1. KentVision Code and title of the module

BUSN8034: Supply Chain Modelling and Analytics

## Division which will be responsible for management of the module

Kent Business School

## The level of the module (Level 4, Level 5, Level 6 or Level 7)

7

## The number of credits and the ECTS value which the module represents

15 credits (7.5 ECTS)

## Which term(s) the module is to be taught in (or other teaching pattern)

Autumn or **Spring**

## Prerequisite and co-requisite modules and/or any module restrictions

None

## The course(s) of study to which the module contributes

Compulsory to the following courses:

MSc Logistics and Supply Chain Management.

## The intended subject specific learning outcomes. On successfully completing the module students will be able to:

8.1 Provide critical awareness of the nature of various modelling methods, stimulating students to appreciate the value of modelling in logistics and supply chain management to solve steady-state and dynamic problems.

8.2 Apply core methodologies used in supply chain analysis and modelling, including statistics, regression, optimization and probability,

8.3 Demonstrate an in depth knowledge of a number of Excel tools and functions that are commonly used in practice including the use of spreadsheet models for complex business decisions.

8.4 Critically evaluate some of the software used in logistics and supply chain management and provide basic understanding and usage of such tools.

## The intended generic learning outcomes. On successfully completing the module students will be able to:

9.1 Communicate findings effectively to specialist and non-specialist audiences.

9.2 Demonstrate integrative capabilities to co-ordinate group tasks or eventually lead a team of multifunctional individuals;

9.3 Write a technical report that incorporates many facets of IT such as presentational and graphical devices

9.4 Effectively employ computer tools including the use of software and coding to provide practical solutions for modern logistical problems.

## A synopsis of the curriculum

Today’s increasingly complex global operations and new digital technologies are giving rise to a sea of data and increased need for modelling supply chain environments with the objective of measuring the performance of various strategies, methods and technologies. Supply chain modelling and analytics skills are in high demand and are a must-have for supply chain management career success. This module will cover the following indicative topics:

1. Supply chain modelling: This part aims to formulate key activities of the supply chain while emphasizing both the need for formulation and implementation. These include Networks and Routing Transportation models, Resource Allocation and Production Scheduling models, Inventory management models, Quality control models, and Project Management.

2. Spreadsheet Modelling: This part will cover the use of basic and advanced spreadsheet tools and functions (e.g., sorting, ranges, look-up tables, formatting, plotting graphs, optimisation tools, statistical functions).

3. Analytics Techniques: This part demonstrate how analytics techniques, such as Forecasting, Regression, Descriptive analytics, Probability and Decision Analysis and Optimisation, can be applied to improve supply chains’ efficiency and effectiveness by enabling data-driven decisions at strategic, operational and tactical levels.

## Reading list

## The University is committed to ensuring that core reading materials are in accessible electronic format in line with the Kent Inclusive Practices.

## The most up to date reading list for each module can be found on the university's [reading list pages](https://kent.rl.talis.com/index.html).

## Contact Hours

Private Study: 117

Contact Hours: 33

Total: 150

## Assessment methods

* 1. Main assessment methods

Group Project: Group presentation (10%), Group spreadsheet model (10%), Group report (1,500 – 2,000 words) (10%) **(30% in total)**

VLE Test (20%)

Individual computer-based project including spreadsheet model and report (1,500 – 2,000 words) (50%)

13.2 Reassessment methods

100% coursework

## Map of module learning outcomes (sections 8 & 9) to learning and teaching methods (section 11) and methods of assessment (section 12)

**Module learning outcomes against learning and teaching methods:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Module learning outcome** | *8.1* | *8.2* | *8.3* | *8.4* | *9.1* | *9.2* | *9.3* | *9.4* |
| Private Study | **x** | **x** | **x** | **x** | **x** |  | **x** | **x** |
| *Lectures* | **x** | **x** |  |  | **x** | **x** |  | **x** |
| *Computer Labs* | **x** |  | **x** | **x** |  | **x** |  | **x** |

**Module learning outcomes against assessment methods:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Module learning outcome** | *8.1* | *8.2* | *8.3* | *8.4* | *9.1* | *9.2* | *9.3* | *9.4* |
| Group Project *(Model + Report + Presentation)* | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| *VLE Test* | **x** | **x** | **x** | **x** | **x** |  | **x** | **x** |
| *Individual Project* | **x** | **x** | **x** | **x** | **x** |  | **x** | **x** |

Students must achieve a pass in the group project to ensure all learning outcomes have been met.

## Inclusive module design

The Division recognises and has embedded the expectations of current equality legislation, by ensuring that the module is as accessible as possible by design. Additional alternative arrangements for students with Inclusive Learning Plans (ILPs)/declared disabilities will be made on an individual basis, in consultation with the relevant policies and support services.

The inclusive practices in the guidance (see Annex B Appendix A) have been considered in order to support all students in the following areas:

a) Accessible resources and curriculum

b) Learning, teaching and assessment methods

## Campus(es) or centre(s) where module will be delivered

Canterbury

## Internationalisation

The curriculum in this module is globally applicable, hence both the subject specific and generic learning outcomes are also global.

**DIVISIONAL USE ONLY**

**Module record – all revisions must be recorded in the grid and full details of the change retained in the appropriate committee records.**

| Date approved | New/Major/minor revision | Start date of delivery of (revised) version | Section revised  (if applicable) | Impacts PLOs (Q6&7 cover sheet) |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |