MSc in Applied Informatics
For students entering in 2006

Awarding Institution: The University of Reading
Teaching Institution: The University of Reading
Programme length: 12 months full time, 36 months part time
Date of specification: 1 June 2004
Programme Director: Prof. Kecheng Liu
Programme Adviser: Dr. Lily Sun
Board of Studies: MSc in Applied Informatics
Accreditation: accreditation from the British Computer Society will be sought in due course

Summary of programme aims
The programme aims to offer opportunities to local and international students entering postgraduate education at high standards. It will prepare students for technical and management roles in the fields such as Biodiversity Informatics, Business Informatics, Construction Informatics, Computing, Information Technology, Business and Management at postgraduate level. The programme will enhance students' existing knowledge and skills in key technological and business areas. Students will be able to apply their knowledge and skills in planning, management, design and implementation of IT based solutions to different application domains.

Transferable skills
In parallel to subject competence that students are required to acquire from their programme of study, they are expected to enhance their research ability, team work, communication skills, information handling, problem-solving, project management, creativity, and analytical skills. This is achieved through a mix of different methods of teaching and learning (lecture/practical, classroom-based/problem-based, theory-oriented/skill-focused) and different methods of assessments (examination/coursework). A key part of the study programme is the MSc dissertation project in which students will be trained and assessed as specified in the module specification in most of the transferable skills (e.g. independent research, critical analysis and project planning and management).

Postgraduate awards
The award will be delivered in a flexible and modular framework. Each module accrues a certain number of CATS (i.e. credit points). Two exit points are built into the programme, and a student will be awarded the highest qualification he/she has achieved. A Postgraduate Certificate (PGC) requires 60 CATS; an MSc 180 CATS with a dissertation.

The MSc programme offers several specialisations: Business Informatics, Biodiversity Informatics, Construction Informatics, and Computation Informatics.

A student on successful completion from a specialisation will be awarded a degree described as MSc Applied Informatics (specialisation), where "specialisation" can be e.g. "Business Informatics", "Biodiversity Informatics", "Construction Informatics", "Health Informatics" and "Computation Informatics".

A student on each specialisation will complete all core modules (i.e. two general core modules and two specialisation core modules). Optional modules (i.e. his/her own

specialisation option modules or any other common option modules) can be undertaken to make up the rest of the credits required. The student must also complete a dissertation of the chosen specialisation.

MSc in Applied Informatics
Common core modules 30 CATS
Specialisation core modules and any optional modules 60 CATS
Research Dissertation 90 CATS

Programme content

A student on a specialisation must complete all common core modules, and specialist core modules where such modules exist. In addition, he or she can take options from any specialist areas. The topic of the dissertation project must be in the chosen specialist area.

	Core/option	**Module Code**	**Module Title**	**CATS**
Common (core)	Core	SEMIC01	Applied Informatics (SSE)	15
	Core	SEMIC02	Research Methods (SSE)	15
	Core	SEMIC05	Dissertation (all schools)	90
Specialisation				
Business informatics	Core	ECM29	E-Business Strategy (BS)	15
	Core	SEMIC06	Organisational Design and Management of Information (SSE)	15
	Optional	SEMIO01	IT for Strategic Management (SSE)	15
	Optional	SEMIO02	IT – Economics (SSE)	15
Biodiversity informatics	Core	PSMB2D	Phylogeny: Building and Using Evolutionary Trees (PS)	15
	Core	PSMBF8	Biodiversity Information Systems (PS)	15
	Optional	PSMB3C	Modelling Patterns in Biodiversity (PS)	15
Construction informatics	Core	CEMIB11	Concepts, Strategy and Management (SCME)	15
	Optional	CEMIB16	Facilities Management (SCME)	15
	Optional	CEMIB17	Design Management and Briefing (SCME)	15
Computation informatics	Core	SEMIC10	Software Engineering (SSE)	15
	Core	SEMIC11	Systems Analysis and Design (SSE)	15
Health informatics	Core	SEMIC12	Computing for Health Management & Planning (SSE)	15
	Core	SEMIC14	Advanced Computing Systems for Healthcare (SSE)	15
	Optional	SEMIO20	Dependable Information Systems (SSE)	15
Common (optional)	Optional	SEMIO03	Enterprise IT Architecture (SSE)	15
	Optional	SEMIO06	Requirements Engineering (SSE)	15
	Optional	SEMIO10	Artificial Intelligence (SSE)	15
	Optional	SEMIO11	Computer Vision and Multimedia Applications (SSE)	15
	Optional	SEMIO12	Database Systems (SSE)	15
	Optional	SEMIO13	Distributed Communications & Middleware (SSE)	15
	Optional	SEMIO14	IT Project Management and Planning (SSE)	15
	Optional	SEMIO15	Knowledge Discovery and Data Mining (SSE)	15
	Optional	SEMIO16	Social and Legal Issues in Computers and Communication (SSE)	15
	Optional	SEMIO17	Enterprise Resource Planning (SSE)	15
	Optional	SEMIO18	Business Communication & Negotiation (SSE)	15

Teaching and learning
All the modules may be delivered by a mix of lectures, tutorials and practicals. Each module will be delivered in a week of concentrated teaching, followed by a week of supported learning. The support learning will be in forms of email, bulletin board, electronic discussion forum and employment of other e-learning technologies. An examination of a module will take place at the end of each module.

Dissertation projects will be conducted by students individually under staff's supervision.

Assessment criteria
Marks should be interpreted within the following framework.

Mark	Interpretation
>=70%	Work of distinction standard
60 – 69%	Work of merit standard
50 – 59%	Work of good standard (Pass)
Failing categories:	
40 – 49%	Work below threshold standard
<40%	Unsatisfactory Work

For Masters Degree
To pass the MSc students must gain an average mark of 50 or more overall including a mark of 50 or more for the dissertation. In addition the total credit value of all modules marked below 40 must not exceed 30 credits and for all modules marked below 50 must be less than 60 credits.

Students who gain an average mark of 70 or more overall including a mark of 60 or more for the dissertation and have no mark below 40 will be eligible for the award of a Distinction. Those gaining an average mark of 60 or more overall including a mark of 50 or more for the dissertation and have no mark below 40 will be eligible for the award of a Merit.

For PG Certificate
To pass the Postgraduate Certificate students must gain an average mark of 50 or more. In addition the total credit value of all modules marked below 40 must not exceed 10 credits.

Progression requirements
A student may undertake an optional module at any time, without necessarily being constrained by the completion of core modules.

The dissertation project can commence after satisfactory completion of the Research Methods module.

Admissions requirements
Entrants to this programme are normally required to have obtained a 2.1 Honours Bachelors Degree in related fields; or equivalent experience, subject to the UoR APEL rules.

For an applicant whose first language is not English, an IELTS 6.5 or TOEFL 590 is required. Exceptionally, if an applicant has worked in an English language environment, an English test, organised by UoR's CALS, may be conducted in lieu of formal qualifications.

Transfer between programmes
A student is permitted to transfer between this programme and the programme delivered at Beijing Institute of Technology in Beijing, subject to the approval by the receiving programme's advisor. Transfer of a dissertation project, after it commences, is normally not permitted.

Opportunities for study abroad or for placements
Placement is not required in the programme of study, though students can conduct their dissertation projects in business organisations, which needs to be arranged by the students.

Career prospects
This Masters programme is designed to be industry oriented with the possibility of allowing students to carry out in-depth academic enquiries. The prospective students may be fresh graduates or experienced professionals. They can undertake the programme of study on part-time or full-time bases. Given these, it is expected that graduates from this programme will able to take the following responsibilities either in industry or academia: systems manager, technical manager with IT expertise, IT operation manager, system analyst, software engineer, application architect/developer, project leader, researcher/educator/trainer.

Programme Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills, qualities and other attributes in the following areas:

Knowledge and Understanding

A. Knowledge and understanding of:	**Teaching/learning methods and strategies**
1. Theory and principles 1.1. Informatics 1.2. The application domain 1.3. Relevance of informatics and IT in the application 2. Practice 2.1) Problem identification and critical analysis 2.2) Design, development and evaluation 2.3) Management and organisation 2.4) Professionalism and ethics 2.5) Commercial and industrial exploitation 3. Communication and interaction 4. Theory	The course concentrates on aspects 1. and 2. All modules collectively will cover the identified scope. Introduction to new concepts as well as the use of practical case studies will enable students to think critically. Aspects 3 and 4 are covered within other modules such Research Methods and Informatics. Students of MSc in Informatics place more emphasis on Theory through research in the dissertation project. *Assessment* Knowledge is tested through a mixture of formal examinations and practical work. The dissertation project will also assess the knowledge, understanding and ability of applying them in solving problems.

Skills and other attributes

B. Intellectual skills – the student will be able to:

1. Demonstrate knowledge and understanding related to aspects outlined above.
2. Apply such knowledge and understanding to the formulation of IS solutions
3. Recognise and analyse criteria and specifications appropriate to a specific problem.
4. Critically evaluate and test a computer based solution to business problems.
5. Reflect and communicate
6. Recognise and conform to appropriate professional, ethical and legal practices

Teaching/learning methods and strategies

1. and 2. As above.

3., 4. and 5. will be taught as part of the core modules, and will be exercised in the dissertation. The Options will also address these aspects.

6. will be taught in the modules on Professional Issues and Research Methods.

Assessment

These skills are tested through a mixture of formal examinations and practicals. The dissertation will also assess these skills.

C. Practical skills – the student will be able to:

1. Analyse business problems, specify business requirements
2. Specify, design and construct IS solutions
3. Evaluate the solutions
4. Recognise Risks and Safety aspects
5. Communicate, present and disseminate the solutions

Teaching/learning methods and strategies

1. 2. 3. will be covered both in the business and IT related modules. Both are present as the cores.

3. will be also addressed in the Research Methods module.

4. 5. will be covered in the Research Methods module and the Dissertation Project.

Assessment

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

D. Transferable skills – the student will be able to: 1. Independent research, including planning and management 2. Literature research 3. Time management 4. Critical analytical skills 5. Communication and presentation in a professional manner 6. Technical documentation in English	**Teaching/learning methods and strategies** 1. will be covered in all modules as each student is required to conduct a substantial amount of independent study before and after the intensive study blocks. 1. 2. 3. and 4. will be addressed in the dissertation project. 5. and 6. will be addressed in the Research Methods Module and the Dissertation Project. 6. will be addressed in all modules, especially in the course work. *Assessment* All will be assessed by examination, practical work and dissertation.

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 processes or external sources, such as professional bodies, requires a change to be made. In such circumstances, a revised specification will be issued.