ASTON UNIVERSITY PROGRAMME SPECIFICATION

Programme Title	Business and Mathematics
UCAS/JACS Code	GN11 JU
School/Subject Area	School of Engineering and Applied Science Mathematics ABS
Final Award	BSc
Interim Awards	Certificate of Higher Education/Diploma of Higher Education
Mode(s) of Study	Sandwich
Normal Length of Programme	4 years
Total Credits	360 Full time or 480 (Sandwich)
Programme Accredited By	N/A
Dates Programme Specification Written and Revised	July 2012

Education Aims of the Programme	• To provide a learning experience that is intellectually challenging, relevant, stimulating and enjoyable.
	• To provide a broad overview of three main strands of mathematics: pure, applied and applicable.
	• To provide an introduction to appropriate, advanced and rigorous mathematics at the undergraduate level.
	• To prepare students for higher study or a career in a cross-disciplinary area.
	• To make students aware of the need for independent learning with an appreciation that their skills will need updating continuously through their professional life.
	• To produce high-quality graduates who are highly motivated, confident, mature and keenly sought by
	potential employers in a modern technological and commercial society.
	• To offer students the opportunity to obtain relevant industrial experience by providing the option of a
	placement year.
	• To provide a course which creates an awareness of how businesses operate.
	• To develop the ability to recognise and analyse the economic, technical, financial, social and organisational parameters within which modern managers make decisions.
	• To ensure relevance by maintaining and enhancing the links with business, professional and public sector organisations.
Relevent Subject Benchmark Statements and	 Framework for Higher Education Qualifications UK Quality Code Part A.1 (2011)
other External and Internal Reference	• QAA benchmark standard for Mathematics, Statistics and Operational Research
Points used to inform programme	• Expertise of members of staff
outcomes	• Past external examiners for Mathematics
	• Industry

Programme Structures and Requirements: Levels, Modules and Credits Stage 1

Module Title	Credits	Level	Module	Core/Option	Condonable	Prerequisites
			Code			
Calculus and Ordinary Differential Equations	20	4	AM10CO	Core	Ν	Y
Transition Mathematics	20	4	AM10TM	Core	Ν	Ν
Vector Algebra and Geometry	20	4	AM10VG	Core	Y	Y
Principles of Financial Accounting	10	4	BF1101	Core	Y	Ν
Introduction to Organisational Behaviour	10	4	BH1107	Core	Y	Ν
Introduction to Marketing Management	10	4	BM1134	Core	Y	Ν
Introduction to Business Analytics	10	4	BN1116	Core	Y	Ν
IT for Business	10	4	BN1160	Core	Y	Ν
Economic Environment of Business	10	4	BS1102	Core	Y	Ν
TOTAL	120					

Programme Structures and Requirements: Levels, Modules and Credits Stage 2

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Module Title	Credits	Level	Module Code	Core/Option	Condonable	Prerequisites
Introduction to Analysis	10	4	AM10IA	Core	Y	Y
Statistics and Probability	10	4	AM10SP	Core	Y	Y
Introduction to Numerical Methods	10	5	AM20IM	Core	Y	Y
Linear Mathematics	10	5	AM20LM	Core	Y	Y
Multivariate Calculus	10	5	AM20MC	Core	Y	Y
Mathematical Methods	10	5	AM20MM	Core	Y	Y
Management Accounting	10	5	BF2262	Core	Y	N
Operations Management	10	5	BN2216	Core	Y	Ν
Business Game	10	5	BN2225	Core	Y	Ν
Business Policy	10	5	BS2232	Core	Y	N
Business Economics	10	5	BS2240	Core	Y	Ν
Business, Government	10	5	BS2246	Core	Y	Ν
TOTAL	120					

Programme Structures and Requirements: Levels, Modules and Credits Stage P

Module Title	Credits	Level	Module Code	Core/Option	Condonable	Prerequisites
ABS Placement Module	120	Р	BUP100	Core	Ν	Ν
EAS Study Placement Year	120	Р	SEP001	Core	Ν	Ν
EAS Industrial Placement Year	120	Р	SEP002	Core	Ν	Ν
TOTAL	120					

Programme Structures and Requirements: Levels, Modules and Credits Stage F

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Module Title	Credits	Level	Module Code	Core/Option	Condonable	Prerequisites
Statistical Pattern Analysis	10	5	AM20PA	Option	Y	Y
Probability Distributions	10	5	AM20PD	Option	Y	Y
Real Analysis	10	5	AM20RA	Option	Y	Y
Stochastic Processes	10	5	AM20SR	Option	Y	Y
Approximation Theory and Methods	10	6	AM30AT	Option	Y	Y
Chaos and Dynamical Systems	10	6	AM30CD	Option	Y	Y
Financial Mathematics	10	6	AM30FT	Option	Y	Y
Game Theory	10	6	AM30GT	Option	Y	Y
Classical Mechanics	10	6	AM30ME	Option	Y	Y
Mathematics Report	10	6	AM30MR	Option	Y	Ν
Option Theory	10	6	AM30OT	Option	Y	Y
Partial Differential Equations	20	6	AM30PD	Option	Y	Y
Probabilistic Modelling	10	6	AM30PM	Option	Y	Y
Portfolio Analysis	10	6	AM30PT	Option	Y	Y
Modern Time Series	10	6	AM30TS	Option	Y	Y
Making Managerial Decisions Using Accounting Information	20	5	BF2210	Option	Y	Y
Contemporary Issues in HRM	20	6	BH3303	Option	Y	Y
Employee Relations and Legal Issues in HRM	20	6	BH3308	Option	Y	Y
Psychology	20	6	BH3328	Option	Y	Y
Learning, Training and Development in Organisations	10	6	BH3392	Option	Y	Y
Global Working	10	6	BH3393	Option	Y	Y
Business Ethics	10	6	BL3307	Option	Y	Y
Marketing Psychology	20	6	BM3308	Option	Y	Y

International Marketing	20	6	BM3309	Option	Y	Y
Consumer Behaviour	10	6	BM3376	Option	Y	Y
Worldwide Management of IT	10	6	BN3320	Option	Y	Y
International Operations	20	6	BN3322	Option	Y	Y
Simulation	10	6	BN3324	Option	Y	Y
Effective Management Consultancy	20	6	BN3370	Option	Y	Y
Effective Project Delivery	20	6	BN3385	Option	Y	Y
Knowledge at Work	10	6	BN3386	Option	Y	Y
Theories and Practice of e-Commerce	20	6	BN3389	Option	Ν	Y
International Business Economics	10	6	BS3337	Option	Y	Y
Innovation	20	6	BS3355	Option	Y	Y
Entrepreneurial Strategy	20	6	BS3357	Option	Y	Y
TOTAL	120					

Р	Programme Outcomes, Learning and Teaching and Assessment Strategies				
K	nowledge and Understanding				
	On successful completion of their programme students, are expected to have knowledge and understanding of:	Learning, Teaching and Assess outcomes to be achieved and de	sment Strategies to enable emonstrated		
		Learning and Teaching Methods	Assessment Methods		
1	The skills and attitudes on which pure mathematics is based through a solid foundation in algebra and analysis.	• Lectures	• Examinations		
2	The need for rigour and proof in mathematics and be able to draw on this both in the modules studied and more widely.	TutorialsReadingIndependant Study	CourseworkPresentations		
3	The principles and methods of mathematics to a range of physical and data based models.				
4	A range of numerical\computational methods, balancing the practical applications with appropriate underpinning.				
5	A range of mathematical skills and techniques for problem formulation and solution.				
6	The main functions of management and specifically business administration				
7	The theories, principles and underlying concepts of subjects relevant to the main functions of management (e.g. economics, marketing, finance, accounting, law, operations, organisational behaviour and information management) and an understanding of business models and processes				
8	How strategic decision-making within organisations as a whole takes place				

Iı	Intellectual Skills				
	On successful completion of their programme students, are expected to have knowledge and understanding of:	Learning, Teaching and Assess outcomes to be achieved and de	sment Strategies to enable emonstrated		
		Learning and Teaching Methods	Assessment Methods		
1	Apply important concepts in mathematics.	• Lectures	• Examinations		
2	Apply the principles and methods of mathematics.	• Tutorials	• Coursework		
3	Critically appraise different methods and techniques of problem-solving, assessing their effectiveness and applicability.		• Presentations		
4	Work independently by taking responsibility for the management of their own study and learning.				
5	Critically reflect on management problems and how to solve them				

On successful completion of their programme students, are expected to have knowledge and understanding of:Learning, Teaching and Assessment Strategies to enable outcomes to be achieved and demonstratedImage: students and strategies and understanding of:Learning and Teaching MethodsAssessment MethodsImage: students and is applications by holding a combined honours degree in mathematics.Lecture • Lecture • Tutorials • Placement (if undertaken)• Examinations • Presentation • Placement Reports	P	Professional Skills					
Learning and Teaching MethodsAssessment Methods1Fulfil the requirements of Associate membership of the Institute of Mathematics and its Applications by holding a combined honours degree in mathematics.• Lecture • Lecture • Tutorials • Tutorials • Placement (if undertaken)2Demonstrate comprehension of the relevant modern industrial environment• Placement (if undertaken) • Placement Reports		On successful completion of their programme students, are expected to have knowledge and understanding of:	Learning, Teaching and Assess outcomes to be achieved and de	ement Strategies to enable emonstrated			
 Fulfil the requirements of Associate membership of the Institute of Mathematics and its Applications by holding a combined honours degree in mathematics. Lecture Tutorials Placement (if undertaken) Presentation Placement Reports 			Learning and Teaching Methods	Assessment Methods			
2 Demonstrate comprehension of the relevant modern industrial environment Placement (if undertaken) Placement Reports	1	Fulfil the requirements of Associate membership of the Institute of Mathematics and its Applications by holding a combined honours degree in mathematics.	 Lecture Tutorials Placement (if undertaken) 	 Examinations Coursework Presentation 			
(if a Placement is undertaken).	2	Demonstrate comprehension of the relevant modern industrial environment (if a Placement is undertaken).	• Flacement (If undertaken)	Placement Reports			
3 Solve problems using mathematical software	3	Solve problems using mathematical software					
4 Implement, test and evaluate a given technique on real data, using a computer if necessary	4	Implement, test and evaluate a given technique on real data, using a computer if necessary					
5 Apply numerical algorithms to real-world applications	5	Apply numerical algorithms to real-world applications					

Т	Fransferable Skills				
	On successful completion of their programme students, are expected to have knowledge and understanding of:	Learning, Teaching and Assess outcomes to be achieved and de	sment Strategies to enable emonstrated		
		Learning and Teaching Methods	Assessment Methods		
1	Communication skills (oral and written)	• Lecture	• Examinations		
2	Presentational skills		Examinations		
3	Analytical skills	Tutorials	Coursework		
4	Ability to use appropriate mathematical software	 Computer laboratory sessions 	Presentation		
5	Competency in understanding relevant statistical analyses and financial reports	 Industrail work experience 	Placement Reports		

Entry Requirements	Typical A Level Offers: BBC-BBB at GCE A level/AVCE Combination of 2 A level and 2 AS level subjects accepted Additional AS levels are taken into account when confirming places SPECIFIC SUBJECT REQUIREMENTS: GCE A level: Mathematics grade A/B GENERAL STUDIES ACCEPTED? Yes IB: 31-33 points BTEC, IB, ACCESS, SCOTTISH/IRISH QUALIFICATIONS: accepted
Programme	Attendence requirements
Regulations	 Students are normally required to attend the University for nine terms over a period of four col academic years. An integrated programme of professional training of at least 40 weeks duratio including any periods of vacation, shall be undertaken at times approved by the Associate Dea Undergraduate Programmes. Specific assessment requirements for modules (if any, e.g. modules which may not be condoned): Module AM10TM Transition Mathematics is fundamental to the entir Mathematics subject and shall not be passed by condonement. The third stage is either the mod EAS Study Placement Year or SEP002 EAS Industrial Placement Year or ABS Placement Mod each of which carries 120 credits. The placement year mark contributes 10% to the final degree classification. Stage 2 contribute the final stage contributes 75% to the final degree classification. Final year students only permitted to take an optional module if the appropriate pre-requisite n been taken and passed.

This specification provides a concise summary of the main features of the programme and the threshold learning outcomes that a student might normally be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. **The individual modules included in the programme may differ from those included in this programme specification as our programmes are subject to continuous review**. Information on admissions requirements and career opportunities is available in the relevant prospectus. More detailed information on the learning outcomes, content and teaching, learning and assessment methods of each module can be found in the appropriate module guides and programme handbook(s) which are available to students on enrolment.