UNIVERSITY OF BATH

Programme Specification

GENERAL INFORMATION	
Programme title	MSc Economics for Business Intelligence and Systems (EBIS)
Awarding Institution//Body	University of Bath
Teaching Institution	University of Bath
Programme accredited by (including date of accreditation)	
*Subject Benchmark Statement**Subject Benchmark Statement:	
Date of Specification preparation/revision	
Applicable to cohorts	
Programme Approved by	

Synopsis and academic coherence of programme

The **MSc programme in 'Economics for Business Intelligence and Systems (EBIS)'** is a PGT programme with a clear and coherent cross-disciplinary *quantitative* focus and an inter-faculty collaboration between the Department of Economics and the School of Management, with input on relevant unit content from the Departments of Computer Science and Mathematics. One central aim of the programme is to combine and emphasise these Departments' considerable academic strengths and long-standing reputation for work placements and employer links.

The need and market demand for such a rigorously technical programme (which is quite distinct from the standard business economics programmes of competitor institutions) has become more pressing with the presentation of the **UK Government's 'Industrial Strategy – Building a Britain fit for the future'** in November 2017. The industrial strategy aims to transform research and innovations generated by universities, scientists, and research institutes into commercially successful products and services. Key areas for government investment and support are **artificial intelligence**, **machine learning**, and **data-driven economic models and technology**.

In order to manage successfully businesses that commercialise these innovations (as well those in the other priority areas such as clean energy generation, zero emissions mobility, new forms of vehicle ownership, and creative use of health data to support ageing societies) a new type of university graduate and manager is needed: one who can operate successfully at the interface of economics, business, mathematics, and computer science.

Educational aims of the programme

The EBIS programme is designed to educate and prepare economically literate scientists and scientifically confident economists for the future. It is becoming increasingly important that managers of innovative industries have a strongly quantitative postgraduate degree alongside commercial experience. The EBIS programme aims to be the 'go-to' provider of postgraduate study and integrated career development for managers of innovative technologies and industries.

This distinctive programme is aimed primarily at graduates from STEM subjects, drawing on both the brightest and best students from across the University of Bath' own UG programmes (mainly in Mathematics, Economics and Mathematics, Computer Science, the School of Management, etc.), and those from top UG programmes abroad (such as students from strategic partner universities such as Nanyang Technological University in Singapore or the Technical University of Munich, to name but two).

Graduates of the EBIS programme will have accrued a body of disciplinary knowledge and techniques to address the challenges and needs of financial sector organisations, manufacturing companies, and the technology industry that the government intends to foster with its industrial strategy - in particular, its agenda to embed within businesses people suitably equipped with digital skills and numeracy. We plan to train economically and technically proficient graduates who can help deliver the government's agenda of improving the economic viability and impact of research investment.

The EBIS programme is designed to equip graduates with skills which are applicable across a broad range of sectors and types of business, from startups to consultancies to government departments and large commercial companies.

EBIS graduates should be able to contribute confidently and effectively at the creative interface of technology and economic efficiency by becoming experts in process and product innovation. They will have gained the requisite skills to apply state of the art economic, business, and mathematical concepts and methods, to model and evaluate issues that arise in the day-to-day running of businesses and other organisations.

They will have a rigorous understanding of the economic and business applications of a wide range of formal techniques – a capacity to understand the context and complexity of their work, and be able to critically interpret, explain and communicate succinctly the analytical evidence. They will be able to bring together knowledge from the various sub-disciplines of the programme to work in an *interdisciplinary* manner.

The economics components of the programme will convey key economic models and insights in an integrated and innovative way that transcends the traditional distinction between micro- and macroeconomics. The business component will combine aspects of finance, business analytics, information technology, and innovation management. The technical/mathematical components will provide key tools from statistics and econometrics, as well as operations research, advanced optimization and computer programming.

• Knowledge & Understanding:	By the end of the all students (incl. **PG Diploma and Certificate** students) will be able to: 1. Demonstrate a systematic and comprehensive understanding of essential tools, theories, models and framework - relating to economics, econometrics, data analytics, and business, and their relationship to one another. 2. Demonstrate the ability to apply chains of reasoning in economic and mathematical models to derive hypotheses capable of empirical testing. 3. Apply formal and rigorous methods of analysis and description to the specification, documentation, implementation and analysis/verification of systems; 4. Evaluate and synthesize relevant information and data from a variety of sources, integrate, analyse and critically evaluate, to gain a coherent understanding of theory and practice; 5. Critically analyse and evaluate existing systems and approaches to solving problems, and design innovative solutions; 6. Demonstrate a critical understanding of professional, legal, social, cultural and ethical issues related to economics and business, and an awareness of societal and environmental impact; 7. Demonstrate an ability to engage in a peer review process that involves the critical review of papers, software and proposals, coupled with positive advice for improvement. 8. Critically analyse, evaluate and reflect upon own contributions; demonstrate self-direction and originality in tackling and solving economic and business problems; Graduating MSc students will add to this: 9. undertake an individual innovative practice track project; 10. understand and show critical awareness of the current state and future directions of technological advances and their relation to economic and business intelligence and systems.
• Intellectual Skills:	

	Teaching methods: Intellectual and cognitive skills are developed throughout the programme employing a variety of teaching and learning methods. More formal teaching activities, such as lectures and 'flipped classroom' material, demonstrate methods and techniques used to solve economic, statistical, and business problems. Student learning is consolidated, exemplified and applied in student-centred activities of problem classes, computer sessions, coursework and projects, activities during which students develop their individual and group intellectual and practical skills, as well as in individual tutorials which take place weekly during semesters 1 and 2. The summer practice track project is the capstone experience, enabling fuller application of skills, concepts and techniques listed above and below, and acquired in the taught programme, to practice-based business scenarios. This leads students to the design and delivery of a significant research or developmental piece of work in conjunction with business partners, and enhanced critical and contextual perspective. **Assessment methods:** Assessment methods applied throughout the programme are designed to test the student's acquisition of skills through the production of coherent written and/or oral responses to set problems or tasks. Examples of assessment methods: unseen written examinations, open book examinations, coursework assignments, directed application development write-ups, project reports and presentations; practice track project.
• Professional Practical Skills:	The programme enables students to: 1. Wor k effectively as part of a team in the analysis, design and development of software-based system s 2. Consider alternative models of problems and apply practical and theoretical understanding to select appropriate, possibly innovative, solutions. 3. Present succinctly rational and reasoned arguments using appropriate conceptual tools to address a given systems problem. 4. Understand and apply relevant ethical, legal and professional standards in the context of business and economic systems development.
• Transferable/Key Skills:	The programme enables students to: 1. Apply problem solving and analytical skills in a wide variety of practical situations. 2. Undertake decision-making and evaluation in complex situations. 3. Plan, organize and prioritize time. 4. Demonstrate an ability to work constructively and effectively as a member of a team, communicate and persuade others through informed opinion. 5. Acquire skills and information needed for continuing professional development.

Summary of assessment and progression regulations

NFA - fully compliant

Progression Regulations and Awards

http://www.bath.ac.uk/registry/nfa/nfaar-pgt-appendix-11.pdf (Masters)
http://www.bath.ac.uk/registry/nfa/nfaar-pgt-appendix-12.pdf (Diploma)

http://www.bath.ac.uk/registry/nfa/nfaar-pgt-appendix-13.pdf (Certificate)

Details of Work Placements Requirements / Work Based Learning / Industrial Training Requirements

In the summer, after completion of the taught components of the programme in semesters 1 and 2, students follow a business/consultancy project or 'practice track'. There, they apply what they have learned in the taught components of the programme to practical problems and issues facing an organisation. The summer semester is launched with a week-long intensive residential programme at the University's Pall Mall facility in London, with employer involvement, on the theme of *Research Methods and design and their applications to Business*. Students will then take up their practice track projects (10-12 weeks) in which they are able to work, singly or in groups, under the direction of the business partner and an academic advisor, with the possible inclusion of a short placement/internship.

Details of Study Abroad Requirements

none at the moment

Details of Professional Accreditation

none

Admissions Criteria including APL/APEL arrangements

Typically you should have a First or Second Class bachelor honours degree or international equivalent, from a recognised institution in a quantitative discipline, such as economics, mathematics, computer science, engineering, or physical sciences.

All non-native speakers of English are required to have passed English language tests as follows:

- either IELTS with a grade of at least 7.0 overall and no less than 6.5 for any of the four parts (listening, reading, writing, speaking);
- or Pearson Test of English Academic (PTE): an overall score of 69 with no less than 62 in any element.

If English is not your first language but you have completed the whole of your undergraduate studies in the UK, you are exempt from IELTS/ PTE requirements.

Details of Support Available to Students

All taught students will undertake the PGT induction programme. All taught students will be allocated a personal tutor who is responsible for monitoring and supporting the academic progress and general welfare of their students.

Staff in these roles will be able to respond to many of the questions and concerns raised by students, but there is a range of specialist student support services that offer both information and advice to support staff working with their students, and they take referrals to work more directly with the student. Students can also self-refer to these services.

A range of services are available to provide information, advice and support in relation to accommodation, emotional difficulties, assessment of needs and provision of support relating to disability, student funding, general welfare, academic problems, student discipline and complaints, careers, international students, spiritual matters, part time work, security and personal safety. The Students' Union can also provide advocacy for students. More information about these services can be accessed via: http://www.bath.ac.uk/students/support/.

There are also Medical and Dental Centres, and a Chaplaincy on campus that are very experienced in meeting the needs of a student population, as well as a University nursery.

Department and Programme Specific Support Information