

## Programme Specification (PG)

Awarding body / institution:	Queen Mary University of London
Teaching institution:	Queen Mary University of London
Name of final award and programme title:	Master of Science in Business Analytics
Name of interim award(s):	n/a
Duration of study / period of registration:	12 months
QMUL programme code(s):	N1T1
QAA Benchmark Group:	N100 Business and Management
FHEQ Level of Award:	Level 7
Programme accredited by:	n/a
Date Programme Specification approved:	
Responsible School / Institute:	School of Business & Management

Schools / Institutes which will also be involved in teaching part of the programme:

School of Mathematical Sciences

Institution(s) other than QMUL that will provide some teaching for the programme:

n/a

### Programme outline

The Queen Mary University of London MSc in Business Analytics is designed to meet the learning and leadership development needs of those seeking to direct businesses in the digital economy. The program emphasises the link between techniques and methods used to analyze business processes and management, leadership and strategy knowledge and know-how needed to use insights from business analysis. Teaching of the techniques and methods of business analytics combines a grounding in mathematical and statistical foundations with practical know-how leading to certification in the use of principal software tools. Teaching of management and leadership skills draws on insights from social sciences into the functioning of businesses and markets and into strategy. It clarifies how robust analytical findings can be obtained from analytics and applied to the direction of businesses. The program is taught using real-world cases from different markets and countries.

The program draws on the experience of an advisory group of current managers from digital businesses.

QM's programme is distinctive from other Business Analytics and Big Data courses in that it

- is focused on the needs of continuing business students and engineers or mathematicians seeking a strong grounding in management knowledge and know-how;
- is interdisciplinary;
- is based in a business school and therefore is strongly management-centred and has close links to practice;

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- draws on guest contributions from serving and former managers and analysts;
- stresses skills as well as knowledge, and therefore offers Continuous Professional Development.

The university's close connections with businesses in the United Kingdom and France provide students with opportunities for contact with practitioners both in guest contributions and in student group project work done for businesses as clients.

The MSc in Business Analytics is available as a full-time course. It is taught at the University of London, within the Schools of Business and Management and the School of Mathematical Sciences on our London Campus. In addition, a program of certificates ensures that students can demonstrate their acquisition of practical know-how within the course on their CVs when they have completed the degree.

Summative assessment uses various methods, ranging from conventional academic coursework through to shorter specific exercises, analyses of data and online tests. Formative assessment takes place using class presentations and debates, short written exercises, group work and online tests.

### Aims of the programme

The program aims to educate managers who have developed a strong understanding of tools and methodologies for business analysis as well as their limitations. Students will have been exposed to ongoing debates about the direction and likely impact of digitization on societies, markets and businesses. They will also have developed skills required to manage IT and analytics specialists and to understand the leadership and organizational challenges associated with large scale change projects driven by the digitization of business processes. Learning outcomes therefore emphasize strong analytical and problem-solving skills but also "softer" skills in leadership, team working, communication and negotiation.

The MSc in Business Analytics will strengthen the ability of the Schools of Business and Management and Mathematical Sciences to deliver programs that meet the growing demand for managers capable of delivering and communicating analytical projects based on big data.

### What will you be expected to achieve?

You will be expected to achieve an advanced level of knowledge, know-how and practice based understanding of business analysis based on large and complex data. This will be demonstrated in the completion of assessed coursework and of a group project based on original research performed in a groups setting to answer a significant question amenable to business analysis.

#### Academic Content:

A 1	Knowledge and understanding of frameworks for data analysis in business contexts where large volumes of data are generated.
A 2	Knowledge and understanding of the main intellectual frameworks in use in the fields of management and strategy and of key methodological issues involved in empirical research and data analysis in business contexts.
A 3	Knowledge and understanding of key trends and driving forces in the digitization of social, managerial - and business processes.

#### Disciplinary Skills - able to:

B 1	Integrate data and use software tools for business analysis.
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B 2	To effectively present analysis, which shows intellectual integrity, based on large amounts of data. Has verbal, graphical and writing skills required to present results clearly and concisely.
B 3	The ability to think critically and creatively: organise thoughts, analyse, synthesise and critically appraise. This includes the capability to identify assumptions, evaluate statements in terms of evidence, detect false logic or reasoning, identify implicit values, define terms adequately and generalise appropriately.

Attributes:	
C 1	Competent user of data analysis tools and results of data analysis performed by others.
C 2	Competent communicator of data analysis results.
C 3	Competent leader of specialist data analysis teams.

### How will you learn?

The MSc will be taught using a flipped classroom approach with elements of video lectures and formative on-line assessments preceding and following up on block taught classroom interaction.

Each non-project-based course unit involves lectures, problem solving coursework and practical sessions. Lectures are used to introduce principles and methods and also to illustrate how they can be applied in practice. Coursework allows students to develop their skills in problem solving and to gain practical experience. Tutorial sessions actively engage students on applying the techniques and tools presented in the lectures to solve practical problems. These sessions take the form of exercise classes and programming laboratories under the guidance of the teaching staff.

In project based course units (Masterclass and Group Project) students work together to acquire team working skills and knowledge. Seminars take the form of individual and group presentations, structured debates and joint study of current and recent cases from a variety of business contexts. Managers with experience of business analysis projects make guest contributions. A range of continuing professional development activities (CPD) is also provided.

### How will you be assessed?

Summative assessment of taught course units will use various methods, ranging from conventional academic coursework and examinations through to shorter specific exercises and analyses of data. Formative assessment will take place using class presentations and debates, short written exercises and group work.

Work in the Masterclass and the Group Project are examined on the basis of a written report, a formal oral presentation, and a demonstration of the insights from analysis carried by the students. The projects will have two examiners each, with a third if there is disagreement.

### How is the programme structured?

Please specify the full time and part time programme diets (if applicable). The description should be sufficiently detailed to fully define the structure of the diet.

The program will consist of five compulsory modules each of 15 credits at level 7, three elective modules each of 15 credits at level 7, a Masterclass of 30 credits and a Group Project (which may be a project report for an approved client public authority) of 30 credits, making 180 credits in total.

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The compulsory modules will be:

1. Programming for Business Analytics (term 1)
  2. Data Analytics (term 1)
  3. Strategic Analysis (term 1)
  4. Leadership Skills for Business Analytics (term 1)
  5. Experiments for Business Analytics (term 2)
  6. SAS for Business Intelligence
6. The Masterclass in Business Analytics is a core module worth 30 credits. (terms 1 & 2)
7. Group Project worth 30 credits (term 3)

Elective modules to be offered in term 2 will be:

- i) Time Series Analysis for Business
- ii) Optimization of Business Processes
- iii) Project management
- iv) Entrepreneurship

Academic Year of Study FT - Year 1

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Group Project	BUSM130	30	7	Core	1	Semester 3
Masterclass in Business Analytics	BUSM131	30	7	Compulsory	1	Semesters 1 & 2
Leadership Skills for Business Analytics	BUSM139	15	7	Compulsory	1	Semester 1
Strategic Analysis	BUSM147	15	7	Compulsory	1	Semester 1
Data Analytics	MTH781P	15	7	Compulsory	1	Semester 1
Programming for Business Analytics	MTH785P	15	7	Compulsory	1	Semester 1
Experiments for Business Analytics	BUSM160	15	7	Compulsory	1	Semester 2
SAS for Business Intelligence	MTH782P	15	7	Compulsory	1	Semester 2
Entrepreneurship	BUSM134	15	7	Elective	1	Semester 2
Project Management	BUSM141	15	7	Elective	1	Semester 2
Time Series Analysis for Business	MTH783P	15	7	Elective	1	Semester 2

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Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Optimization of Business Processes	MTH784P	15	7	Elective	1	Semester 2
Machine Learning with Python	MTH786P	15	7	Elective	1	Semester 2

### What are the entry requirements?

A degree of least a 2:1 level for UK applicants in mathematics, statistics, engineering, economics or business and equivalent for overseas students.

For students whose first language is not English, we shall require an IELTS score of 7.

### How do we listen to and act on your feedback?

The Staff-Student Liaison Committee provides a formal means of communication and discussion between Schools and its students. The committee consists of student representatives from each year in the school/institute together with appropriate representation from staff within the school/institute. It is designed to respond to the needs of students, as well as act as a forum for discussing programme and module developments. Staff-Student Liaison Committees meet regularly throughout the year.

Each school operates a Learning and Teaching Committee, or equivalent, which advises the School/Institute Director of Taught Programmes on all matters relating to the delivery of taught programmes at school level including monitoring the application of relevant QM policies and reviewing all proposals for module and programme approval and amendment before submission to Taught Programmes Board. Student views are incorporated in this Committee's work in a number of ways, such as through student membership, or consideration of student surveys.

All schools operate an Annual Programme Review of their taught undergraduate and postgraduate provision. The process is normally organised at a School-level basis with the Head of School, or equivalent, responsible for the completion of the school's Annual Programme Reviews. Schools/institutes are required to produce a separate Annual Programme Review for undergraduate programmes and for postgraduate taught programmes using the relevant Undergraduate or Postgraduate Annual Programme Review pro-forma. Students' views are considered in this process through analysis of the NSS and module evaluations.

### What academic support is available?

The School of Business and Management aims to provide a high quality teaching and learning environment. Teaching will be by research-oriented staff complemented where appropriate by Teaching Fellows, who will combine specialist knowledge of their subject with a critical attitude to its delivery. Students will, accordingly, be working in a challenging, supportive environment

The induction week prior to the start of Semester A provides introductory talks on all of the services and support mechanisms available within the School and College.

Students on this programme will be supported by the individual staff members running modules on this program in terms of immediate advice on a specific module: course content, assignments and exam structure. Students are also assigned an academic advisor whom they are encouraged to consult for academic related support and a dedicated supervisor for their core dissertation module. Beyond this, the administrative staff also provide support services for non-academic matters.

The School uses various channels of communication to provide updates on teaching timetables, module information, events and support services (e.g. Plasma Screens, notice boards, Virtual Learning Environment).

## Programme-specific rules and facts

Attendance at the Master-classes and lectures is compulsory.

The group project which is the only core module is the dissertation element as long as the school retains a progression hurdle. Progression will be determined on the basis of the results of the four compulsory modules in term 1 and Experiments for Business, i.e. all the compulsory 15 credit modules.

## Specific support for disabled students

Queen Mary has a central Disability and Dyslexia Service (DDS) that offers support for all students with disabilities, specific learning difficulties and mental health issues. The DDS supports all Queen Mary students: full-time, part-time, undergraduate, postgraduate, UK and international at all campuses and all sites.

Students can access advice, guidance and support in the following areas:

- Finding out if you have a specific learning difficulty like dyslexia
- Applying for funding through the Disabled Students' Allowance (DSA)
- Arranging DSA assessments of need
- Special arrangements in examinations and guidance for examiners
- Accessing loaned equipment (e.g. digital recorders)
- Specialist one-to-one study skills tuition
- Ensuring access to course materials in alternative formats (e.g. Braille)
- Providing educational support workers (e.g. note-takers, readers, library assistants)
- Access to specialist mentoring support for students with mental health issues and Autistic Spectrum Disorders.

## Links with employers, placement opportunities and transferable skills

The staff involved in the MSc in Business Analytics have strong links and research collaboration with industrial partners including Citigroup, Nomura, Morgan Stanley, IBM, HP, and Tech City IT startups. Several of these companies will be involved in the teaching activities, providing guest lectures, as well as business use cases for applying Business Analytics techniques. Additionally, several of the MSc projects offered to the students will be performed in collaboration with an industry partner, including summer placement opportunities.

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## Programme Specification Approval

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Person completing Programme Specification:

Person responsible for management of programme:

Date Programme Specification produced / amended by School / Institute Learning and Teaching Committee:

Date Programme Specification approved by Taught Programmes Board: