BSc Information Technology with Management　　　　　　　　　**UCAS code:**
For students entering Part 1 in 2009/0

Awarding Institution:　　　　　　　　　　　　University of Reading
Teaching Institution:　　　　　　　　　　　　University of Reading
Relevant QAA subject Benchmarking group(s):　Computing
Faculty:　　　　　　　　　　　　　　　　　Science Faculty
Programme length:　　　　　　　　　　　　4 years
Date of specification:　　　　　　　　　　　20/Apr/2012
Programme Director:　　　　　　　　　　　Dr Hong Wei
Programme Advisor:　　　　　　　　　　　Dr Evelyn Fenton
Board of Studies:　　　　　　　　　　　　UG Systems Engineering
Accreditation:　　　　　　　　　　　　　Students can apply individually to the British
　　　　　　　　　　　　　　　　　　　Computer Society for Chartered IT Professional
　　　　　　　　　　　　　　　　　　　(CITP) status.

Summary of programme aims

This programme aims to prepare students for responsible professional leadership roles in the Information Technology industry, with a particular emphasis on the business elements of computer systems. Graduates will be well qualified to play a disciplined and creative part in a research, development or support environment.

The programme aims to develop the students' knowledge of the practice and underlying theory of Information Technology and Business, necessary for them to secure employment as a professional in a wide variety of industries; to encourage their critical and analytical skills; and to develop their skills in applying practical concepts to the design of computer systems, and the development of Management Information Systems.

Transferable skills

During the course of their studies at Reading, all students will be expected to enhance their academic and personal transferable skills in line with the University's Strategy for Learning and Teaching. In following this programme, students will have had the opportunity to develop such skills, in particular relating to communication, interpersonal skills, learning skills, numeracy, self-management, use of IT and problem-solving and will have been encouraged to further develop and enhance the full set of skills through a variety of opportunities available outside their curriculum.

As part of this programme students are expected to have gained experience in the following transferable skills IT (programming, word processing, databases and use of standard software), technical writing, oral presentations, team-working, problem-solving, use of library resources, time-management, career planning and management, and business awareness.

Programme content

In the first year students spend 50% of their time on IT related subjects, and the remainder on their minor subject. More time is spent on the major subject in latter years. The third year is spent on an approved placement.

Part 1 (three terms)
Compulsory modules

Code	Module title	Credits	Level
EC105	Introductory Quantitative Techniques	20	4
MM1F2	Introduction to Financial Management	20	4
MM1F4	Introduction to Management	20	4
SE1TQ5	Commercial Off-the-shelf Software 1	20	4
SE1TR5	e-Business 1	20	4
SE1SB9	Software Engineering	20	4

Part 2 (three terms)
Compulsory modules

Code	Module title	Credits	Level
CS2TD7	Databases	10	5

CS2TR6	e-Business 2	20	5
CS2TZ3	PC Infrastructure	10	5
CS2TS6	Software Engineering 2 and Career Management	20	5

Optional modules
Select 60 credits from:

CS2TA6	Information Systems Engineering	20	5
MM254	Organisational Behaviour	20	5
MM255	Marketing Management	20	5
MM270	Practice of Entrepreneurship	20	5
MM217	International Business and Management	20	5

Year abroad/Year away/Additional year (three terms)
Compulsory modules

Mod Code	Module Title	Credits	Level
SE2W9	Industrial Year	120	5

Part 3 (three terms)
Compulsory modules

Code	Module title	Credits	Level
SE3IP11	Individual Project	40	6
MM332A	Strategic Management and Business Policy 1	20	6
SE3SL11	Social, Legal and Ethical Aspects of Science and Engineering	10	6

Optional modules
Select 50 credits from:

SE3RD11	Requirements, Domains and Soft Systems	10	6
SE3EA11	Enterprise Application Integration	10	6
SE3NS11	Network Security	10	6
MM374	Informatics for e-Enterprise	20	6
MM330	Comparative International Management	20	6
MM335	International Marketing	20	6
MM336	The Evolution of Entrepreneurship	20	6
MM359A	Business Ethics 1	20	6
MM357	Management Project	20	6
MM339	Strategic Human Resource Management	20	6
MM332B	Strategic Management and Business Policy 2	20	6
LA1XX1	Institution Wide Language Programme	20	4

Progression requirements
To gain a threshold performance at Part 1 and qualify for the CertHE a student shall normally be required to achieve an overall average of 40% over 120 credits taken in Part 1, where all the credits are at level 4 or above, and a mark of at least 30% in individual modules amounting to not less than 100 credits. In order to progress from Part 1 to Part 2, a student shall normally be required to achieve a threshold performance at Part 1.

To gain a threshold performance at Part 2 and qualify for the DipHE a student shall normally be required to achieve an overall average of 40% over 120 credits taken in Part 2, and a mark of at least 30% in individual modules amounting to not less than 100 credits. In order to progress from Part 2 to Part 3, a student shall normally be required to achieve a threshold performance at Part 2.
Students who pass Part 2 are eligible to transfer to the Business Information Technology BSc (this degree does not include a placement year).

To be eligible for Honours, students must obtain an overall mark of 40% **and** pass the Individual Project (SE3IP11). Weighting between Part 2, 3 and 4 is outlined in Faculty regulations.

Summary of Teaching and Assessment
Teaching is organised in modules that typically involve both lectures and practical work. Most modules are assessed by a mixture of coursework and formal examination. However, some modules are assessed only as coursework, while others are assessed solely by examination. Details are given in the relevant module descriptions.

Admission requirements
Entrants to this programme are normally required to have obtained:
Grade C or better in English in GCSE and grade B or better in GCSE Mathematics; and achieved
UCAS Tariff: 320 points, from three A2's plus:
(i) Maths either at A level or GCSE grade A; and (ii) either an essay-based A or AS level, or GCSE Grade A English
Equivalent qualifications are acceptable.

Admissions Tutor: Dr Oswaldo Cadenas

Support for students and their learning
University support for students and their learning falls into two categories.   Learning support is provided by a wide array of services across the University, including: the University Library, the Student Employment, Experience and Careers Centre (SEECC), In-sessional English Support Programme, the Study Advice and Mathematics Support Centre teams, IT Services and the Student Access to Independent Learning (S@il) computer-based teaching and learning facilities. There are language laboratory facilities both for those students studying on a language degree and for those taking modules offered by the Institution-wide Language Programme.   Student guidance and welfare support is provided by Personal Tutors, School Senior Tutors, the Students' Union, the Medical Practice and advisers in the Student Services Centre. The Student Services Centre is housed in the Carrington Building and offers advice on accommodation, careers, disability, finance, and wellbeing. Students can get key information and guidance from the team of Helpdesk Advisers, or make an appointment with a specialist adviser; Student Services also offer drop-in sessions and runs workshops and seminars on a range of topics. For more information see www.reading.ac.uk/student

Within the providing Department additional support is given though practical laboratory classes. The development of problem-solving skills is assisted by appropriate assignment and project work. There is a Course Adviser to offer advice on the choice of modules within the programme. Course handbooks are provided for each Part of the course: these give more details about the modules which make up the degree. In addition, the School of Computer Science, Cybernetics and Electronic Engineering produces a Handbook for Students, which provides general information about the staff and facilities within the school.

Career prospects
This new degree is designed to be industry oriented. It is expected that graduates will work both within the IT industry as a developer/manager and in a wide range of industries in a support role. Graduates in Information Technology with Management could be expected to have the following generic job titles:

- Systems manager
- IT Operations Manager
- programmer
- systems analyst
- analyst/programmer
- software engineer
- applications developer
- web developer
- help desk/support technician
- system support engineer
- network engineer
- communications specialist
- database administrator
- project manager
- data analyst
- software/hardware trainer

Accreditation may be sought on an individual basis from the British Computer Society.

Opportunities for study abroad or for placements
Placements are a compulsory part of the programme in the third year.

Programme Outcomes

Knowledge and Understanding

A. Knowledge and understanding of:

1. Software including:
1a) Programming languages
1b) Software tools
1c) Packages
1d) Computer Applications
1e) Structuring of data and information
2. Practice
2a) Problem identification and analysis
2b) Design, development and evaluation
2c) Management and organisation
2d) Professionalism and ethics
2e) Commercial and industrial exploitation
3. Hardware
4. Communication and interaction
5. Theory
Note these are the five areas identifies in the
Computing benchmark.

In addition the following from the Business and Management elements:
a. The theoretical basis of management and key functional areas of business.
b. Current developments in the practice and theory of business management.
c. Fundamental concepts of business management relevant to the student becoming a manager in a UK business.
d. The environmental and ethical context of business management in the UK.
e. An understanding of the importance of international and e-business.
f. Understanding of the drivers of change in business, including technology, management practice, business cultures and organisational behaviour.

Teaching/learning methods and strategies

The course concentrates on aspects 1 and 2 with teaching of all aspects involving an introduction of the aspects in theoretical manner and re-enforcement by related practical work, with the first year providing the core, subsequent years involve deeper study, with the student concentrating on a single theme in their final year.
Aspects 2c) and 2d) will additionally be covered by the compulsory material in the final year.
Aspects 3 and 4 feature within the COTS themes particularly from a practical perspective.
Aspects 3, 4 and 5 are presented as supporting material and taught in the context of aspects 1 and 2 as and when they are needed.

Business: a-e. Lectures; tutor-led tutorials; student and tutor-led seminars and problem-based learning.

All Management courses
b. Guest lecturers from industry and directed self-study.

Assessment
Knowledge is tested through a mixture of formal examinations and practical work.

Skills and other attributes

B. Intellectual skills - *able to:*

1. Demonstrate knowledge and understanding related to aspects outlined above.
2. Apply such knowledge and understanding to the modelling of computer systems.
3. Recognise and analyse criteria and specifications appropriate to a specific problem.
4. Critically evaluate and test a computer based system.
5. Deploy appropriate methods and tools for creating computer systems.

Teaching/learning methods and strategies

1. and 2. As above.
3., 4. and 5. will be taught as part of the themes; Software Engineering; Programming and Design and COTS. The taught element will be re-enforced by practical work.
6. will be taught as part of COTS 1 and E-Business 1, throughout the course the students will be expected to use these skills and they will be particularly exercised in the individual Project.
7. will be pervasive throughout the course but be

6. Reflect and communicate
7. Recognise and conform to appropriate professional, ethical and legal practices.

In Business:
a. Apply the skills needed for academic study and enquiry.
b. Evaluate research and a variety of types of information and evidence critically.
c. Synthesise information from a number of sources in order to gain a coherent understanding of theory and practice.
d. Apply strategies for appropriate selection of relevant information from a wide source and large body of knowledge.
e. Utilise problem-solving skills.
f. Analyse, evaluate and interpret the assumptions and principles underpinning business management

covered specifically in the Software Engineering theme and the compulsory material in the final year.

Assessment
These skills are tested through a mixture of formal examinations, presentations, reports and practicals. The individual project provides a major piece of work in which among other things the student will be assessed on their abilities to reflect and communicate. Oral presentations will be required in the Software Engineering and COTS themes and the Project, in the latter the presentation will be assessed by two members of staff not involved in the supervision of the Project.

In Business:
a-f. Lectures; tutor-led tutorials; student and tutor-led seminars; self-directed learning; research-based teaching materials and methods; problem-based learning scenarios. All Management classes to some degree.
b,e,f. Case studies.
c-d. Independent research and self study
Assessment:
Written exam papers; practical assessments; coursework (essay); case study analysis; dissertation

C. Practical skills - *able to:*

1. Specify, design and construct computer-based systems.
2. Evaluate systems
3. Recognise Risks and Safety aspects
4. Effectively deploy software tools
5. Operate computing equipment effectively

Practical skills of business:
a. Understand the economic basis of the firm in its wider economic, political and social environment.
b. Recognise and understand basic financial and management accounting features of a firm.
c. Evaluate the behaviour, culture and strategy of firms.
d. Effectively apply key professional skills learnt in optional classes to the business world.

Teaching/learning methods and strategies

1. will be covered both theoretically and practically, particularly in the Programming and Design themes.
2. will be particularly covered as part COTS themes.
3. Theoretical aspects of risk and safety, the compulsory material in the final year will also cover managerial aspects. Practical aspects will be presented in the IT themes.
4. will be covered theoretically and practically as part of the COTS, Programming and Design and Software Engineering themes.
5. will be covered as part the COTS theme in a theoretical and practical manner.

Assessment
Skills 1. to 5. will be assessed by a mixture of practical work and examination.

In business:
a-d. Practical projects; placements; seminars; lectures; problem-based scenarios.
b. Lectures and workshops.
c Case studies, placements, practical projects.
Assessment:
Written exam; practical papers; coursework; case studies.

D. Transferable skills - *able to:*

1. Effectively retrieve information
2. Present cases in a quantitative dimension.
3. Manage own learning and development.

Teaching/learning methods and strategies

1. Information retrieval will be covered theoretically and by practical work necessitating the use of browsers and search engines. It will be first

4. Appreciate the need for continuing professional development (CPD), be able to plan and execute their own CPD.
5. Organise and work as part of a team.
6. Plan and manage their own careers.
7. Communicate in a manner appropriate to the situation.
8. Effectively use Information Technology.

Business elements: able to:
a. Communicate effectively with a wide range of individuals using a variety of means.
b. Evaluate his/her own academic professional performance.
c. Utilise problem-solving skills in a variety of theoretical and practical situations.
d. Manage change effectively and respond to changing demands.
e. Take responsibility for personal and professional learning and development (Personal Development Planning).
f. Manage time, prioritise workloads and manage personal emotions and stress.
g. Understand career opportunities and begin to plan a career path.
h. Information management skills, e.g. IT skills.
9. Ability to function in the work place

introduced in COTS 1 but exercised extensively elsewhere.
2. Numerical skills will be introduced as needed and used in programming examples and project planning. They will also be exercised in the COTS 1.
3. Time management and organisational skills will be taught as part of Software Engineering. The students will also be expected to use a number of on-line learning tools. Tutorial support for self managed learning will be provided in COTS 1.
4. Professionalism will be an important issue throughout the course. Students will be encouraged to join the BCS and participate in local meetings.
5. The theory of team work will be covered, in Software Engineering, and the students required to undertake a piece of group work.
6. The University's Careers management skill module component will be included in the second year of the Software Engineering theme.
7. The role of written and verbal communications will be covered in the COTS and Software Engineering themes.
8. Information Technology will be used throughout the course. The COTS theme will specifically include the use of Information Technology.
3., 5. to 8. will be assessed by a mixture of practical work, presentations, reports and examinations. 4. will be assessed by formal examination. Communication skills (7.) will also be assessed with the Individual Project.

Business elements:
a-h. Lectures, group work, group presentations, dissertation and project based methods.
b-c. Group projects, business simulation exercises, self assessment exercises.

Assessment
Assessments include a wide variety of methods such as tutor feedback, critiques of presentations, interactive discussion in groups. Group feedback and peer assessment.

9. Is provided by the work placement and assessed through reports and oral examination.

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 he/she takes full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes, content and teaching, learning and assessment methods of each module can be found in the module description and in the programme handbook. The University reserves the right to modify this specification in unforeseen circumstances, or where the process of academic development and feedback from students, quality assurance process or external sources, such as professional bodies, requires a change to be made. In such circumstances, a revised specification will be issued.