): this should have been achieved within the two years prior to application. Good English is essential for success on the programme.

Accreditation of Prior (Experiential) Learning
Applications from students wishing to enter the course at points other than the beginning of the programme will be dealt with on an individual basis in line with the APL procedures within the University regulations regarding credit accumulation and transfer

Each applicant will be required to provide an academic transcript of their previous study as part of their application

Indicators of quality

The following indicators are used to judge the quality of our educational provision:

- consideration of relevant external examiners' reports, comments on individual examination papers and contributions at the Assessment Boards;
- double marking and the independent moderation of all examination elements;
- analysis of entry and exit qualifications, progression and completion rates, measured against the profiles of students;
- scrutiny of standards by the Standards and Quality Committee (SQC) via annual programme reports, required responses to external examiners' reports and internal review by a SQC panel;
- input from the Research Assessment Exercise;
- input from industry and the profession, via accreditation processes, advisory panels and the variety of professional activities of members of the School;
- input from employers via students and their projects;
- student feedback from questionnaires (SPOMS), and class representatives;
- procedures facilitating the spread of good practice via peer observation, joint teaching, second examining at other institutions, participation in SQC programme report/internal review panels, attendance at events and courses.

Methods for evaluating and improving the quality and standards of the programme

The University has procedures in place for the regular review of its educational provision, including the annual review of both modules and programmes which draw on feedback from such sources as external examiners' reports, student evaluation, student achievement and progression data. In addition, programmes are reviewed every four years through a programme scrutiny quality review scheme that includes external input.

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

- Student assessment of teaching through questionnaires at the end of modules
- Staff-Student Consultative Committee

Particular support for learning

Students on the programme will receive the following forms of student support and guidance:

- **Admissions**. All students on the programme will have the opportunity to discuss their application with staff, and receive appropriate advice and guidance prior to admission. This will include review of expectations of the course and clarification of workload and requirements.
- **Induction**. New students on the programme will undergo an induction programme which will provide them with a full introduction to the course, and will include elements of work on study skills and professional development.
- **Student Handbook**. All students on the programme will receive a Student Handbook which will contain details and guidance on all aspects of the course and forms of student support and guidance, programme-based, School-based and institutional
- **Personal Tutors**: Students will be allocated a personal tutor who will offer:
  - Academic monitoring and advice: regular one to one meetings to discuss their academic progress and the provision of guidance on matters such as options, changing programmes and University regulations

- Pastoral care: a point of contact within the School with whom to discuss non-academic problems and difficulties with the ability to advise the student on the availability of appropriate assistance offered by the University or the Student Guild on studying, financial and other problems**Progress Review and Attendance Monitoring**. Student attendance will be subject to regular monitoring through registers, and this will be a means of addressing issues of student support. There will also be regular reviews for each student with personal tutors.
- **University and School Web-sites/ Blackboard**
- **University Library**
- **E-mail**
- **University welfare services**
  - University doctor
  - Counselling services
  - Child care provision
  - Director of Welfare
  - Financial Advice and support
- **Language and Special Needs Support**
  - Support for students with dyslexia
  - Support for students with special needs
  - Support for students whose first language is not English

- General learning support for students

Equality and Diversity

The University is committed to equal opportunities for all and the School pays close attention to providing fair and equal treatment to all students regardless of race, religion or belief, gender, age or sexual orientation. Students will not be discriminated against on the grounds of disability, although an individual's disability may be taken into consideration during the admission process in relation to the nature of assessment methods.

Curriculum Map of modules against intended learning outcomes of the programme

PG Cert, PG Dip stages

				Knowledge & Understanding		
Stage	*Module Code*	*Module Title*	*Core/ Option*	***A1***	***A2***	***A3***
1	*COMM50*	*Postgraduate Study & Research Methods*	*Core*	*x*		*x*
	COMM51	*Future & Emerging Technology*	*Core*	*x*	*x*	*x*
	COM703	*IT Project Management*	*Option*	*x*		*x*
	COM704	*Professional Challenges in Computing*	*Option*	*x*	*x*	*x*
	COMM52	*Networking Hardware and Software*	*Option*	*x*	*x*	*x*
	COMM53	*Networking Techniques & Technologies*	*Option*	*x*	*x*	*x*
	COM707	*Commercial Website Design & Development*	*Option*	*x*		*x*
	COM708	*Internet and Mobile Application Development*	*Option*	*x*		*x*
	COM706	*Applied Sound and Music Production*	*Option*	*x*		*x*
	COM705	*Multimedia Development Environments*	*Option*	*x*		*x*

Stage	*Module Code*	*Module Title*	*Core/ Option*	***A1***	***A2***	***A3***
2	*COM709*	*Dissertation*	*Core*	*x*	*x*	*x*

				Intellectual/Cognitive Skills				
Stage	*Module Code*	*Module Title*	*Core/ Option*	***B1***	***B2***	***B3***	***B4***	***B5***
1	*COMM50*	*Postgraduate Study & Research Methods*	*Core*	*x*	*x*	*x*	*x*	*x*
	COMM51	*Future & Emerging Technology*	*Core*	*x*	*x*	*x*	*x*	*x*
	COM703	*IT Project Management*	*Option*	*x*	*x*	*x*	*x*	*x*
	COM704	*Professional Challenges in Computing*	*Option*	*x*	*x*	*x*	*x*	*x*

	COMM52	*Networking Hardware and Software*	*Option*	*x*	*x*	*x*	*x*	*x*
	COMM53	*Networking Techniques & Technologies*	*Option*	*x*	*x*	*x*	*x*	*x*
	COM707	*Commercial Website Design & Development*	*Option*	*x*	*x*	*x*	*x*	*x*
	COM708	*Internet and Mobile Application Development*	*Option*	*x*	*x*	*x*	*x*	*x*
	COM706	*Applied Sound and Music Production*	*Option*	*x*	*x*	*x*	*x*	*x*
	COM705	*Multimedia Development Environments*	*Option*	*x*	*x*	*x*	*x*	*x*

Stage	*Module Code*	*Module Title*	*Core/ Option*	***B1***	***B2***	***B3***	***B4***	***B5***
2	*COM709*	*Research Dissertation*	*Core*	*x*	*x*	*x*	*x*	*x*

Subject Specific Skills

Stage	*Module Code*	*Module Title*	*Core/ Option*	***C1***	***C2***	***C3***	***C4***
1	*COMM50*	*Postgraduate Study & Research Methods*	*Core*	*x*			*x*
	COMM51	*Future & Emerging Technology*	*Core*	*x*	*x*		*x*
	COM703	*IT Project Management*	*Option*	*x*	*x*	*x*	*x*
	COM704	*Professional Challenges in Computing*	*Option*	*x*	*x*	*x*	*x*
	COMM52	*Networking Hardware and Software*	*Option*	*x*	*x*		*x*
	COMM53	*Networking Techniques & Technologies*	*Option*	*x*	*x*		*x*
	COM707	*Commercial Website Design & Development*	*Option*	*x*	*x*	*x*	*x*
	COM708	*Internet and Mobile Application Development*	*Option*	*x*	*x*		*x*
	COM706	*Applied Sound and Music Production*	*Option*	*x*	*x*		*x*
	COM705	*Multimedia Development Environments*	*Option*	*x*	*x*		*x*

Stage	*Module Code*	*Module Title*	*Core/ Option*	***C1***	***C2***	***C3***	***C4***
2	*COM709*	*Research Dissertation*	*Core*	*x*	*x*		*x*

Key Skills

Stage	*Module Code*	*Module Title*	*Core/ Option*	***D1***	***D2***	***D3***	***D4***	***D5***
1	*COMM50*	*Postgraduate Study & Research Methods*	*Core*	*x*	*x*	*x*	*x*	*x*
	COMM51	*Future & Emerging Technology*	*Core*	*x*	*x*	*x*	*x*	*x*
	COM703	*IT Project Management*	*Option*	*x*	*x*	*x*	*x*	*x*
	COM704	*Professional Challenges in Computing*	*Option*	*x*	*x*	*x*	*x*	*x*
	COMM52	*Networking Hardware and Software*	*Option*	*x*	*x*	*x*	*x*	*x*
	COMM53	*Networking Techniques & Technologies*	*Option*	*x*	*x*	*x*	*x*	*x*
	COM707	*Commercial Website Design & Development*	*Option*	*x*	*x*	*x*	*x*	*x*
	COM708	*Internet and Mobile Application Development*	*Option*	*x*	*x*	*x*	*x*	*x*
	COM706	*Applied Sound and Music Production*	*Option*	*x*	*x*	*x*	*x*	*x*
	COM705	*Multimedia Development Environments*	*Option*	*x*	*x*	*x*	*x*	*x*

Stage	*Module Code*	*Module Title*	*Core/ Option*	***D1***	***D2***	***D3***	***D4***	***D5***

2	*COM709*	*Research Dissertation*	*Core*	*x*	*x*	*x*	*x*	*x*

Masters stage

				Knowledge & Understanding		
Stage	*Module Code*	*Module Title*	*Core/ Option*	***A4***	***A5***	***A6***
1	*COMM50*	*Postgraduate Study & Research Methods*	*Core*	*x*	*x*	*x*
	COMM51	*Future & Emerging Technology*	*Core*	*x*	*x*	*x*
	COM703	*IT Project Management*	*Option*	*x*		
	COM704	*Professional Challenges in Computing*	*Option*	*x*		
	COMM52	*Networking Hardware and Software*	*Option*	*x*		
	COMM53	*Networking Techniques & Technologies*	*Option*	*x*		
	COM707	*Commercial Website Design & Development*	*Option*	*x*		
	COM708	*Internet and Mobile Application Development*	*Option*	*x*		
	COM706	*Applied Sound and Music Production*	*Option*	*x*		
	COM705	*Multimedia Development Environments*	*Option*	*x*		

Stage	*Module Code*	*Module Title*	*Core/ Option*	***A4***	***A5***	***A6***
2	*COM709*	*Research Dissertation*	*Core*	*x*	*x*	*x*

			Intellectual/Cognitive Skills					
Stage	*Module Code*	*Module Title*	*Core/ Option*	***B6***	***B7***	***B8***	***B9***	***B10***
1	*COMM50*	*Postgraduate Study & Research Methods*	*Core*					
	COMM51	*Future & Emerging Technology*	*Core*					
	COM703	*IT Project Management*	*Option*					
	COM704	*Professional Challenges in Computing*	*Option*					
	COMM52	*Networking Hardware and Software*	*Option*					
	COMM53	*Networking Techniques & Technologies*	*Option*					
	COM707	*Commercial Website Design & Development*	*Option*					
	COM708	*Internet and Mobile Application Development*	*Option*					
	COM706	*Applied Sound and Music Production*	*Option*					
	COM705	*Multimedia Development Environments*	*Option*					

Stage	*Module Code*	*Module Title*	*Core/ Option*	***B6***	***B7***	***B8***	***B9***	***B10***
2	*COM709*	*Research Dissertation*	*Core*	*x*	*x*	*x*	*x*	*x*

			Subject Specific Skills		
Stage	*Module Code*	*Module Title*	*Core/ Option*	***C5***	***C6***
1	*COMM50*	*Postgraduate Study & Research Methods*	*Core*		
	COMM51	*Future & Emerging Technology*	*Core*		
	COM703	*IT Project Management*	*Option*		
	COM704	*Professional Challenges in Computing*	*Option*		
	COMM52	*Networking Hardware and Software*	*Option*		
	COMM53	*Networking Techniques & Technologies*	*Option*		
	COM707	*Commercial Website Design & Development*	*Option*		
	COM708	*Internet and Mobile Application Development*	*Option*		
	COM706	*Applied Sound and Music Production*	*Option*		
	COM705	*Multimedia Development Environments*	*Option*		

Stage	*Module Code*	*Module Title*	*Core/ Option*	***C5***	***C6***
2	*COM709*	*Research Dissertation*	*Core*	*x*	*x*

			Key Skills					
Stage	*Module Code*	*Module Title*	*Core/ Option*	***D6***	***D7***	***D8***	***D9***	***D10***
1	*COMM50*	*Postgraduate Study & Research Methods*	*Core*					
	COMM51	*Future & Emerging Technology*	*Core*					
	COM703	*IT Project Management*	*Option*					
	COM704	*Professional Challenges in Computing*	*Option*					
	COMM52	*Networking Hardware and Software*	*Option*					
	COMM53	*Networking Techniques & Technologies*	*Option*					
	COM707	*Commercial Website Design & Development*	*Option*					
	COM708	*Internet and Mobile Application Development*	*Option*					
	COM706	*Applied Sound and Music Production*	*Option*					
	COM705	*Multimedia Development Environments*	*Option*					

Stage	*Module Code*	*Module Title*	*Core/ Option*	***D6***	***D7***	***D8***	***D9***	***D10***
2	*COM709*	*Dissertation*	*Core*	*x*	*x*	*x*	*x*	*x*