1. **Title of the module**

BUSN7940 (CB794) Predictive and Prescriptive Analytics

1. **School or partner institution which will be responsible for management of the module**

Kent Business School

1. **The level of the module (Level 4, Level 5, Level 6 or Level 7)**

Level 6

1. **The number of credits and the ECTS value which the module represents**

15 credits (7.5 ECTS)

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

Autumn

1. **Prerequisite and co-requisite modules**

BUSN3130 Introduction to Statistics for Business (or equivalent)

1. **The programmes of study to which the module contributes**

BSc Management and related programmes

1. **The intended subject specific learning outcomes.  
   On successfully completing the module students will be able to:**
   1. Use predictive and prescriptive analytic techniques to handle a variety of business problems.
   2. Apply regression analysis and forecasting techniques to characterise relationships among business variables, identify patterns in data and predict future trends.
   3. Build and solve linear optimisation models and interpret their results for effective decision making
   4. Develop a systematic understanding of different types of optimisation models and how they can be applied in practice to solve problems in different business contexts
2. **The intended generic learning outcomes.  
   On successfully completing the module students will be able to:**
   1. Use a variety of scientific approaches to build and solve models for a range of practical management problems.
   2. Analyse the models and be able to make recommendations based on that analysis.
   3. Demonstrate an ability to select the most appropriate solution technique for particular problems.
   4. Plan work and study independently using relevant resources.
3. **A synopsis of the curriculum**

The aim of this module is to equip students with basic knowledge of analytics tools to analyse and interpret data, forecast future trends and optimise decisions in many areas of business, including operations, marketing and finance.

The module covers two indicative themes as follows:

1. Predictive analytics. In this part of the module, students will learn approaches to extract information from existing data sets in order to determine patterns and predict future outcomes and trends. Approaches include regression analysis, forecasting techniques, simulation and data mining.
2. Prescriptive analytics. In this part of the module, students will learn how to develop optimisation models to support business decision making. Students will be guided through demonstrations involving a variety of business problems, including transportation, assignment, product mix and scheduling problems.
3. **Reading list (Indicative list, current at time of publication. Reading lists will be published annually)**

Albright S. and Winston W.L. (2016). *Business Analytics: Data Analysis & Decision Making* (6th Ed). Boston, MA: Cengage.

Evans, J. R. (2013). *Business Analytics. Methods, Models and Decisions*. Harlow: Pearson Education.

Winston, W.L. (2004). *Operations Research: Applications and Algorithms* (4th Ed.), Belmont, MA: Duxbury Press.

1. **Learning and teaching methods**

The module will be taught by lectures, computer terminal sessions and private study.

Total contact hours: 31

Private study hours: 119

Total study hours: 150

1. **Assessment methods**
   1. Main assessment methods

In-Course Test 1, 45 minutes (20%)

In-Course Test 2, 45 minutes (20%)

Individual computer-based report – equivalent of 2000 words (60%).

13.2 Reassessment methods

Reassessment Instrument: 100% coursework

1. **Map of module learning outcomes (sections 8 & 9) to learning and teaching methods (section12) and methods of assessment (section 13)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Module learning outcome** | *8.1* | *8.2* | *8.3* | *8.4* | *9.1* | *9.2* | *9.3* | *9.4* |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |
| *Lectures* | **X** | **X** | **X** | **X** | **X** |  | **X** |  |
| *Terminals* | **X** | **X** | **X** | **X** | **X** | **X** | **X** |  |
| *Private Study* | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |
| **Assessment method** |  |  |  |  |  |  |  |  |
| *ICT tests* | **X** | **X** | **X** |  | **X** | **X** |  | **X** |
| *Individual computer-based report (2000 words equivalent)* | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |

1. **Inclusive module design**

The School 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

1. **Campus(es) or centre(s) where module will be delivered**

Canterbury

1. **Internationalisation**

Examples of an international nature are incorporated into exercises covered in both lectures and computer terminals. Formal assessments also involve international examples (e.g., international databases).

**FACULTIES SUPPORT OFFICE USE ONLY**

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

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