

## Programme Specification

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### Business Analytics and Finance (2021-22)

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 s/he takes full advantage of the learning opportunities that are provided.

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|---|---|
| Awarding Institution                              | University of Southampton                                     |
| Teaching Institution                              | University of Southampton                                     |
| Mode of Study                                     | Full-time   |
| Duration in years                                 | 1   |
| Accreditation details                             | Association to Advance Collegiate Schools of Business (AACSB) |
| Final award                                       | Master of Science (MSc)                                       |
| Name of Award                                     | Business Analytics and Finance                                |
| Interim Exit awards                               | Postgraduate Certificate<br>Postgraduate Diploma              |
| FHEQ level of final award                         | Level 7   |
| UCAS code   |   |
| Programme Code                                    | 8522  |
| QAA Subject Benchmark or other external reference | Business and Management 2019                                  |
| Programme Lead                                    | Steffen Bayer   |
| Pathway Lead                                      |   |

## Programme Overview

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### Brief outline of the programme

Making good decisions in finance and banking is critical to the well-being of the global economy. This Master's in Business Analytics and Finance provides learning in modelling techniques of Business Analytics which aid decision making, along with an understanding of how modelling techniques are used in finance and banking. The programme is focused on the intersection between analytics and finance, giving you a wide range of skills covering the ability to model financial risks at both market and individual level, the ability of making complex decisions at every operational level, and of being proficient in the different mathematical and computational tools commonly required in financial organizations.

The programme is accredited by the Association to Advance Collegiate Schools of Business (AACSB), which is an internationally recognised award of excellence in business education.

Your contact hours will vary depending on your module/option choices. Full information about contact hours is provided in individual module profiles.

### Learning and teaching

Your understanding of the subjects covered and your ability to use the knowledge and skills gained will be enhanced through a variety of methods and strategies on the MSc Business Analytics and Finance course. Some of the key learning approaches that you will experience as a student in the Business School will include:

**Group work:** Group work provides you with the opportunity to meet and learn to work with many different people through these activities. This is recognised as vital in your development when looking forward to a management role in your future career.

Case-studies: Throughout this Master's degree in Business Analytics and Finance you will be presented with many different business case-studies that reflect the reality of decision-making and problem-solving activities in today's business environment. The case studies are selected to reflect the specific needs of your programme.

Learning alongside other students: This will involve you being part of modules with large diverse cohorts. In this environment you may be given the opportunity to discuss a specific problem or complete a task in small groups.

### Assessment

Assessment of achievement of the intended learning outcomes takes a variety of forms: coursework, examinations and a dissertation. As with all our programmes, formal examinations take place in January and May/June.

## Special Features of the programme

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The programme is delivered by Southampton Business School, and has the support of the Centre for Operational Research, Management Sciences and Information Systems (CORMSIS), which is a world-leading Operational Research/Management Science group. It is the top 50 in the world for Statistics and Operations Research (QS World Rankings 2019). Southampton Business School start with mnemonic MANG and those of Mathematical Sciences start with mnemonic MATH. Furthermore, CORMSIS runs employability related events and trainings for students taking a CORMSIS MSc programme including MSc in BAF.

A special feature of the programme is that you can choose either the external summer project which may be undertaken with a business or other external organisation, or the internal dissertation project. The external summer projects offer excellent career-building experience. The external summer projects are assigned on a competitive basis conditional on academic performance throughout the program and a successful interview in the summer period. The detailed condition is given in the module profile. The internal dissertation project offers the opportunity to work closely with one of our academic staff. Most of the internal dissertation projects are practical. The internal dissertation project provides an alternative to students who prefer to do their projects on campus, or if the requirements for an external project are not met. Students interested in pursuing a PhD degree are encouraged to take an internal project that can be developed into a strong research proposal.

**Please note:** As a research-led University, we undertake a continuous review of our programmes to ensure quality enhancement and to manage our resources. As a result, this programme may be revised during a student's period of registration; however, any revision will be balanced against the requirement that the student should receive the educational service expected. Please read our [Disclaimer](#) to see why, when and how changes may be made to a student's programme.

Programmes and major changes to programmes are approved through the University's [programme validation process](#) which is described in the University's [Quality handbook](#).

## Educational Aims of the Programme

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This programme is designed to provide training and education in the application of the underpinning concepts, techniques, methods and approaches of business analytics particularly in financial organisations and in financial modelling. The aims of the programme are:

- To meet the needs of financial organisations for numerate graduates with a broad spectrum of skills, ranging from technical mathematical modelling skills to more "people-based" management skills such as communication skills and teamwork.
- To provide a practical training in the application of the concepts, techniques, methods and approaches of business analytics and financial modelling.
- To give practical experience of applying the skills learned, by working on a project that may be based with an external organisation or internally sourced and supervised by academic staff or professionals.
- To give an appreciation and understanding of the methods of research in financial modelling and business analytics sufficient to serve as a basis for undertaking research as part of the programme of study in the discipline.

## Programme Learning Outcomes

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### Knowledge and Understanding

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On successful completion of this programme you will have knowledge and understanding of:

- A1. the practical skills and techniques that are required for the effective application of financial modelling and business analytics;
- A2. the skills required to critically evaluate business and management problems;
- A3. the decisions faced by financial organisations and the techniques and approaches that support the modelling and management of such decisions;
- A4. business analytics practice in a manner characterised by a systemic view and the skills required to adopt mathematical modelling where appropriate.

### Teaching and Learning Methods

You will gain an understanding and knowledge of the techniques and approaches of Business Analytics and Finance through a mixture of lectures, discussions, individual and group practical exercises, workshops, computer classes, case studies, seminars, reading, and assessed coursework. In particular, lectures and seminars will give you an understanding of practical techniques. Discussions, group work, reading, exercises and case studies will develop skills of critical evaluation and financial decision-making. Computer workshops, group work and exercise will enable mathematical modelling skills to be built up.

### Assessment Methods

Every module is assessed, typically by a combination of examination and coursework, although some modules are examined by examination or coursework only. Most assessments are individual, although some modules have a group work element. In particular, understanding and abilities in using practical skills will be assessed both by examination and coursework, as will ability to critically evaluate problems and make decisions.

Some modules (e.g. Credit Risk Analytics and Simulation) have a practical computer-based assignment, using commercial software, so that mathematical modelling skills can be assessed.

### Subject Specific Intellectual and Research Skills

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On successful completion of this programme you will be able to:

- B1. apply core Business Analytics techniques particularly when problem solving in finance, including statistics, decision theory, systems theory, operations management and optimisation;
- B2. apply core financial mathematical models of portfolio analysis, credit risk models for both corporate and retail lending, interest rate curves, and pricing;
- B3. think analytically, reflectively, creatively and logically, drawing on useful approaches developed in a wide range of cognate disciplines. These disciplines include information systems, organisational behaviour and risk management.

## Teaching and Learning Methods

You will learn about and practise the techniques of Business Analytics and Finance through a mixture of lectures, individual and group practical exercises, workshops, computer classes, and private reading. Your reflective and creative skills are developed through exercises, coursework assignments and discussion groups. Your logical and analytical skills are developed through problem-solving activities and workshops.

## Assessment Methods

Your ability to apply the skills you have learnt is assessed by examinations and coursework. Both examinations and coursework will assess your ability to apply Business Analytics techniques and make effective use of financial models. Some technical skills are assessed by practical computer-based work. Reflective and creative thought will be assessed also through examinations and coursework, in some cases as group-written coursework.

## Transferable and Generic Skills

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On successful completion of this programme you will be able to:

- C1. collect and critically evaluate qualitative and/or quantitative information;
- C2. communicate ideas and arguments fluently and effectively in a variety of written formats;
- C3. work effectively in groups and recognise problems associated with group working;
- C4. manage your time effectively;
- C5. use computing and relevant programming languages effectively;
- C6. use library and other resources effectively and apply bibliographical skills.

## Teaching and Learning Methods

Most modules develop some combination of the above key skills; and all will build skills through coursework in critical evaluation, written communication in some format and time management. Some modules will develop oral communication and group working skills through group work and presentations. Some will in particular increase IT skills through computer workshops while others will bring familiarity with library facilities through assessed coursework. The Induction programme, which is held before all modules start, will introduce presentation skills and management report writing which will be further developed in other modules.

## Assessment Methods

Practical computer work will assess IT skills developed. Writing skills may be assessed either by individual or group work, often also assessing library and bibliographic skills. Many modules require the writing of a word-processed report in several different formats, which may be an academic essay or a management-style report. In all modules, strict hand-in deadlines will assess ability in time management

## Subject Specific Practical Skills

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On successful completion of this programme you will be able to:

- D1. gain relevant and up-to-date knowledge of finance-oriented business analytics techniques and skills;

- D2. gain relevant and practical knowledge of aspects of financial modelling;
- D3. develop your modelling, technical and analytical skills, consultancy and business awareness skills;
- D4. apply the methods, techniques and skills learned in the taught part of the programme to a project.

### **Teaching and Learning Methods**

You will gain understanding, knowledge and practice of up-to-date finance-oriented business analytics techniques through a mixture of lectures, seminars, case studies and computer workshops. Your financial modelling and analytical skills will be further developed through discussions, individual and group practical exercises, reading, and assessed coursework. In addition, you will be prepared for the project work by additional lunchtime sessions run by the Industrial Liaison Officers in Semester 1 and 2, in these sessions you will receive advice and guidance regarding the dissertation and external summer projects, previous experience of students which have taken these options, and views by supervisors and external companies.

Your project will be supervised by a member of academic staff, who typically will have a research interest in the area of the project, as well as a representative of the organisation within which the project is located, if externally based. To undertake an external summer project good performance during semester 1 and during the interview with a representative of the external organisation is required.

### **Assessment Methods**

In addition to the assessment associated with the modules on the taught part of the programme, you are required to write a 15,000-word dissertation on your project work.

## **Programme Structure**

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The programme structure table is below:

Information about pre and co-requisites is included in individual module profiles.

Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note in some instances modules have limited spaces available.

### **Pathway**

#### **Part I**

There are a range of compulsory and optional modules on this MSc in Business Analytics and Finance. Compulsory modules provide a balanced grounding in the skills of these disciplines. Optional modules provide opportunities to broaden understanding or to specialise in specific areas, such as risk management or forecasting.

A flexible and inclusive approach to learning and teaching will enable any student who meets the entry requirements to access the curriculum and demonstrate achievement of all the intended learning outcomes. This approach should minimise the need for individual alternations to be made for disabled students; however, where reasonable, individual adjustments are likely to be needed this should be specified.

The first nine months of the programme are in 'taught' mode. This period is divided into two 15-weeks

semesters, each followed by examinations. In the following description, the term “module” is taken to mean a discrete component of the programme with its own learning outcomes and assessment requirements. All modules are at Master’s level.

The taught part of the programme consists of modules worth 60 ECTS points (120 CATS points) in total. The Business School provides all the compulsory modules, worth 45 ECTS points (90 CATS) in total. As for the optional modules, those with a MANG code are provided by the Business School, and those with a MATH code are by the Operational Research Group in Mathematical Sciences. The options are shared with the MSc in Operational Research and Finance, as well as other Master’s programmes within the Business School. Due to timetabling restrictions, not all combinations of these options may be available in any given year.

There is a potential exit at the end of the taught part of the programme. Students who achieve a pass at PG Diploma or PG Certificate level, and do not wish to undertake a dissertation, can exit at this point with the qualification PG Diploma or PG Certification in Business Analytics and Finance.

On successful completion of the taught part of the programme, a dissertation worth 30 ECTS points (60 CATS points) is undertaken during the final three months of the programme. All dissertations tackle relevant problems dealing with the topics covered during the preceding semesters, whether they be internal dissertations or external summer projects. . Both external summer project and internal dissertation project are based on the concept of bringing together the taught elements to tackle a problem of genuine concern either to the participating business or industrial organisation (i.e. external summer project) or to the organisation in the case study (i.e. internal dissertation project). The typical topics for internal dissertation projects can be found in the module profile. Those who plan to do a PhD may choose a more research-oriented topic. The external projects are set up with an outside organisation. The projects with external organisations, are carefully vetted and agreed by the Business School’s Industrial Liaison Officers and the Programme Leader before being presented to you.

#### Programme enrichment

Seminars: Speakers from a wide range of organisations provide insight into how business analytics and operational research is used in their organisation, and highlight areas that are of topical interest.

Full/Half-Day Workshops: One or more participating companies will run full or half-day workshops covering either a key skill such as teamwork or writing reports.

Project Skills sessions: Sessions will be provided on skills required for the summer projects. In addition, there is a teamworking session provided in addition to the standard School Induction programme.

#### Part I Compulsory Semester 1

| Code     | Module Title                        | ECTS | Type       |
|----------|-------------------------------------|------|------------|
| MANG6022 | Corporate Finance 1                 | 7.5  | Compulsory |
| MANG6XX3 | Credit Risk & Data Analytics        | 7.5  | Compulsory |
| MANG6046 | Optimisation and Decision Modelling | 7.5  | Compulsory |

#### Part I Compulsory Semester 2

| Code     | Module Title                     | ECTS | Type       |
|----------|----------------------------------|------|------------|
| MANG6008 | Quantitative Research in Finance | 7.5  | Compulsory |

#### Part I Optional Core

Please select 1 of the following modules, once selected the module will become core.

| Code     | Module Title        | ECTS | Type          |
|----------|---------------------|------|---------------|
| MANG6X45 | Dissertation (DDAR) | 30   | Optional/Core |
| MANG6X46 | Summer Project      | 30   | Optional/Core |

#### Part I Optional Semester 1

Please select 1 module (7.5ECTS/15CATS):

| Code     | Module Title                         | ECTS | Type     |
|----------|--------------------------------------|------|----------|
| MANG6142 | Introduction to Portfolio Management | 7.5  | Optional |

|          |                                 |     |          |
|----------|---------------------------------|-----|----------|
|          | and Exchange Traded Derivatives |     |          |
| MANG6X37 | Project Management              | 7.5 | Optional |
| MANG6122 | Simulation                      | 7.5 | Optional |

#### Part I Optional Semester 2

Please select 22.5ECTS/45CATS:

| Code     | Module Title               | ECTS | Type     |
|----------|----------------------------|------|----------|
| MANG6XX1 | Advanced Analytics         | 7.5  | Optional |
| MANG6023 | Corporate Finance 2        | 7.5  | Optional |
| MATH6017 | Financial Portfolio Theory | 3.75 | Optional |
| MANG6020 | Financial Risk Management  | 7.5  | Optional |
| MATH6011 | Forecasting                | 3.75 | Optional |
| MATH6005 | Introduction to Python     | 3.75 | Optional |
| MANG6293 | Project Management         | 3.75 | Optional |
| MATH6146 | Revenue Management         | 3.75 | Optional |

### Progression Requirements

The programme follows the University's regulations for [\*Progression, Determination and Classification of Results : Undergraduate and Integrated Masters Programmes\*](#) or [\*Progression, Determination and Classification of Results: Postgraduate Master's Programmes\*](#). Any exemptions or variations to the University regulations, approved by AQSC are located in [\*section VI of the University Calendar\*](#).

### Support for student learning

There are facilities and services to support your learning some of which are accessible to students across the University and some of which will be geared more particularly to students in your particular Faculty or discipline area.

The University provides:

- library resources, including e-books, on-line journals and databases, which are comprehensive and up-to-date; together with assistance from Library staff to enable you to make the best use of these resources
- high speed access to online electronic learning resources on the Internet from dedicated PC Workstations onsite and from your own devices; laptops, smartphones and tablet PCs via the Eduroam wireless network. There is a wide range of application software available from the Student Public Workstations.
- computer accounts which will connect you to a number of learning technologies for example, the Blackboard virtual learning environment (which facilitates online learning and access to specific learning resources)
- standard ICT tools such as Email, secure filestore and calendars.
- access to key information through the MySouthampton Student Mobile Portal which delivers timetables, Module information, Locations, Tutor details, Library account, bus timetables etc. while you are on the move.
- IT support through a comprehensive website, telephone and online ticketed support and a dedicated helpdesk in the Hartley Library.
- Enabling Services offering support services and resources via a triage model to access crisis management, mental health support and counselling. Support includes daily Drop In at Highfield campus at 13.00 – 15.00 (Monday, Wednesday and Friday out of term-time) or via on-line chat on weekdays from 14.00 – 16.00. Arrangements can also be made for meetings via Skype.
- assessment and support (including specialist IT support) facilities if you have a disability, long term health problem or Specific Learning Difficulty (e.g. dyslexia)
- the Student Services Centre (SSC) to assist you with a range of general enquiries including financial matters, accommodation, exams, graduation, student visas, ID cards
- Career and Employability services, advising on job search, applications, interviews, paid work, volunteering and internship opportunities and getting the most out of your extra-curricular activities alongside your degree programme when writing your CV.
- Other support that includes health services (GPs), chaplaincy (for all faiths) and 'out of hours' support for students in Halls and in the local community (18.00-08.00).
- A Centre for Language Study, providing assistance in the development of English language and study skills for non-native speakers.

The Students' Union provides

- an academic student representation system, consisting of Course Representatives, Academic Presidents, Faculty Officers and the Vice-President Education; SUSU provides training and support for all these representatives, whose role is to represent students' views to the University.

- opportunities for extracurricular activities and volunteering
- an Advice Centre offering free and confidential advice including support if you need to make an academic appeal
- Support for student peer-to-peer groups, such as Nightline.

## Methods for evaluating the quality of teaching and learning

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You will have the opportunity to have your say on the quality of the programme in the following ways:

- Completing student evaluation questionnaires for each module of the programme.
- Acting as a student representative on various committees, e.g. Staff/Student Liaison Committees, School Programmes Committee OR providing comments to your student representative to feedback on your behalf.
- Serving as a student representative on Faculty Scrutiny Groups for programme validation.
- Taking part in programme validation meetings by joining a panel of students to meet with the Faculty Scrutiny Group.

Further details on the University's quality assurance processes are given in the [Quality handbook](#).

## Career Opportunities

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Graduates of the MSc in Business Analytics and Finance have exciting career prospects in a wide variety of financial, business and government organisations. Typical organizations where our graduates work include banks, management consulting companies, financial institutions of all sizes, large fintech companies and small fintech startups, financial regulators, data science areas within companies in the service sector, and analytics areas in general.

## External Examiner(s) for the programme

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Students must not contact External Examiner(s) directly, and external examiners have been advised to refer any such communications back to the University. Students should raise any general queries about the assessment and examination process for the programme with their Course Representative, for consideration through Staff: Student Liaison Committee in the first instance, and Student representatives on Staff: Student Liaison Committees will have the opportunity to consider external examiners' reports as part of the University's quality assurance process.

External examiners do not have a direct role in determining results for individual students, and students wishing to discuss their own performance in assessment should contact their Personal Academic Tutor in the first instance.

**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 they take full advantage of the learning opportunities that are provided. More detailed information can be found in the programme handbook.



## Appendix 1:

Students are responsible for meeting the cost of essential textbooks, and of producing such essays, assignments, laboratory reports and dissertations as are required to fulfil the academic requirements for each programme of study. In addition to this, students registered for this programme also have to pay for:

### Additional Costs

| Type                                      | Details   |
|---|---|
| Approved Calculators                      | Candidates may use calculators in the examination room only as specified by the University and as permitted by the rubric of individual examination papers. The University approved models are Casio FX-570 and Casio FX-85GT Plus.<br>These may be purchased from any source and no longer need to carry the University logo.  |
| Optional Visits (e.g. museums, galleries) | Some modules may include optional visits. You will normally be expected to cover the cost of travel and admission, unless otherwise specified in the module profile.  |
| Printing and Photocopying Costs           | In most cases, written coursework such as essays; projects; dissertations are submitted online and by hard copy. The costs of printing a hard copy for submission of such coursework will be the responsibility of the student.<br><br>The cost of photocopying will also be the responsibility of the student.<br><a href="https://www.southampton.ac.uk/students/printing">https://www.southampton.ac.uk/students/printing</a>  |
| Stationery                                | You will be expected to provide your own day-to-day stationary items, e.g. pens, pencils, notebooks, etc). Any specialist stationery items will be specified under the Additional Costs tab of the relevant module profile.   |
| Textbooks                                 | Where a module specifies core texts these should generally be available on the reserve list in the library. However due to demand, students may prefer to buy their own copies. These can be purchased from any source.<br><br>Some modules suggest reading texts as optional background reading. The library may hold copies of such texts, or alternatively you may wish to purchase your own copies. Although not essential reading, you may benefit from the additional reading materials for the module. |

In some cases you'll be able to choose modules (which may have different costs associated with that module) which will change the overall cost of a programme to you. Details of such costs will be listed in the Module Profile. Please also ensure you read the section on additional costs in the University's Fees, Charges and Expenses Regulations in the University Calendar available at [www.calendar.soton.ac.uk](http://www.calendar.soton.ac.uk).