

PROGRAMME SPECIFICATION

FOR TAUGHT PROGRAMMES AT ALL LEVELS

Name of Programme:		MSc Innovative Computing	
Final award (BSc, MA etc):		MSc	
Awarding institution/body:	University of Buckingham	Teaching institution:	University of Buckingham
School of Study:	School of Computing	Parent Department: (the department responsible for the administration of the programme)	School of Computing
Length of the programme: (please note any periods spent away from Buckingham, e.g. placements)	12 months	Method of study: Full-time/Part-time/Other	Full-time
Framework for Higher Education Qualifications (FHEQ) Level (see Guidance notes, section D – External Reference Points)	FHEQ Level 7	Relevant subject benchmark statement (SBS) (see Guidance notes, section D – External Reference Points)	QAA SBS: Computing
Professional body accreditation (if applicable):	N/A		
Criteria for admission to the programme:	2.1 Computing Degree + IELTS 6.5	Cohort(s) to which this programme specification is applicable: (e.g. from 2012 intake onwards)	from Jan 2018 onwards
UCAS Code	N/A		

Summary of Programme

This programme is a specialized advanced master's programme for first degree holders in computing related areas such as computer science, computer engineering and software engineering. Suitable candidates from backgrounds in business computing and information systems may also be admitted. The 12-month programme consists of 6 core modules at level 7 plus one level 6 option module and a level 7 individual project, totalling 180 units of credit.

Educational Aims of the Programme

In the current competitive IT job market, in-depth knowledge in specialized subject areas of applied computing is increasingly in demands. This degree programme is designed to meet such need of the market. Based on the research strengths and expertise in the Department of Applied Computing and appointed visiting professors and fellows from IT industry and research, this degree programme provides pathways into specialized subject areas of computing such as mobile wireless network communications, biometrics-based security, data mining solutions for enterprises, image processing and web technologies.

The graduates of the programme should be equipped with the specialised subject knowledge, enhanced technical skills, and independence further developed from their individual project experience. They should be able to compete with graduates of master's programmes from other UK universities. The programme also builds a strong foundation for those students who want to pursue higher degrees by research either in University of Buckingham or elsewhere in the UK, or in universities abroad.

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Programme Outcomes		
<u>Knowledge and understanding of:</u> At the end of the programme students should be able to gain knowledge and understanding in: 1. The role that computers systems now play in the modern society 2. A range of modern computing techniques together with relevant skills to apply the techniques in practice 3. The state-of-art development of specialised areas of computing technology and its applications 4. Critical evaluation of existing and new solutions and their limitation in a chosen area of computing technology	→	<u>Teaching/Learning Strategy</u> The ILOs are achieved through a mixture of lectures, workshops/seminars, tutorial classes and practical classes. Individual study and self-reliance on the learning side are expected for such an advanced master's programme: 1. Seminars and presentations 2. Lectures, Tutorial Practical exercises 3. Lectures, individual project and research as a part of coursework 4. Individual project and coursework
	→	<u>Assessment Strategy:</u> Assessment of the ILOs is through the following means where numbers in the brackets refer to the ILO items: ▪ Exams (1, 3) ▪ Coursework (1, 2, 3, 4) ▪ Practical exams & tests (2). ▪ Project reports (1, 3, 4) ▪ Project presentation (1, 3, 4) ▪ Project software (1, 3) ▪ Project viva (1, 2, 3, 4)
<u>Cognitive (thinking) skills:</u> At the end of the programme students should be able to gain: 1. Problem solving skills 2. Research skills 3. Analysis and evaluation skills	→	<u>Teaching/Learning Strategy:</u> For all the cognitive skills listed, • A Research Methods training course is offered • Coursework/team projects and individual project both provide opportunity for practising the skills
	→	<u>Assessment Strategy:</u> All the cognitive skills listed are assessed by the following means: ▪ Coursework ▪ Practical examinations ▪ Project reports ▪ Project viva

<u>Practical/Transferable skills (able to):</u> At the end of the programme students should be able to: 1. General technical skills in a range of computing technologies within the scope of the programme 2. Advanced technical skills in a chosen area of computing technology within the scope of the programme 3. Software development & practical use skills 4. Programming and fast prototyping skills 5. Project management skills 6. Communication Skills 7. Self-learning and individual study skills 8. Presentation skills 9. Teamwork skills	→	<u>Teaching/Learning Strategy:</u> The skills are obtained through practice in 1. Coursework and practical classes 2. Individual project 3. Individual project 4. Individual project 5. individual project & course project 6. Coursework and course projects 7. Oral presentations 8. Project Demonstrations 9. Group course projects
	→	<u>Assessment Strategy:</u> The key skills are assessed by the following means where numbers in the brackets refer to the corresponding skills: ▪ Coursework and written/practical examinations (1, 2, 5) ▪ Project reports and viva (2, 3, 4,5) ▪ Written essays and reports (1, 2, 3) ▪ Oral presentation performance (1, 3) ▪ Demonstration performance (1, 3) ▪ Group module projects demonstrations (4)

External Reference Points

The following reference points were used in designing the programme

- Framework for Higher Education Qualifications (<http://www.qaa.ac.uk/Publications/InformationAndGuidance/Pages/quality-code-A1.aspx>);
- Relevant Subject Benchmark Statement(s) (<http://www.qaa.ac.uk/Publications/InformationAndGuidance/Pages/quality-code-A2.aspx>);
- Other (list)

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 course unit/module can be found in the departmental or programme handbook. The accuracy of the information contained in this document is reviewed annually by the University of Buckingham and may be checked by the Quality Assurance Agency.

Programme Director(s) Name(s):	Hongbo Du
Date of Production:	June 2017
Date approved by School Learning and Teaching Committee	October 2018
Date approved by School Board of Study	October 2018
Date approved by University Learning and Teaching Committee	November 2018

PROGRAMME STRUCTURE

MSc in INNOVATIVE COMPUTING January Entry

All modules are 15 units, except where specified.

Term			
1 Winter	Information Security in Communication [7]	Applied Imaging Techniques [7]	Project [7] ##
2 Spring	Research Methods [7] # (0 units)		
	Web Technologies and Applications [7]	Software Project Management [6]	Project [7] ##
JUNE EXAMINATION			
3 Summer	Mobile and Wireless Communications [7]	Project [7] ##	Project [7] ##
4 Autumn	Applied Techniques of Data Mining [7]	Option [6] ###	Project [7] ##
DECEMBER EXAMINATION			

Research Methods

Research methods is a skills module to be taken by all masters and research students. It does not carry any units of credit.

Project (75units)

The project runs over 4 terms. A pass in the project is a requirement for the award of a degree. The degree will not normally be awarded a higher classification than that awarded to the project.

Options available:

Software Engineering,
Cloud Computing,
Mobile Applications Development,
Design, Implementation and Analysis of Algorithms.

MSc in INNOVATIVE COMPUTING

September Entry

All modules are 15 units, except where specified.

Term			
1 Autumn	Applied Techniques of Data Mining [7]	Option [6] ###	Project [7] ##
DECEMBER EXAMINATION			
2 Winter	Information Security in Communication [7]	Applied Imaging Techniques [7]	Project [7] ##
3 Spring	Research Methods [7] # (0 units)		
	Web Technologies and Applications [7]	Software Project Management [6]	Project [7] ##
JUNE EXAMINATION			
4 Summer	Mobile and Wireless Communications [7]	Project [7] ##	Project [7] ##
SEPTEMBER EXAMINATION			

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