

MSc in Informatics

For students entering in 2005

Awarding Institution: The University of Reading
Teaching Institution: The University of Reading,
in association with Beijing Institute of Technology
Programme length: 18 months full time, 36 part time
Date of specification: September 2005
Programme Director: Prof. Kecheng Liu
Programme Adviser: Dr. Lily Sun
Board of Studies: MSc in Informatics
Accreditation: to be considered later, possible for the Chinese Computer Society
It is intended this course will gain full recognition by Chinese Ministry of Education.

Summary of programme aims

The programme aims to offer opportunities to local students entering postgraduate education at high, international standards. It will prepare students for responsible professional leadership and management roles in the fields of applied informatics such as Computing, Information Technology, business and management at postgraduate level. The programme will enhance the students' existing knowledge and skills in key technological and business areas, with a balance of international themes and local relevance. Students will be able to apply their knowledge and skills in planning, management, design and implementation of IT based solutions to business problems.

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, team work, communications, 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).

Award structure

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. To be eligible for a Postgraduate Certificate (PGC) will require 60 CATS; an MSc 180 CATS which must include a dissertation.

An MSc dissertation project can be conducted within the centre or at the students' workplace, but there should be at least 15 days direct contact with the principal supervisor in the UK. A full-time student is expected to complete the study programme in 18 months; while the completion time for a part-time student is 36 months.

Programme content

To be eligible for a PGC, a student must complete four modules, including two core modules and two optional modules. To be eligible for an MSc, a student must complete three core

modules, three optional modules and the dissertation module. A student is permitted to start the dissertation project after completion of at least four taught modules, one of which must be the Research Method module.

	Module Code	Module Title	CATS	Level
Core				
	SEMBC01	Applied informatics (BIT)	15	M
	SEMBC02	Systems analysis and design (BIT)	15	M
	SEMBC03	IT project management and planning (BIT)	15	M
	SEMBC04	Research methods (BIT)	15	M
Core for MSc				
	SEMBC05	Dissertation (BIT)	90	M
Optional				
	SEMBO01	Artificial intelligence (BIT)	15	M
	SEMBO02	Computer vision (BIT)	15	M
	SEMBO03	Electronic business (BIT)	15	M
	SEMBO04	IT for strategic competitiveness (BIT)	15	M
	SEMBO05	Knowledge discovery and data mining (BIT)	15	M
	SEMBO06	Distributed communications and middleware (BIT)	15	M
	SEMBO07	Organisational design and knowledge management (BIT)	15	M
	SEMBO08	Optimisation and decision making (BIT)	15	M
	SEMBO09	Advanced software engineering (BIT)	15	M

With advice from the BIT programme manager, students will indicate their preferred options from the above list. Based on the choices made and consultation with the relevant staff, the four most popular options will be run each semester.

Teaching and learning

All the modules will be delivered by lectures, tutorials and practicals. Teaching and learning of a module consists of three phases: the Pre-intensive, Intensive and Post-intensive study periods, each lasting 10 days. The face-to-face contact is 32 hours concentrated in the Intensive period of 10 days, taught by a Reading lecturer. The Pre-intensive and Post-intensive study periods are supported by a local staff member in forms of timetabled tutorial sessions (5 hours each phase) and individual meetings, and contact using email.

Distribution of learning hours for each module is as follows (all taking place in Beijing):

	Pre-intensive	Intensive	Post-intensive
Elapse time	10 days	10 days	10 days
Total learning hours	45	50	55
contact hours (lecture/tutorial/practical)	10	32	10
independent study	35	18	45

A dissertation project will be supervised by a principal supervisor (a lecturer from UoR) and a local supervisor. The topic of a dissertation will be chosen by a student in consultation with

the prospective supervisors and approved by the BIT programme manager. Distribution of learning time for the dissertation is as follows:

	Pre-intensive (in Beijing)	Intensive (in Europe)	Post-intensive (in Beijing)
Elapsed time (full-time)	2 months	15 days	3.5 month
Elapsed time (part-time)	4 months	15 days	7 months
Total learning hours	300	250	350
contact hours (supervision meetings)	20	10	20
independent-study	280	240	330

Examinations of all taught modules will take place at the end of each semester (i.e. each six months).

A student who has not passed a module (including the dissertation) may re-sit once only; the format and timing of the re-sit will be stated in the module description.

Assessment criteria

Marks should be interpreted within the following framework.

<u>Mark</u>	<u>Interpretation</u>
70 – 100%	Distinction
60 – 69%	Merit
50 – 59%	Good standard (Pass)
<u>Failing categories:</u>	
40 – 49%	Work below threshold standard
0 – 39%	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 good Bachelors degree (equivalent to a British Honours degree) in IT, management or relevant fields; or
- equivalent experience, subject to the UoR APEL rules.

For an applicant whose first language is not English, an IELTS 6 or TOEFL 540 is required. Exceptionally, if an applicant has worked in an English language environment for a minimum of 3 years, an English test, organised by The University of Reading's Centre for Applied Language Studies, may be conducted in lieu of formal qualifications.

Support for students and their learning

In the middle of the intensive phase and at the end of each module, a questionnaire will be distributed to students for teaching assessment. Two elected student representatives in each cohort will be responsible for representing students' interests and voicing any concerns to the lecturers and Programme Manager. The elected student representatives will be members of the Student-Staff committee of the Graduate School of BIT in which the programme is based.

Student guidance and welfare support is provided by the Programme Directors and Programme Managers, relevant to the site where he/she is based at the time (BIT or UoR). Support is also available from the Students Service Offices at BIT and UoR.

Opportunities for study abroad or for placements

Students will have the opportunity to come to the UK for a period of 15 days in their dissertation visits. This allows them to receive direct supervision from their dissertation supervisors. Their experience of education and research in Europe will add much value to their career development.

Students, however, will not be encouraged to take any placement or jobs during their dissertation visits.

Career prospects

This Masters degree 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 a part-time or a full-time mode. Given these, it is expected that graduates from this programme will be able to take the following responsibilities either in industry or academia: systems manager, IT operations manager, systems 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

<p>A. Knowledge and understanding of:</p> <ol style="list-style-type: none">1. Information Systems (IS) planning and management:<ol style="list-style-type: none">1.1) IS architecture and components1.2) IS development and methodologies1.3) business processes and IS design1.4) Project management and planning1.5) business intelligence2. Practice<ol style="list-style-type: none">2.1) Problem identification and critical analysis2.2) Design, development and evaluation2.3) Management and organisation2.4) Professionalism and ethics2.5) Commercial and industrial exploitation3. Communication and interaction4. Theory	<p>Teaching/learning methods and strategies</p> <p>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.</p> <p>Aspects 3 and 4 are covered within other modules such as Research Methods and Informatics.</p> <p><i>Assessment</i></p> <p>Knowledge is tested through a mixture of formal examinations and practical work.</p> <p>The dissertation project will also assess the knowledge, understanding and ability of applying them in solving problems.</p>
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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 expect 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 module and programme handbooks.