Programme Specification

Information Technology in Organisations 2017-18

This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities that are provided.

Awarding Institution	University of Southampton
Teaching Institution	Electronics and Computer Science (ECS) Faculty of Physical Sciences and Engineering University of Southampton
Mode of Study	Full Time
Duration in Years	3 Years – BSc 4 Years – MComp 5 Years - MComp with Industrial Studies
Accreditation details	Currently accredited by the British Computer Society (BCS)
Final award	Masters of Computing (MComp) Masters of Computing (MComp), with Industrial Studies
Name of award	Information Technology in Organisations
Interim Exit awards	Bachelor of Science (Honours) Bachelor of Science (Ordinary degree) Diploma of Higher Education Certificate of Higher Education
FHEQ level of final award	7
UCAS code	G500: MComp Information Technology in Organisations MComp Information Technology in Organisations (with Industrial studies) G560: BSc Information Technology in Organisations
QAA Subject Benchmark or other external reference	Quality Assurance Agency (QAA) Computing and IT Benchmark 2007 QAA Subject Bench marking: Computing Master's 2011 QAA Framework for Higher Education Qualifications (FHEQ) British Computer Society's accreditation guidelines for use from Autumn 2012.
Programme Coordinator	Gary Wills
Date specification was written	08/10/2014
Date specification last updated	07/12/2017

Programme Overview

Brief outline of the programme

This degree is distinctive and unusual, and was designed following a market survey which showed a significant gap in university provision nation-wide. The sector provides computer science programmes that prepare students for work in an area that might be typified by the research labs, for example. It also provides programmes in Business IT that prepare students for work in IT management in companies with large technical departments. However, few programmes produce graduates who are both technically competent and have an understanding of business and management IT in Organisations is designed to meet this need.

The IT industry requires able, adaptable, and technically-aware computing professionals who also understand people and are able to relate to them and the organisations they work in. Graduates entering this industry need

to combine a broad base of computing knowledge and application with a solid grounding in professional and vocational skills. In order to ensure that graduates have this broad base, the degree provides a number of core modules in levels 4 and 5 (parts 1 and 2). Optional modules at level 6 (part 3) and level 7 (part 4) provide specialisation.

The programme is taught at four levels: level 4 (part 1, Certificate), level 5 (part 2, Diploma), level 6 (part 3, Degree), and level 7 (part 4, Masters). These levels correspond to the three years of a traditional Bachelor's degree programme, plus a fourth year for the Master's.
The MComp is an integrated Master's programme in Information Technology in Organisations which provides an extended and enhanced programme of study.

Please Note: As a research-led University, we undertake a continuous review of our programmes to ensure quality enhancement and to manage our resources. As a result, this programme may be revised during a student's period of registration, however, any revision will be balanced against the requirement that the student should receive the educational service expected. Please read our **Disclaimer** http://www.calendar.soton.ac.uk/index.html) to see why, when and how changes may be made to a student's programme.

Programmes and major changes to programmes are approved through the University's programme validation process which is described in the University's Quality handbook.

Learning and teaching

The ITO programme fills the gap between traditional Computer Science and Management Information Systems by providing students with a good theoretical and practical understanding of the application of computing technologies within an organisational setting. Although ITO's primary focus is on the technical perspective of IT (including programing of these systems), the professional, commercial, and managerial aspects of IT systems are also covered. The programme is accredited through the British Computer Society towards the requirements for Chartered IT Professional.

How is your learning structured?

Teaching is based on a system of two twelve-week semesters. You will usually study four modules in each semester, a total of eight modules per year. In part 2 (second year) you can chose a module from the flexible learning programme to help develop your transferable skills (see http://www.southampton.ac.uk/cip#.Uuzld_l_vIh for more details).

For those that have chosen a minor subject, you will undertake its modules alongside your major in ITO, (see http://www.southampton.ac.uk/cip/information_for_students/minor_subjects/index.page?)

Teaching involves lectures as well as workshops, laboratory classes, tutorials, or seminars. Most modules have two 50-minute lectures per week and one 50-minute laboratory/tutorial per week. You will, therefore, have approximately twelve hours of taught contact time per week. In addition, you are expected to undertake at least 28 hours private and self-study per week.

Assessment

The modules will be assessed according to their learning outcomes. The majority of modules have two assessments, one an item of coursework, and the other a written examination. Some modules, especially project-type modules, are assessed by coursework only.
The types of coursework assessment vary depending on the module, some typical examples are: laboratory-based exercises; design and build exercises; evaluations of systems; case study evaluations; in-class tests; and on-line discussions. The assessment process places emphasis on the need for you to reflect on the module content, take a stance on relevant issues, and justify your viewpoint.
While you must pass all the modules in part one in order to proceed to part two, only your results in parts two, three, and four of the MComp (two and three for the BSc) are used to calculate your final degree classification.

Educational Aims of the Programme

The aims of the programme are:

- To provide you with a solid grounding in a broad range of computing subjects, including people-centred system design, hardware, networking, software development, and information systems.
- To equip you with a firm understanding of the principles of management, of operating as a professional, and of the use and implications of the use of IT as a tool in business.
- To encourage you to make connections across the programme, so that you understand technology in the light of the people it is meant to serve, understand the motivations of these people and their encompassing organisation, and have a solid grasp of what computing technology can and cannot achieve for them.
- To link theoretical concepts with practical experience wherever possible.
- To stimulate you to apply your understanding to situations in a reflective and responsible way.
- To place you in unfamiliar settings with practical, collaborative challenges that require you to make rapid, real-time decisions that take account of team expertise.
- (For the "with Industrial Studies" variant.) Provide students with industrial experience, to enable students to relate their academic skills and knowledge to contemporary industrial practice

On graduation, you will be equipped to enter an IT post where you will be able to develop quickly as an ethically-aware and responsible manager. Since the degree ensures a broad-based programme of study in computing, you could choose to develop your skills in any of a range of areas following graduation to specialise, for example, in networking, in web server management, or in software development.

Programme Learning Outcomes

The programme provides you with opportunities to develop and demonstrate knowledge and understanding and intellectual and transferable skills as listed below. These outcomes have been developed with reference to the QAA's Subject Benchmark Statement for Computing, as well as the National Qualifications Framework and the British Computer Society's accreditation guidelines. The way in which these learning outcomes are derived from individual modules is mapped out in Appendix 1.

Knowledge and Understanding

Having successfully completed this programme you will be able to demonstrate knowledge and understanding of:

1) Facts, concepts, principles and theories relating to current initiatives, environments and usage of Information and Computer Technology in Organisations
2) Modelling and design of computer-based systems for the purposes of comprehension, communication, prediction and the understanding of trade-offs between requirements and option choices.
3) Theory, practice and tools for the specification, modelling, design, implementation and evaluation of computer-based systems
4) The production of proposals for project development work with due consideration of the ethical, social, professional, organisational and legal implications, including risks, safety, sustainability and environmental issues.
5) The commercial and economic context of the development, use and maintenance of information systems
6) The management techniques which may be used to achieve objectives within a computing context
7) Information security issues in relation to the design, development and the use of information systems
8) The methods and issues involved in deploying systems to meet business goals
9) Scientific, engineering and mathematical principles that underpin computer system development, including methods, techniques and tools for information modelling, management and security
10) Systems architecture and related technologies for developing information systems, including distributed and network-centric computing
11) Research or advanced scholarship to develop subject knowledge.

If you are studying on the "with Industrial Studies" variant, you will also have:

12) Experience of applying your academic skills and knowledge to solving problems in industry.
13) A deeper understanding of the relevance of the learning outcomes listed above to a successful career in industry.

Teaching and Learning Methods

Teaching is mainly through lectures and directed reading. Throughout the programme, there is a heavy emphasis on private study. To reinforce the learning during private study there are tutorials (in part 1), laboratories, and supervision of individual and group projects. Other methods employed include group discussions, experiential exercises and open-ended projects.

Assessment methods

A range of assessment strategies is used throughout the programme to allow you to demonstrate the intended outcomes and thereby assess your knowledge and understanding. In the parts one, two and three, there is mixture of coursework and examinations. The types of coursework, include technical reports, laboratories exercises, and project work, for example. However, in 50-60% of topics, the learning outcomes are assessed by written examinations and in-class tests. The amount of examination increases in part three, but decreases again in part four. The assessment process places emphasis on the need for you to reflect on the module content, take a stance on relevant issues, and justify your viewpoint.

Subject Specific Intellectual and Research Skills

Having successfully completed this programme you will be able to:

(a) Integrate and synthesise knowledge into a plan; evaluate, appraise and extrapolate information and trends from relevant professional and vocational sources to inform practice
(b) Specify, design (applying principles, methods and tools) and implement computer-based systems
(c) Evaluate systems in terms of general quality attributes and possible trade-offs presented within the given problem
(d) Recognise any risks or safety aspects that may be involved in the operation of computing equipment within a given context
(e) Deploy effectively the tools used for the construction and documentation of computer applications, with particular emphasis on understanding the whole process involved in the effective deployment of computers to solve practical problems
(f) Recognise and analyse criteria and specifications appropriate to specific problems and plan strategies for their solution
(g) Analyse the extent to which a computer based-system meets the criteria defined for its current use and future development with respect to emerging technological, industrial and social trends
(h) Use appropriate theoretical and practical processes to specify and deploy, verify and maintain information systems, including working with technical uncertainty
(i) Define a problem, research its background, identify constraints, understand customer and user needs, identify and manage cost drivers, ensure fitness for purpose and manage the design process and evaluate outcomes
(j) Explain clearly the techniques that are applicable to research or advanced scholarship in the discipline, and critically evaluate this research and scholarship.

Teaching and Learning Methods

Teaching is mainly through lectures, guest lectures from industry, and directed reading. Other methods employed include group discussions, experiential exercises and open-ended projects. Practical software development skills are also taught in computer laboratories. By the end of your studies, you are expected to have developed a critical and analytical approach to your studies, and to be able to take an informed stance, which you can defend rigorously.
The Level 6 (part 3) individual project and the Level 7 (part 4) group design project particularly exemplify this approach, where you develop a negotiated project that you research and deliver. For these projects, you will also be required to apply practical and analytical skills to meet a real need in a wider context. MComp group design projects normally have real industrial or commercial customers. MComp students will also have specialist seminars and directed reading of research material. Student-led seminars also appear at this level, with student-led research and small group presentations becoming more important generally.

Assessment methods

In addition to the coursework and examination, specific knowledge will be assessed through laboratory exercises, programming exercises, design projects, and oral presentations. At levels 6 (part three) and 7 (part four), a key component in the assessment portfolio is the project work. This consists of a project which you initiate, negotiate and research, and for which you take responsibility. It is assessed based on your ability to develop a critical and analytical approach to your studies, and to be able to take an informed stance that you can defend rigorously.

Transferable and Generic Skills

Having successfully completed this programme you will be able to:

(i) produce grammatically-accurate written information following standard conventions, and present orally and electronically to a range of audiences
(ii) evaluate the scale of accumulated errors and use appropriate sampling techniques, and demonstrate numerical understanding in presenting cases involving a quantitative dimension
(iii) adapt existing standards and practices to cope with a given (non-routine) work scenario
(iv) demonstrate integrity in your approach to everyday practice, including time management and organisational skills
(v) evaluate your own use of IT critically, demonstrating effective information management and retrieval skills
(vi) work collaboratively on a project, recognising the different roles within a team and different ways of organising teams, to achieve goals of value to a customer
(vii) reflect and think critically as a component of practice, independent learning and professional development
(viii) employ appropriate problem-solving strategies and evaluate the outcome of implementing a solution to a problem
(ix) plan and enjoy lifelong self-learning as an effective personal development strategy for the foundation of on-going professional development
(x) explain how established techniques of research and enquiry are used to create and interpret subject knowledge
(xi) (For the "with Industrial Studies" variant.) reflect on the experience of applying the key skills listed above to industrial projects

Teaching and Learning Methods

The programme embeds transferable skills into all the courses. Transferable skills will be addressed throughout by lectures, seminars, group and individual projects, and by private study, which are all designed to be practical in nature and computer-orientated. Feedback on coursework is an important mechanism for development of key skills. The project work at level 6 (part 3) and 7 (part 4) also helps you to develop a number of these key skills. Written Guidelines are provided in support of specific assessed coursework and project reports. Research methods are covered in lectures and seminars in part four.

Assessment methods

In addition to the coursework (essays, technical reports, oral presentations) and examination, the transferable skills will be assessed through practical work and a software engineering group project in part two, and the group project in part four. Group work is an important component of the degree. When group work is a part of the assessment in a module the marks are usually given to all members of the group equally. However when group work forms the major assessment activity, we may ask the students in the group to report the amount of effort from each member of the group or for individual reports to be written, in order to aid the lecturer in allocating marks

Graduate Attributes

Graduate Attributes are the personal qualities, skills and understanding you can develop during your studies. They include but extend beyond your knowledge of an academic discipline and its technical proficiencies. Graduate Attributes are important because they equip you for the challenge of contributing to your chosen profession and may enable you to take a leading role in shaping the society in which you live.

We offer you the opportunity to develop these attributes through your successful engagement with the learning and teaching of your programme and your active participation in University life. The skills, knowledge and personal qualities that underpin the Graduate Attributes are supported by your discipline. As such, each attribute is enriched, made distinct and expressed through the variety of learning experiences you will experience. Your development of Graduate Attributes presumes basic competencies on entry to the University.

Programme Structure

Typical course content

The ITO programmes fill the gap between traditional Computer Science and Management Information Systems by providing students with a good theoretical and practical understanding of the application of computing technologies within an organisational setting.
Although ITO's primary focus is on the technical perspective of ITO (including programing of these systems) the professional, commercial and managerial aspect of IT system are also covered. The programme is accredited through the British Computer Society towards the requirements for Chartered IT Professional.

Special Features of the programme

Our modules use a variety of innovative teaching methods and assessment, including practical laboratories, coursework, groupwork and written examinations. Here are some examples of what you'll be able to do.

Software Engineering **Group Project**

This module typifies what can be expected by the end of the second year. In groups students given a project specification, design and build (program) a system. The project draws on the previous modules such as programming, databases, web/system design and commercial aspects of systems. Find out more about Group Project

It should be noted that it may not be possible to run some optional modules if the number of students registered on the module is very small. It should also be noted that optional module choice can be restricted by the University Timetable, which varies from year to year: some optional modules may clash with other optional or compulsory modules. Please be aware that many modules are shared between different cohorts; and the class size depends on cohort size, which varies from year to year.

Programme details

On the IT in Organisations Programme, each level consists of study amounting to 60 credits under the European Credit Transfer and Accumulation System (ECTS) which is roughly equivalent to 120 credits under the Credit Accumulation and Transfer System (CATS). We will use the ECTS credits for levels of this degree programme.
The size of all part 1 and part 2 modules are 7.5 ECTS.
In parts 3 and 4 the modules are mainly 7.5 ECTS credits with typically 4 modules per semester. Occasionally, some modules are delivered as 15 or even 22.5 credit modules. See Appendix 2 for the credit map.
At level 6 (part 3), there is a core 22.5 ECTS credit individual project (3 modules), delivered over two semesters, so there are just 37.5 (5 modules) additional credits required to complete the level.
At level 7 (part 4) there is also a 22.5 credit group design project and a 7.5 credit individual research project, so there are just 30 additional credits (4 modules) required to complete the level.
Students intending to graduate with MComp degrees are strongly recommended to spend 20 weeks in industry, usually as two 10-week summer placements. Alternatively, you may suspend your studies after part two or three to take a year out in industry or abroad. Consult the ECS Careers hub
http://www.ecs.soton.ac.uk/careers/index.php .
If you complete a year in industry, as part of the "with Industrial Studies" variant, you will complete a study worth 60 credit points at level 6. This will qualify you for the award of the enhanced degree.
The structure of the degree programme also allows choice, which can be exercised this choice in a number of ways.

- In part 2 you can use these modules to deepen your knowledge of your main subject.
- In part 2 you can take an additional module from your main subject a module: from a selection of interdisciplinary modules.
- You can choose modules that build into a minor pathway, the title of which can be mentioned on your degree certificate. You choose one module in part 1 and two modules in parts 2 and 3. Details of the

minors available and the modules that are included can be found at http://www.southampton.ac.uk/majorminor/.

Alternatively, semester II of Pt IV may be taken at a partner institution overseas, which has been approved by the Erasmus coordinator. In this case, ELEC6247 Group Design Project (Overseas Placement) should be taken instead of ELEC6200 Group Design Project during semester I. In this case, ELEC6247 is core and carries 15 ECTS credits. The modules selected at the overseas institution must be approved by the programme leader. The module selection must include at least 30 ECTS (or equivalent) at masters level, that is relevant to the degree title. The marks awarded by the overseas institution will be converted to equivalent UK marks by the Erasmus coordinator.

Additional Costs

Students are responsible for meeting the cost of essential textbooks, and of producing such essays, assignments, laboratory reports and dissertations as are required to fulfil the academic requirements for each programme of study. Costs that students registered for this programme typically also have to pay for are included in Appendix 4.

Progression Requirements

To progress to level 5 (part 2) students must pass all modules in level 4 (part 1) with an average of 40%,

To progress to level 6 (part 3) students must pass all modules in part 5 (part 2) with an average of 40%

To progress to level 7 (part 4) students must pass level 6 (part 3) with an average of 58%.

The programme follows the University's regulations for *Progression, Determination and Classification of Results: Undergraduate and Integrated Masters Programmes* as set out in the University Calendar http://www.calendar.soton.ac.uk/sectionIV/progression-regs.html

The assessment regulations specifically for ECS are summarised in the University Calendar http://www.calendar.soton.ac.uk/sectionXII/ecs-ug.html and also in the Faculty Student Handbook http://www.fpse.soton.ac.uk/student_handbook.

Intermediate exit points (where available)

On successful completion of a level a student will normally progress to the next level. If you are not able or do not wish to complete your programme, you may qualify for an exit award:

- If you have passed part 1 you may exit with a Certificate of Higher Education.

Providing all previous levels have been completed, and:

- If you have passed part 2 you may exit with a Diploma of Higher Education.
- If you have passed 30 credits of part 3 modules, you may exit with an Ordinary Degree.
- If you have passed 60 credits of part 3 modules, which must include the individual project, you may exit with an Honours Degree.

You will be eligible for an interim exit award if you complete part of the programme but not all of it, as follows:

Qualification	Minimum overall credit in ECTS credits	Minimum ECTS Credits required at level of award
Bachelors of Science (with Honours) (level 6)	180	45
Bachelors of Science (level 6)	150	30
Diploma of Higher Education (Level 5)	120	45
Certificate of HE (Level 4)	60	45

Support for student learning

There are facilities and services to support your learning, some of which are accessible to students across the University and some of which are geared more particularly to students in this particular Faculty or discipline area.

The University provides:

- library resources, including e-books, on-line journals and databases, which are comprehensive and up-to-date; together with assistance from Library staff to enable you to make the best use of these resources
- high speed access to online electronic learning resources on the Internet from dedicated PC Workstations onsite and from your own devices; laptops, smartphones and tablet PCs via the Eduroam wireless network. There is a wide range of application software available from the Student Public Workstations
- computer accounts which will connect you to a number of learning technologies for example, the Blackboard virtual learning environment (which facilitates online learning and access to specific learning resources)
- standard ICT tools such as Email, secure filestore and calendars
- access to key information through the MySouthampton Student Mobile Portal which delivers timetables, Module information, Locations, Tutor details, Library account, bus timetables etc. while you are on the move
- IT support through a comprehensive website, telephone and online ticketed support and a dedicated helpdesk in the Student Services Centre
- Enabling Services offering assessment and support (including specialist IT support) facilities if you have a disability, dyslexia, mental health issue or specific learning difficulties
- the Student Services Centre (SSC) to assist you with a range of general enquiries including financial matters, accommodation, exams, graduation, student visas, ID cards
- Career Destinations, advising on job search, applications, interviews, paid work, volunteering and internship opportunities and getting the most out of your extra-curricular activities alongside your degree programme when writing your CV
- a range of personal support services: mentoring, counselling, residence support service, chaplaincy, health service
- a Centre for Language Study, providing assistance in the development of English language and study skills for non-native speakers

The Students' Union provides

- an academic student representation system, consisting of Course Representatives, Academic Presidents, Faculty Officers and the Vice-President Education; SUSU provides training and support for all these representatives, whose role is to represent students' views to the University
- opportunities for extracurricular activities and volunteering
- an Advice Centre offering free and confidential advice including support if you need to make an academic appeal
- Support for student peer-to-peer groups, such as Nightline

Associated with your programme you will be able to access:

- The tutorial system – every student has a Personal Tutor, and there is also a Senior Tutoring team if your personal tutor is not available
- Computer workstations, with a range of software, manuals and books, with early to late access through a card-lock mechanism
- Traditional and wireless local area networks
- Helpdesk for computer support and programming advice (STACs)
- Postgraduate demonstrators, who support programming intensive modules
- A website with notes for every module
- The Student Handbook http://www.fpse.soton.ac.uk/student_handbook
- Vending machines

Methods for evaluating the quality of teaching and learning

You will have the opportunity to have your say on the quality of the programme in the following ways:

- Completing student evaluation questionnaires for each module of the programme
- Acting as a student representative on various committees, e.g. Staff: Student Liaison Committees, Faculty Programmes Committee OR providing comments to your student representative to feedback on your behalf.
- Serving as a student representative on Faculty Scrutiny Groups for programme validation
- Taking part in programme validation meetings by joining a panel of students to meet with the Faculty Scrutiny Group

The ways in which the quality of your programme is checked, both inside and outside the University, are:

- Regular module and programme reports which are monitored by the Faculty.
- Programme validation, normally every five years.
- External examiners, who produce an annual report
- Professional body accreditation/inspection
- A national research evaluation exercise (our research activity contributes directly to the quality of your learning experience)
- Higher Education Review by the Quality Assurance Agency

Criteria for admission

The University's Admissions Policy applies equally to all programmes of study. The following are the typical entry criteria to be used for selecting candidates for admission. The University's approved equivalencies for the requirements listed below will also be acceptable.

Undergraduate programmes

Qualification	Grades	Subjects required	Subjects not accepted	EPQ Alternative offer (if applicable)	Contextual Alternative offer (if applicable)
GCE A level	BSc – AAA MComp – A*AA				
GCSE (Required with A Levels/BTEC)	B, C	Maths, English			
BTEC	BSc - Level 3 Diploma D*DD plus Grade B Maths GCSE MComp - Level 3 Diploma D*D*D* plus Grade B Maths GCSE				
International Baccalaureate	BSc - 34 overall with 17 at Higher Level, with 6 in Maths at either Ordinary or Higher level MComp - 36 points overall with 18 at Higher				

	Level, with 6 in Maths at either Ordinary or Higher level				
European Baccalaureate					

Postgraduate programmes

Qualification	Grade/GPA	Subjects requirements	Specific requirements
Bachelor's degree			
Master's degree			

Mature applicants

Applications from mature students (over 21 years in the October of the year of entry) are welcome. Applications will be considered on an individual basis.

English Language Proficiency

Overall	Reading	Writing	Speaking	Listening
6.5	5.5	5.5	5.5	5.5

Career Opportunities

Employability is embedded into modules from the first year onwards and right from the first lecture. We explain the degree skills which are being taught throughout the modules and offer a number of optional employability modules.

The technical skills you will obtain are in high demand, as are the skills of understanding and analysing problems, together with communicating the results.

Major technology organisations have a special need for IT specialists. You could end up as part of the team writing the next version of Windows, devising a computer based stock control system for an automotive manufacturer, or writing a secure web-based customer interface for a US music distributor.

External Examiners(s) for the programme

Name Dr Tony Beaumont (Parts I & II)

Institution. Sheffield University

Name TBC (Parts III & IV)

Institution. TBC

Students must not contact External Examiner(s) directly, and external examiners have been advised to refer any such communications back to the University. Students should raise any general queries about the assessment and examination process for the programme with their Course Representative, for consideration through Staff: Student Liaison Committee in the first instance, and Student representatives on Staff: Student Liaison Committees will have the opportunity to consider external examiners' reports as part of the University's quality assurance process.
External examiners do not have a direct role in determining results for individual students, and students wishing to discuss their own performance in assessment should contact their personal tutor in the first instance.

Please note: This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if the student takes full advantage of the learning opportunities that are provided. More detailed information can be found in the Faculty Student Handbook:
http://www.fpse.soton.ac.uk/student_handbook

Revision History

1. New template for Programme specification: includes all previous revisions.
2. March 2014 minor modification to Appendix 2: Delete COMP6070 Applied Cyber Security, as it is no longer applicable to ITO, added code for Management for engineers, correct title for ENTR3002 New Venture Development (replacing ENTR3004)
3. Minor corrections on NQF change to FHEQ; removed with a minor in X from the list on page 1, as this is not a separate degree title April 2014
4. Minor error page 12 Should read BSc and MComp, template had BEng and MEng June2014
5. July 2014, Minor changes following advice from external advisor during the revalidation of the programme:
6. Under assessment on transferable skills added an explanation of assessment of joint coursework.
7. Expanded the rationale for the field trip on COMP2201
8. The removal of IBM by name
9. August 2014 Module Map corrected, it only had one option in part 4 semester 1, should have been two optional modules.
10. March 2015 Added optional modules to part 2 (COMP2214 Advanced Software Modelling and Design); In part 3 added optional module (COMP3218 Game Design and Development); In part 4 added optional modules COMP6234 Data Visualisation, COMP6235 Foundations of Data Science, COMP6236 Software Engineering and Cyber Security and COMP6237 Data Mining
11. Part 1 semester 2 ITO will now take COMP1204 Data Management:(this is in replace ofCOMP1216 Software Modelling and Design). (June 2015)
12. Part 1 semester 1, added COMP1217 Foundation of IT, This replaces COMP1215 (June 2015)
13. Part 1 semester 2, added COMP1206 Programming II, This replaces COMP1201 (June 2015)
14. Update to Programme Overview (CMA Changes) – 24 August 2015
15. Update to Programme Overview (CMA Changes) – 09 Sept 2015
16. Update to Faculty name (page 1), link to FPSE student hand book (page 11), update Entry requirements for 2016 (page 12)
17. Update to the information on taking part 4 overseas (page 9) Updating assessment table to reflect the syllabus (pages 18 & 19) and options that have become available
18. Updates for 2016/17, CQA Team, May 2016
19. Update to structure of ITO due to staff changes – 4th January 2017
20. Update assessment breakdown for COMP1217 and COMP2204 – 22 February 2017
21. After FPC, corrected the semesters in which COMP2205 and COMP2216 takes place: Comp2205 now in semester one and COM2216 now in semester two.
22. March 14 2017, remove group teams and leaders from Programme structure, specified COMP1206 as optional; replaced MANG3067 with the new module code, COMP3219. Updated the code for the individual Research Project to COMP6228., and delete - MATH6115 Statistics for Engineering Systems
23. 26 April, making it clear in the Appendix 1 that COMP2205 is compulsory or students may take a Minor subject in this slot.
24. 07 December 2017, FPC approved optional module caveat – CQA Team.

Appendix 1:

Learning outcomes and Assessment Mapping document for Core and Compulsory modules:

		Knowledge and Understanding													Subject Specific Intellectual Skills										Transferable/Key Skills									
Module Code	**Module Title**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**i**	**ii**	**iii**	**iv**	**vi**	**vii**	**viii**	**ix**	**x**	**xi**
COMP1056	Web Design	X		X	X										X	X			X	X	X		X		X			X	X	X	X		X	
COMP1202	Programming I	X								X						X											X	X	X			X		
COMP1203	Computer Systems I	X		X	X			X			X				X	X	X	X		X	X		X		X			X		X	X		X	
COMP1204	Data Management	X	X	X						X						X	X		X	X	X	X				X	X			X	X	X		
COMP1206	Programming II	X								X												X				X						X		
COMP1208	Business Information Systems	X		X	X	X	X		X		X				X		X	X			X		X					X	X	X	X			
COMP1216	Software Modelling and Design	X	X	X																X	X	X					X	X	X	X	X	X		
COMP1217	Foundations of IT	X								X												X				X						X		
COMP2202	Databases and Databases Application;	X		X				X		X	X					X	X		X		X										X	X		
COMP2203	Application Scripting	X		X				X								X			X								X				X	X		
COMP2204	Computer Networking in Organisations	X		X							X					X	X				X										X	X		
COMP2205	Commercial Aspect of IT	X			X	X	X		X	X					X			X				X	X		X				X		X			
COMP2211	Software Engineering Group Project	X	X	X	X	X	X		X							X		X	X	X	X		X	X		X	X		X	X	X	X		

COMP2213	Interaction Design;	X	X	X	X					X							X			X				X			X					X		
COMP2216	Principles of Cyber Security																																	
UOSM2XXX	Broadening																																	
COMP3200	Part III individual Project A	X	X	X	X	X	X	X	X	X	X				X	X	X	X	X	X			X	X	X	X	X			X	X	X	X	
COMP3200	Part III individual Project B	X	X	X	X	X	X	X	X	X	X				X	X	X	X	X	X			X	X	X	X	X			X	X	X	X	
COMP3201	Cyber Security	X			X			X		X					X	X		X		X		X	X					X	X				
COMP3202	Knowledge, Information and Society				X										X						X			X				X			X			
COMP3219	Engineering Management and Law				X	X																												
ELEC6200	Group Design Project A	X	X	X	X		X	X				X			X	X	X	X	X	X		X	X		X		X	X	X	X	X	X	X	X
ELEC6050	Group Design Project B	X	X	X	X		X	X				X			X	X	X	X	X	X		X	X		X		X	X	X	X	X	X	X	X
COMP6201	E-Business Strategy	X	X		X	X			X		X	X			X	X	X		X			X	X	X	X	X			X		X		X	X
COMP6228	Individual Research Project	X								X		X			X			X		X		X		X	X	X			X	X		X	X	X	X
ELEC3200	Year in Industry												X	X																				

Module Code	Module Title	Coursework 1	Coursework 2	Coursework 3	Coursework 4	Coursework 5	Exam
COMP1056	Web Design	30% - Laboratories	20% - Report.	10% - Website Wireframe	40% - Fully Functional Website		N/A
COMP1202	Programming I	20% - Laboratory Work	40% - Coursework.				40% - Exam, 3 hour(s)
COMP1203	Computer Systems I	25% - Laboratory Work					75% - Exam, 2 hour(s)
COMP1204	Data Management	15% - Database Coursework..	10% - UNIX Coursework.				75% - Exam, 2 hour(s)
COMP1206	Programming II	25% - laboratories					75% - Exam, 2 hour(s)
COMP1208	Business Information Systems	25% - in-class assessment around the case studies.					75% - Exam, 2 hour(s)
COMP1209	Computational Systems	40% - Group Activity: Case Study.	10% - Group Activity				50% - Exam, 1.5 hour(s)
COMP1214	Systems and Platforms	10% - Laboratory Work	20% - Assignment	10% - Weekly Quizzes			60% - Exam, 2 hour(s)
COMP1216	Software Modelling and Design	15% - Small group requirements modelling/ analysis coursework	15% - Small group.				70% - Exam.
COMP1217	Foundations of IT	20% - Homework assignments					80% - Exam, 2 hour(s)
COMP2202	Databases and Databases Application	20% - Design and Build					80% - Exam, 2 hour(s)
COMP2203	Application Scripting	25% - Laboratories	25% - Design and Build				50% - Exam, 1.5 hour(s)
COMP2204	Computer Networking in Organisations	10% - Exercise 1	10% - Exercise 2	30% - Main coursework			50% - Exam, 1.5 hour(s)
COMP2205	Commercial Aspect of IT	40% - Coursework.1 - Tender	30% Coursework 2- Business plan	30% - In Class Test			N/A
COMP2211	Software Engineering Group Project	15% - Project Envisioning	15% Increment 1	15% Increment 2	15% Increment 3	40% - Final Reports	N/A
COMP2213	Interaction Design;	50% - Coursework					50% - Exam, 2 hour(s)

COMP2216	Principles of Cyber Security	30% - Literature review					70% - Exam, 2 hour(s)
COMP3200	Project	10% - Progress report	80% - Final report	10% - Viva			N/A
COMP3201	Cyber Security	20% - Individual assignment (identify vulnerabilities)	30% - Individual assignment (close vulnerabilities)				50% - Exam, 2 hour(s)
COMP3202	Knowledge, Information and Society	15% - Descriptive annotated bibliography (1000 words)	80% - Essay (2000 words) plus draft plans and feedback on other students	5% - feedback on other students work (500 words)			N/A
COMP3219	Management for Engineers	33% - 1500 word essay on Management for Engineers	33%- 1500 word essay on Accounting for Engineering Decision Making	33%- Computer mediated test assessing Law in Engineering			N/A
ELEC6200	Group Design Project	75% - Group Technical Contribution	5% - Group Presentations	5% - Individual reflection	15% Individual Report on Technology Exploitation		N/A
COMP6201	E-Business Strategy	30% - Evaluate an existing business, its IT/e-business systems, recommend and justify changes & improvements to it	40% - Working in a group of 2 students, evaluate and justify a potential new or improved IT/e-business solution & possible suppliers	30% - Working individually, and in a group of two students, present your proposal(s) to senior management			
COMP6228	Individual Research Project	70% - Literature search, interim and final report	20% - Poster and presentation	10% - Peer review			N/A

Appendix 2: Programme Module Map for Information Technology in Organisations

Part 1 All modules are 7.5 credits	Programming 1 COMP1202 1 core*	Computer Systems1 COMP1203 1 core*	Business information Systems COMP1208 1 core*	Foundations of Computer Science COMP1217 1 core*	Web Design COMP1056 2 core*	Data Management COMP1204 2 core*	Software Modelling and Design COMP1216 2 core*	Programming II COMP1206 Optional **Or Minor** 2
Part 2 All modules 7.5 credits	Application of Scripting; COMP2203 1 Compulsory	Databases and Application; COMP2202 1 Compulsory	Computer Networking in Organisations; COMP2204 1 Compulsory	Commercial Aspects of IT COMP2205 1 Compulsory **Or Minor**	Interaction Design; COMP2213 2 Compulsory	Principles of Cyber Security COMP2216 2 Compulsory	Software Engineering Group Project; COMP2211 2 Compulsory	Broadening UOSMXXXX **Or Minor** 2 Optional
Part 3 7.5 credits	Project A (Core*) COMP3200	Management for Engineers COMP3219 1 Compulsory	COMP3201 Cyber Security 1 Compulsory	Option 1 **Or Minor**	Project B (Core*) COMP3200	Project B (Core*) COMP3200	COMP3202 Knowledge, Information and Society 2 Compulsory	Option 2 **Or Minor**

Option 1 – Choose 1 from:

- COMP3207 Cloud Application Development
- COMP3208 Social Computing
- MATH3081 Operational Research
- Broadening Modules from Part 2.

Option 2 – Choose 1 from:

- COMP3210 Advanced Computer Networks
- COMP3211Advanced Databases
- COMP3217 Secure Systems
- COMP3218 Game Design and Development
- MATH3082 Optimization
- ENTR3002 New Venture Development
- PHYS3019 Communicating and Teaching and The Undergraduate Ambassadors Scheme
- Broadening Modules from Part 2.

Minors– Choose 1 from:

Applied Economics
International Relations
Modern languages
Psychology
Sustainability

* Note Core means that you must pass this module. ALL part 1 Modules and the part 3 project modules are core.

The precise list of options may vary in minor ways from year to year, depending on student numbers and staff availability.
Some options have pre-requisites, which are stated in their on-line syllabus.

Part 4	Choose from Option 1 list	Choose from Option 1 list	ELEC6200 Group Design Project1 (15 credits, Core*) 1	ELEC6200 Group Design Project2 (7.5 credits Core*) 2	Individual Research Project COMP6228 Compulsory 2	COMP6201 E-Business Strategy COMP6201 Compulsory 2	Option 2

Option 1 – Choose 2 from

COMP6203 Intelligent Agents
COMP6204 Software Project Management and Development
COMP6205 Web Development
COMP6218 Web Architecture
COMP6219 Designing Usable and Accessible Technologies
COMP6224 Foundations of Cyber Security
COMP6231 Foundations of Artificial Intelligence
COMP6233 Topics in Computer Science
COMP6235 Foundations of Data Science
COMP6236 Software Engineering and Cyber Security
WEBS6201 Foundations of Web Science

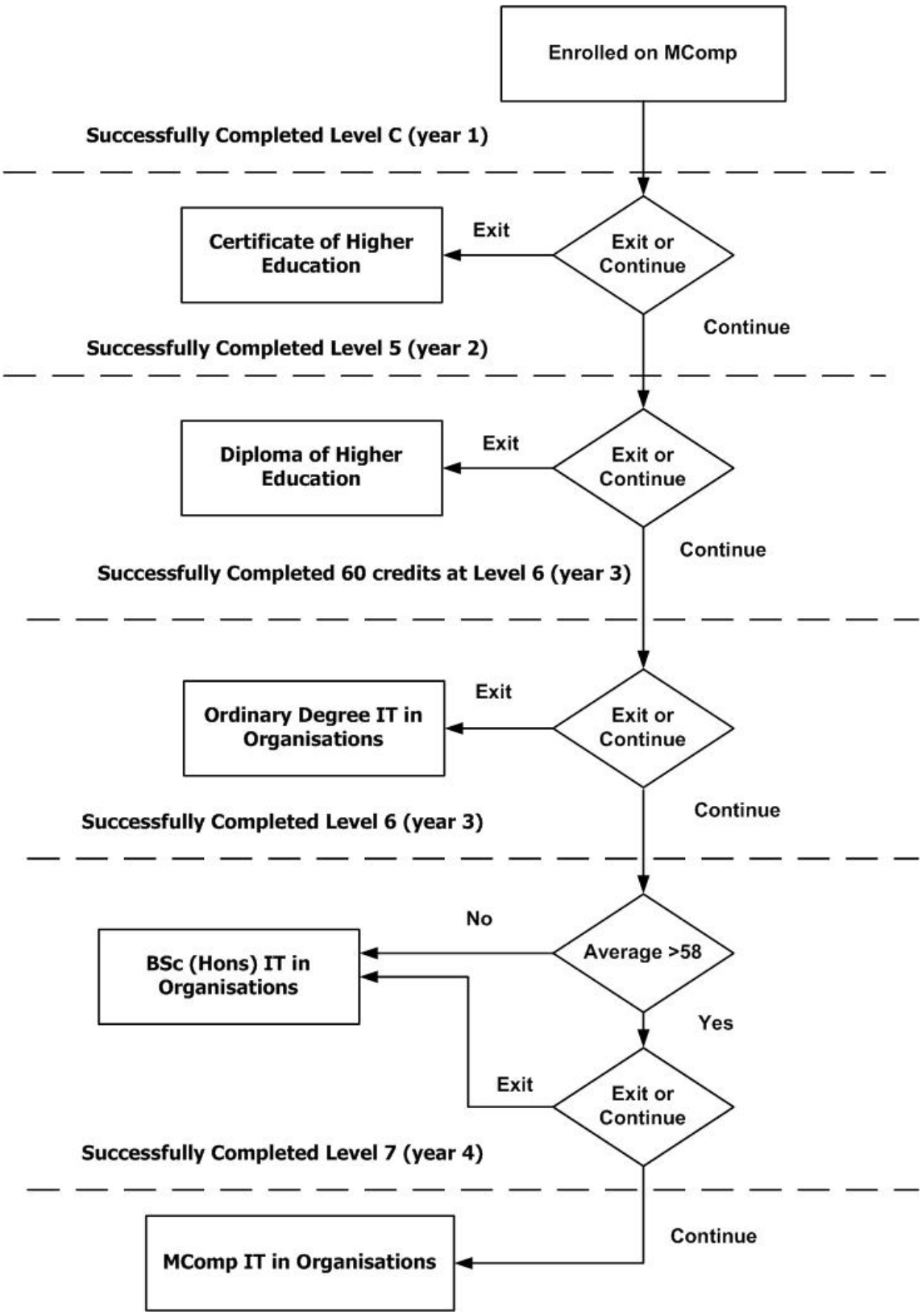
Option 2 – Choose 1 from

COMP6207 Advanced Intelligent Agents
COMP6211 Biometrics
COMP6212 Computational Finance
COMP6214 Open Data Innovation
COMP6215 Semantic Web Technologies
COMP6216 Simulation Modelling for Computer Science
COMP6217 The Science of Online Social Networks
COMP6234 Data Visualisation
COMP6237 Data Mining
ELEC6242 Cryptography
WEBS6202 Further Web Science

* Note Core means that you must pass this module to qualify for a MComp degree.
The precise list of options may vary in minor ways from year to year, depending on student numbers and staff availability.
Some options have pre-requisites, which are stated in their on-line syllabus.

Year in Industry: 30 ECTS points at level 6

Students on the "with Industrial Studies" variant will complete a year at a recognised partner company. This year may be taken between years 2 and 3, or between years 3 and 4 (MEng only). During this year, students must complete one or more projects, as agreed between the Partner Company and ECS. The placement will be assessed by a report and other activities, as described in the module specification (ELEC3200). This module is core, and must be passed for the award of the "with Industrial Studies" degree title, but marks for this module will not contribute to the final degree classification.


Enrolled on MComp
Successfully Completed Level C (year 1)
Certificate of Higher Education
Exit
Exit or Continue
Continue
Successfully Completed Level 5 (year 2)
Diploma of Higher Education
Exit
Exit or Continue
Continue
Successfully Completed 60 credits at Level 6 (year 3)
Ordinary Degree IT in Organisations
Exit
Exit or Continue
Continue
Successfully Completed Level 6 (year 3)
No
BSc (Hons) IT in Organisations
Average >58
Yes
Exit
Exit or Continue
Successfully Completed Level 7 (year 4)
Continue
MComp IT in Organisations

Appendix 3: mapping of BCS and ITO learning out comes

Computing-related cognitive abilities BCS	Learning Outcomes MComp
Knowledge and understanding of essential facts, concepts, principles and theories relating to computing and computer applications as appropriate to the programme of study	1) Facts, concepts, principles and theories relating to current initiatives, environments and usage of Information and Computer Technology in Organisations
The use of such knowledge and understanding in the modelling and design of computer-based systems for the purposes of comprehension, communication, prediction and the understanding of trade-offs	2) Modelling and design of computer-based systems for the purposes of comprehension, communication, prediction and the understanding of trade-offs
Recognise and analyse criteria and specifications appropriate to specific problems and plan strategies for their solution	(f) Recognise and analyse criteria and specifications appropriate to specific problems and plan strategies for their solution
Analyse the extent to which a computer based-system meets the criteria defined for its current use and future development	(g) Analyse the extent to which a computer based-system meets the criteria defined for its current use and future development with respect to emerging technological, industrial and social trends;
Deploy appropriate theory, practices and tools for the specification, design, implementation and evaluation of computer-based systems	3) Theory, practice and tools for the specification, modelling, design, implementation and evaluation of computer-based systems
Recognise the legal, social, ethical and professional issues involved in the exploitation of computer technology and be guided by the adoption of appropriate professional, ethical and legal practices	4) The production of proposals for project development work with due consideration of the ethical, social, professional, organisational and legal implications, including risks and safety
Knowledge and understanding of the commercial and economic context of the development, use and maintenance of information systems	5) The commercial and economic context of the development, use and maintenance of information systems the management techniques which may be used to achieve objectives within a computing context
Knowledge and understanding of the management techniques which may be used to achieve objectives within a computing context	6) The management techniques which may be used to achieve objectives within a computing context
Knowledge and understanding of information security issues in relation to the design, development and the use of information systems	7) Knowledge and understanding of information security issues in relation to the design, development and the use of information systems
CITP Specific	
Knowledge and understanding of the methods and issues involved in deploying systems to meet business goals	8) The methods and issues involved in deploying systems to meet business goals
Knowledge and understanding of methods, techniques and tools for information modelling, management and security	9) Scientific, engineering and mathematical principles that underpin computer system development, including methods, techniques and tools for information modelling, management and security

Knowledge and understanding of systems architecture and related technologies for developing information systems	10) Systems architecture and related technologies for developing information systems, including distributed and network-centric computing

Computing-related practical abilities BCS	**MComp**
The ability to specify, design or construct computer-based systems	(b) Specify, design (applying principles, methods and tools) and implement computer-based systems
The ability to evaluate systems in terms of general quality attributes and possible trade-offs presented within the given problem	(c) Evaluate systems in terms of general quality attributes and possible trade-offs presented within the given problem
The ability to recognise any risks or safety aspects that may be involved in the operation of computing equipment within a given context	(d) recognise any risks or safety aspects that may be involved in the operation of computing equipment within a given context, and understand sustainability and environmental issues relating to computer-based projects.
The ability to deploy effectively the tools used for the construction and documentation of computer applications, with particular emphasis on understanding the whole process involved in the effective deployment of computers to solve practical problems	(e) Deploy effectively the tools used for the construction and documentation of computer applications, with particular emphasis on understanding the whole process involved in the effective deployment of computers to solve practical problems
Additional requirements for CITP	
Use appropriate theoretical and practical processes to specify and deploy, verify and maintain information systems, including working with technical uncertainty	(h) Use appropriate theoretical and practical processes to specify and deploy, verify and maintain information systems, including working with technical uncertainty
Define a problem, research its background, identify constraints, understand customer and user needs, identify and manage cost drivers, ensure fitness for purpose and manage the design process and evaluate outcomes	(i) Define a problem, research its background, identify constraints, understand customer and user needs, identify and manage cost drivers, ensure fitness for purpose and manage the design process and evaluate outcomes
Apply the principles, methods and tools of systems design to develop information systems that meet business needs	(b) Specify, design (applying principles, methods and tools) and implement computer-based systems that meet business needs

Transferable skills	
2.3.1 An ability to work as a member of a development team recognising the different roles within a team and different ways of organising teams	(vi) work collaboratively on a project, recognising the different roles within a team and different ways of organising teams, to achieve goals of value to a customer
2.3.2 Development of transferable skills that will be of value in a wide range of situations; these include: • problem solving, • working with others, • effective information management and information retrieval skills,	i) produce grammatically-accurate written information following standard conventions, and present orally and electronically to a range of audiences; ii) evaluate the scale of accumulated errors and use appropriate sampling techniques, and demonstrate numerical understanding in presenting cases involving a quantitative dimension;

• numeracy in both understanding and presenting cases involving a quantitative dimension, • communication skills in electronic as well as written and oral form to a range of audiences • planning self-learning • improving performance as the foundation for ongoing professional development	iii) adapt existing standards and practices to cope with a given (non-routine) work scenario; iv) demonstrate integrity in your approach to everyday practice, including time management and organisational skills; v) evaluate your own use of IT critically, demonstrating effective information management and retrieval skills; vi) work collaboratively on a project, recognising the different roles within a team and different ways of organising teams, to achieve goals of value to a customer vii) reflect and think critically as a component of practice, independent learning and professional development; viii) employ appropriate problem-solving strategies and evaluate the outcome of implementing a solution to a problem; ix) plan and enjoy lifelong self-learning as an effective personal development strategy for the foundation of on-going professional development; x) Explain how established techniques of research and enquiry are used to create and interpret subject knowledge.

2.3 Integrated Master's programme criteria

For CITP Further Learning, CEng and CSci, the requirements given in sections 2.4.1, 2.4.2, 2.4.3 and 2.4.4 for specialist masters programmes must be met and also allow students to demonstrate the following in the final and penultimate years:

- Their ability to apply the practical and analytical skills present in the programme as a whole
- · Innovation and/or creativity
- Synthesis of information, ideas and practices to provide a quality solution together with an evaluation of that solution
- Awareness of wider customer contexts and the identification of problems that such contexts might deliver
- The ability to work co-operatively (for example, as a team) to deliver a significant piece of work
- Critical self-evaluation of the process

It is common for these criteria to be met by a piece of team-based, major (30 credit) project work at level 6 or above; if this is the case it should be passed without compensation.

2.4.2 Additional requirements for CITP Further Learning

In addition to the core requirements outlined in section 2.4.1 graduates should have been assessed on the following abilities: 13

Computing-related cognitive abilities

- demonstrate a systematic understanding of the knowledge of the domain of their programme of study, with depth being achieved in particular areas. This should include the foundations of the discipline and/or issues at the forefront of professional practice in the discipline; it should also include an understanding of the role of these in contributing to the effective design, implementation and usability of relevant computer-based systems

- demonstrate a comprehensive understanding of the essential principles and practices of the domain of the programme of study including current standards, processes, principles of quality and the most appropriate software support; the reasons for their relevance to the discipline and/or professional practice in the discipline; and an ability to apply these
- understand and be able to participate within the legal, social, ethical and professional framework within which they would have to operate as professionals in their area of study

Computing-related practical abilities

· Consistently produce work which applies and is informed by research at the forefront of the developments in the domain of the programme of study; this should demonstrate critical evaluation of aspects of the domain

· Demonstrate the ability to apply the principles and practices of the discipline in tackling a significant technical problem; the solution should demonstrate a sound justification for the approach adopted as well as a self-critical evaluation of effectiveness but also a sense of vision about the direction of developments in aspects of the discipline

Appendix 4:

Additional Costs

Students are responsible for meeting the cost of essential textbooks, and of producing such essays, assignments, laboratory reports and dissertations as are required to fulfil the academic requirements for each programme of study. In addition to this, students registered for this programme typically also have to pay for the items listed in the table below.

In some cases you'll be able to choose modules (which may have different costs associated with that module) which will change the overall cost of a programme to you. Details of such costs will be listed in the Module Profile. Please also ensure you read the section on additional costs in the University's Fees, Charges and Expenses Regulations in the University Calendar available at www.calendar.soton.ac.uk.

Main Item	Sub-section	PROGRAMME SPECIFIC COSTS
Approved Calculators		Candidates may use calculators in the examination room only as specified by the University and as permitted by the rubric of individual examination papers. The University approved models are Casio FX-570 and Casio FX-85GT Plus. These may be purchased from any source and no longer need to carry the University logo.
Stationery		You will be expected to provide your own day-to-day stationary items, e.g. pens, pencils, notebooks, etc). Any specialist stationery items will be specified under the Additional Costs tab of the relevant module profile.
Textbooks		Where a module specifies core texts these should generally be available on the reserve list in the library. However due to demand, students may prefer to buy their own copies. These can be purchased from any source. Some modules suggest reading texts as **optional** background reading. The library may hold copies of such texts, or alternatively you may wish to purchase your own copies. Although not essential reading, you may benefit from the additional reading materials for the module.
Equipment and Materials **Equipment**	Art Equipment and Materials: Drawing paper; painting materials; sketchbooks	
	Art Equipment and Materials: Fabric, Thread, Wool	
	Design equipment and materials:	

Main Item	Sub-section	PROGRAMME SPECIFIC COSTS
	Excavation equipment and materials:	
	Field Equipment and Materials:	
	Laboratory Equipment and Materials:	
	Medical Equipment and Materials: Fobwatch; stethoscopes;	
	Music Equipment and Materials	
	Photography:	
	Recording Equipment:	
IT	Computer Discs	
	Software Licenses	
	Hardware	
Clothing	Lab Coats	
	Protective Clothing: Hard hat; safety boots; hi-viz vest/jackets;	
	Fieldcourse clothing:	
	Wet Suits?	
	Uniforms?	
Printing and Photocopying Costs		In the majority of cases, coursework such as essays; projects; dissertations is likely to be submitted on line. However, there are some items where it is not possible to submit on line and students will be asked to provide a printed copy. A list of the University printing costs can be found here: http://www.southampton.ac.uk/isolutions/students/printing-for-students.page
Fieldwork: logistical costs	Accommodation:	
	Insurance	
	Travel costs	
	Immunisation/vaccination costs	
	Other:	

Main Item	Sub-section	PROGRAMME SPECIFIC COSTS
Placements (including Study Abroad Programmes)	Accommodation	
	Insurance	
	Medical Insurance	
	Travel costs	
	Immunisation/vaccination costs	
	Disclosure and Barring Certificates or Clearance	
	Translation of birth certificates	
	Other	
Conference expenses	Accommodation	
	Travel	
Optional Visits (e.g. museums, galleries)		
Professional Exams		
Parking Costs		
Anything else not covered elsewhere		