Queen Mary
University of London

Programme Specification (PG)

Awarding body / institution:	Queen Mary University of London
Teaching institution:	Queen Mary University of London
Name of final award and title:	MSc Supply Chain and Logistics Analytics
Name of interim award(s):	Postgraduate Certificate (PgCert), Postgraduate Diploma (PgDip)
Duration of study / period of registration:	1 year
Queen Mary programme code(s):	
QAA Benchmark Group:	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:

Collaborative institution(s) / organisation(s) involved in delivering the programme:

Programme outline

Effective, efficient, and resilient management of supply chains has become a key determinant of business survival, success, and growth. Businesses use their extensive and global supply and logistics networks as a leverage to reduce costs, enhance flexibility and agility, improve quality, foster innovation, and achieve operational excellence. However, due to their sheer scale, complexity, and international nature, as well as stakeholders with conflicting interests, supply and logistics networks have commonly been strained and hit by frictions, risks, and disruptions. Therefore, management, surveillance, and control of supply networks is at the heart of corporate strategy, but is difficult to achieve. Increased digitalisation, and more broadly availability of data, together with fundamental advances in data science, artificial intelligence, and operations research, are now giving the edge to innovative and analytics-focused companies in achieving the optimal balance between the different and typically conflicting objectives considered in supply chain management. The proposed MSc Supply Chain and Logistics Analytics focuses on these contemporary challenges, drivers, and solutions and provides students with comprehensive knowledge of supply chain and logistics management, with a special focus on analytics.

The programme has a modern and comprehensive offering that combines advances in the academic literature and the industry. The programme has three pillars: i) supply chain and logistics management in practice, ii) data science methods to better capture uncertainty, and 3) operations research and management science to optimise decisions. For the first pillar, we will teach students the fundamental processes and decisions involved in logistics and supply chain management, together with the

Queen Mary
University of London

business context in which they are embedded. These include, for instance, demand forecasting and management, inventory management, transportation, quality management, warehouse management, supply network design, and production planning. Our students will become familiar with various factors that are challenging and reshaping existing supply and logistics networks, including sustainability, digitalisation, artificial intelligence, and changes in the geopolitical landscape. The second pillar focuses on transforming big data produced by firms, their partners, and the broader production networks to economic, environmental, and social value. For this, students will learn statistics and machine learning and develop projects to solve logistics and supply chain problems using the methods of data analytics. The third pillar enables moving from predictive to prescriptive analytics by using the modern methods of management science and operations research, which enables optimising decisions at operational, strategic, and tactical levels.

The programme has an interdisciplinary perspective, integrating knowledge from business studies, management science, and data science, with a core focus on logistics and supply chain management. We provide a comprehensive education on these topics that is delivered across three semesters. A number of elective modules allows students to specialise on international business strategy, complex networks and innovation, and project management. The learning outcomes of the programme are designed to meet the academic and professional requirements imposed on employees by leading multi-national firms. The graduates will be equipped with the academic knowledge that would be desired for a PhD in this field. Furthermore, the theoretical and practical knowledge would allow students to start their own businesses.

Aims of the programme

This programme aims to:

1) offer access to a graduate degree for students with different academic backgrounds, including social sciences and humanities and STEM degrees;
2) develop a critical and systematic understanding of supply chain management knowledge, and a critical awareness of current supply chain trends and challenges;
3) develop a deep understanding of the analytical techniques applicable to logistics and supply chain management;
4) equip students with necessary statistical, computational and problem solving skills to successfully achieve proficiency in logistics and supply chain management;
5) equip students with skills to manage their own learning, work in teams, and network and communicate with different stakeholders;
6) enhance professional skills for transferring knowledge into business processes;
7) prepare students for rewarding careers as supply chain and logistics managers, analysts, and data scientists in different types of organisations in the private and public sectors;
8) help students acquire the skills for successfully conducting independent research and for pursuing further academic study.

What will you be expected to achieve?

Students who successfully complete the programme will be able to:
1) understand the complex challenges and opportunities that supply chain and logistics managers face;
2) independently identify, formulate, and solve such problems;
3) understand analytics (data science, statistics, and operations research) methods;
4) use computer programming and other IT tools to develop and implement solutions for logistics and supply chain problems;
5) effectively communicate with different stakeholders across business functions and firm boundaries;
6) assess and improve the environmental and social consequences of the supply chain and logistics decisions;
7) conduct independent research;
8) enhance oral and written communication skills and adapt them according to the audience.

Academic Content:	
A 1	Establishing a critical and interdisciplinary understanding and perspective;
A 2	Enhancing skills for holistic analysis with qualitative and quantitative components;

Queen Mary
University of London

A 3	Obtaining digital / technical fluency to support supply chain and logistics decisions;
A 4	Conducting independent research in the area of supply chain and logistics, with a focus on analytics methods;
A 5	Developing skills for oral and written communication of scientific research and analysis to different audiences.

Disciplinary Skills - able to:	
B 1	Critically evaluate a business problem, identify an analytics solution, and interpret technical results in a business context;
B 2	Collect, integrate, and analyse data to improve logistics and supply chain management decisions;
B 3	Develop analytics-based solutions for real-world supply chain, logistics, and transport problems using information technology;
B 4	Be able to use computer programming, statistical analysis, and optimisation to support supply chain and logistics decisions
B 5	Effectively communicate with the managers of supply chain, operations, and other business functions
B 6	Assess the potential effects of technological, societal, and environmental changes and drivers on supply chains, logistic networks, and transport

Attributes:	
C 1	Be able to learn new analytics methods and techniques, where necessary
C 2	Be able to keep pace with the developments in the logistics and supply chain domain
C 3	Be able to work in teams
C 4	Be able able to follow good project management practice, including time management, critical task prioritisation, and evaluating self- learning
C 5	Develop a strong sense of research ethics and intellectual integrity

How will you learn?

Teaching will be delivered by research-intensive staff who will critically evaluate and integrate professional knowledge of the subject material into their teaching. The theoretical teaching will be enriched by guest lectures and projects from the logistics industry and supply chain functions of firms. The programme spans three semesters, enabling the students to develop a critical and comprehensive knowledge of the modern tools of analytics and the professional practice of logistics and supply chain management. Students will learn the interdisciplinary and analytics-focused material in an academically challenging, but supportive, environment.

Teaching:
Each module has an outline description, specifying the aims, expected learning outcomes, assessment methods, outline syllabus and an indication of primary reading. This information is available online on the School's Postgraduate webpage.

Students typically have 3 contact hours per week in each module. Within these three hours, each module has its own pattern and

Queen Mary
University of London

combination of lectures, seminars/classes/computer labs, and other activities. Lectures focus on teaching the disciplinary knowledge, explaining the key concepts and ideas, and determining the sequence and pace of learning, involving the students through flipped classroom design, where applicable. Seminars/classes/computer labs are centred on an active and experiential learning experience through facilitated discussions, case studies, mathematical and computational exercises, problem sets, computer programming tutorials and presentations, as appropriate. Lectures and seminars can be integrated by co-delivering the theory-based lectures with interaction- and practice-based seminars.

To achieve the learning outcomes of the programme, we will follow an experiential, collaborative, integrative, reflective, analytical, and inquiry-based pedagogical approach. This will be achieved by a combination of different types of delivery methods and models, including theoretical lectures, seminars, classes, industry guest lectures, group projects, computer lab sessions, research projects, and independent and self-learning through directed reading of disciplinary materials from peer reviewed journal articles, textbooks, and other sources . The combination of these different methods will lead to a high-quality education and an excellent student experience, consistently with the pedagogical approach.

The learning outcomes - academic content A1-A5 - will be achieved through lectures, seminars, computer labs and research projects.
The learning outcomes - disciplinary skills B1- B9 - will be achieved by a combination of all methods.
The learning outcomes- attributes C1-C5 - will be achieved through lectures, computer labs, seminars, guest lectures, group projects, and research projects.

How will you be assessed?

The learning outcomes of the modules, which are constructed in line with the programme-level learning outcomes, are assessed in each module by one or more of the following assessment methods: coursework, essays, projects, presentations and unseen exams. There is variation across modules in terms of the assessment methods, in particular to ensure a balanced portfolio at the programme-level. The assessment methods are carefully chosen and designed for each module, considering its specific learning outcomes and the best ways to support and assess these. Timely, detailed, and constructive feedback will be provided to students on their learning, which is an integral part of the assessment process. This is in particular achieved by combining formative assessment, e.g. quizzes and ungraded project presentations, with summative assessment to monitor student progress and to provide individual and tailored feedback. Assessments will be moderated following the quality assurance processes of the School and the University. Clear guidance on coursework requirements and expectations will be provided to students, raising consciousness about academic offense and the procedures in place to detect and handle potential problems. Standard College procedures are followed in the setting and the marking of assessments and in the determination of overall results.

How is the programme structured?
Please specify the structure of the programme diets for all variants of the programme (e.g. full-time, part-time - if applicable). The description should be sufficiently detailed to fully define the structure of the diet.

In the week before Semester A teaching begins, the Director of Postgraduate Taught Programmes leads a two day induction session for the cohort entering that year. This covers Compulsive and Elective Modules in each Programme; Choice of Electives; the Documentation Students must Complete; Exams; Coursework and Assessment; the Student Handbook; Security and Safety; Library Resources; IT Resources; SSLC; Careers Advice; Help with English; and Campus Tours.

The programme is full-time, delivered across 3 semesters in 1 academic year, with 4 modules per term.

BUSMXXX Pre-sessional Revision of Maths and Stats to start 1-week prior to Welcome week and will be assessed by Week 4.

SEMESTER A: THEORETICAL AND ANALYTICAL FOUNDATIONS
(4 compulsory, 4x15 credits)
Compulsory:
- Introduction to Supply Chain and Operations Analysis
- Environmental Analytics for Supply Chains
- Introduction to Management Science
- Introduction to Coding with Python

SEMESTER B: FUNDAMENTALS OF SUPPLY CHAIN AND LOGISTICS ANALYTICS
(3 compulsory and 1 elective, 4x15 credits)

Queen Mary
University of London

Programme Title: MSc Supply Chain and Logistics Analytics

Compulsory:
- Supply Chain Planning and Control
- Analytical Frontiers in Supply Chain Management
- Data Science: Methods and Applications

Elective (1 from):
- Project Management
- Complex Networks and Innovation
- International Business Strategy

SEMESTER C: ADVANCED ANALYTICS FOR SUPPLY CHAIN AND LOGISTICS ANALYTICS
(2 compulsory 15-credits modules and 1 core 30-credits Group Project module)
Core Module (30 credits):
- Group Project in Supply Chain and Logistics Analytics

Compulsory Modules:
- Transportation and Logistics Analytics
- Demand Forecasting and Pricing Analytics

Academic Year of Study   FT - Year 1

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Introduction to Supply Chain and Operations Analysis	BUSMXXA	15	7	Compulsory	1	Semester 1
Environmental Analytics for Supply Chains	BUSMXXB	15	7	Compulsory	1	Semester 1
Introduction to Management Science	BUSMXXC	15	7	Compulsory	1	Semester 1
Introduction to Coding with Python	BUSM190	15	7	Compulsory	1	Semester 1
Supply Chain Planning and Control	BUSMXXD	15	7	Compulsory	1	Semester 2
Analytical Frontiers in Supply Chain Management	BUSMXXE	15	7	Compulsory	1	Semester 2
Data Science: Methods and Applications	BUSM193	15	7	Compulsory	1	Semester 2
Project Management	BUSM141	15	7	Elective	1	Semester 2
Complex Networks and Innovation	BUSM132	15	7	Elective	1	Semester 2
International Business Strategy	BUSM089	15	7	Elective	1	Semester 2

Queen Mary
University of London

Programme Title: MSc Supply Chain and Logistics Analytics

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Group Project in Supply Chain and Logistics Analytics	BUSMXXF	30	7	Core	1	Semester 3
Transportation and Logistics Analytics	BUSMXXG	15	7	Compulsory	1	Semester 3
Demand Forecasting and Pricing Analytics	BUSMXXH	15	7	Compulsory	1	Semester 3
Pre-sessional Revision of Maths and Stats	BUSMXXX	0	7	Compulsory	1	

What are the entry requirements?

The programme is designed for students with a Bachelor's degree (2:1 or above) in business management studies, economics, and other social sciences with good quantitative skills as well as applicants from STEM (science, technology, engineering and mathematics) disciplines. Standard English requirements apply. IELTS Academic: 7.0 overall, including 6.0 in Writing, and 5.5 in Reading, Listening and Speaking, or an equivalent exam.

How will the quality of the programme be managed and enhanced? How do we listen to and act on your feedback?

The Student academic performance and the academic quality of the programme are to be closely monitored, managed, and enhanced through the following mechanisms:

The Programme Director works closely with the Deputy Dean of Education, the Head of Department and the School of Business and Management Education Committee. As a result, all issues can be identified early for remedy. For example, issues may be cited by students or the external examiner and the meetings are held monthly. In addition, the Programme Director works closely with the School's Student Engagement Team to update students on important aspects concerning quality.

The School of Business and Management has a dedicated member of academic staff to scrutinise the latest and past NSS scores, in addition to module evaluations.

The school regularly sends staff members to attend CABS conferences (Chartered Association of Business School). These conferences bring together colleagues from business schools across the UK and foster an exchange between them on how to manage business schools effectively and how to best teach students about business. These interactions ensure that our students are taught using the most recent methods.

The Staff-Student Liaison Committee (SSLC) provides a formal means of communication and discussion between schools/ institutes and their 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 and also to act as a forum for discussing programme and module developments. Formally, the SSLC meets twice a semester, with a student representative from each programme. Informally, each student in the programme can contact to the Programme Director, who reports to the Director of Postgraduate Taught Programmes.

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

Queen Mary
University of London

Curriculum development and delivery are overseen by the Programme Director through the relevant School Teaching Review Group, which reports to the School's Education Committee. The School's Teaching Review Groups oversee teaching methods in each module, taking into account student evaluations and comments, averages, and distributions of examination marks, and external examiner reports. Development of individual teaching is guided through peer review, participation in staff development courses, the appraisal system, and teaching evaluation. Account is also taken of views put forward by Department Meetings and the Student-Staff Liaison Committee, as well as external sources (external examiners, and views filtered through the College's International Office).

All schools operate an Annual Programme Review (APR) of their taught undergraduate and postgraduate provision. APR is a continuous process of reflection and action planning, which is owned by those responsible for programme delivery. Students' views are considered in this process through analysis of the NSS and module evaluations.

In addition, the director of the programme collaborates with technological companies and industry experts to reflect on the content of the vdegree (once a year - director of the programme). External examiners provide feedback on the content of the programme and academic performance.

What academic support is available?

The School of Business and Management aims to provide a high quality teaching and learning environment. Teaching will be delivered by research-intensive staff who will critically evaluate and integrate professional knowledge of the subject material into their teaching. The theoretical teaching will be enriched by guest lectures and projects from the logistics industry and supply chain firms. The programme spans three semesters, enabling the students to develop a critical and comprehensive knowledge of the modern tools of analytics and the professional practice of logistics and supply chain management. Students will learn the interdisciplinary and analytics-focused material in an academically challenging, but supportive environment.

The induction week before the start of Semester A provides introductory talks on all the services and support mechanisms available within the school and college. The plasma screens within the school also update on timetabling, events, and support services within the school. The virtual learning environment (QMplus) has information on the different modules and supervisory advice, as well as personalised teaching timetables. Students are also advised on the support services available in the Language and Learning Unit. A module talk is held at the start of the module selection process to enable students make informed choices when selecting their electives.

Postgraduate Programme Director
The School has one academic Programme Director who is able to support students through their studies, if they encounter any difficulties of a personal nature which are having an impact on their studies they can meet with the Director for support.

Academic Advisors
Every student is allocated an Academic Advisor who they can approach, should they have any queries or issues related to their academic studies or academic development. Students are expected to see their advisor at least once each semester.

Office Hours
All academics have dedicated office hours published on the website, so students may visit them to discuss any aspect of their learning on specific modules.

Programme-specific rules and facts

N/A

Queen Mary
University of London

How inclusive is the programme for all students, including those with disabilities?

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
• Accessing loaned equipment (e.g. digital recorders)
• Specialist one-to-one "study skills" tuition
• Ensuring access to module materials in alternative formats (e.g. Braille)
• Providing educational support workers (e.g. note-takers, readers, library assistants)
• Mentoring support for students with mental health issues and conditions on the autistic spectrum.

The MSc is in line with QMUL policy of accessibility and inclusivity per:
1) http://www.dds.qmul.ac.uk/disability/
2) https://www.qmul.ac.uk/site/accessibility/

All SBM learning outcomes at module level have been reviewed for clarity both at the School Education Committee and as part of a wider project (AACSB accreditation).

QMPlus modules sites have been significantly developed recently and are linked to QReview, and with a move towards the standard use of SensusAccess before uploading QMPlus materials. Due allowance will be made for students to record seminars, if necessary, and seminar discussions and classroom arrangement will furthermore take into account any special arrangements. Students requiring additional time for completion of assessments i.e. in-class tests and presentations as recommended by DDS will have the adjustments made by the module administrator. In addition, marking of assessments will take into consideration any neurodiversity, i.e. not penalising sentence structure or grammar.

Links with employers, placement opportunities and transferable skills

Graduates from this programme will have developed a range of analytical, cognitive, and practical transferrable skills, which will be applicable beyond academia. The School works closely with the Careers Service to locate possible work placements/ internships and to prepare students for the recruitment process (e.g assistance in creating effective CVs, interview skills). The Department of Business Analytics and Applied Economics has connections with the industry, including some in the supply chain, logistics, and blockchain domain, who are contributing to the existing MSc programmes through guest lectures and sponsoring student projects. The provision of such projects is subject to availability at the time.

The qualities and skills a graduate from this programme might be expected to have include a range of cognitive, intellectual, personal and interpersonal skills as well as skills specific to business and management. These include:
- 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;
- The ability to conduct research into business and management issues either individually or as a part of a team through research design, data collection, analysis, synthesis and reporting;
- Effective performance within team environments and the ability to recognise and utilise individuals' contributions in group processes and to negotiate and persuade or influence others; team selection, delegation, development and management
- Ability to recognise and address ethical dilemmas and corporate social responsibility issues, applying ethical and organisational values to situations and choices.

Programme Specification Approval

Queen Mary
University of London

Person completing Programme Specification:

Dr Guven Demirel, Dr Eun-Seok Kim, and Aktar Hussain

Person responsible for management of programme:

Dr Eun-Seok Kim and Dr Guven Demirel

Date Programme Specification produced / amended by School / Institute Education Committee:

Date Programme Specification approved by Taught Programmes Board:

Queen Mary
University of London