

MODULE SPECIFICATION

1. Title of the module

Data and Predictive Analytics

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

Pearson College London

3. The level of the module (e.g. Level 4, Level 5, Level 6 or Level 7)

Level 7

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

15 credits (7.5 ECTS)

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

This module can be run in any term: Autumn, Spring or Summer

6. Prerequisite and co-requisite modules

None

7. The programmes of study to which the module contributes

- MSc Financial Leadership - option module

8. The intended subject specific learning outcomes.

On successfully completing the module students will be able to:

- 8.1 Demonstrate a systematic understanding of Data, Big Data, Information and Knowledge management, the role of technology in these areas, and the challenges associated with the storage, security, processing and governance of data in organisations.
- 8.2 Characterise and critically assess good and bad data in the context of data-driven decision making.
- 8.3 Critically discuss the technological and social challenges of managing Public and Private data, as well as the importance of Open Data to stimulate innovation.
- 8.4 Recognise the differences between Structured, Unstructured and Semi-structured data, as well as the opportunities surrounding Linked-Data, Semantic Technologies and the Internet of Things.
- 8.5 Utilise tools to manipulate and visualise data, and appreciate the challenges and opportunities of using data-mining and visualisation technologies.
- 8.6 Critically assess different types of data analytics in the context of data-driven decision making, and apply cutting-edge technological tools to real-world data analytics problems

9. The intended generic learning outcomes.

On successfully completing the module students will be able to:

- 9.1 demonstrate the exercise of initiative and personal responsibility

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- 9.2 critically evaluate current research and advanced scholarship in the discipline
- 9.3 make decisions in complex and unpredictable situations and environments
- 9.4 communicate clearly, professionally and appropriately, using a range of formats

10. A synopsis of the curriculum

We are entering the era of automated data-driven decision-making, which includes three core activities:

1. data management;
2. extracting insight from data, and;
3. actioning decisions from those insights.

Popular terms such as Big Data, Data Science and Business Analytics are components of an overall data-driven strategy. Increasingly firms are using the data to develop new insights about their customers, processes and their behaviours. Some organisations are even innovating their whole business models, creating new services through the novel application of data. As data-driven strategies take hold, they will become an increasingly important point of competitive differentiation. This module will provide a broad understanding of Data Analytics, you will utilise cutting-edge tool that will emphasizes the importance of developing adequate business models providing appropriate incentives for private-sector actors to share and use data for the benefit of the individual, firm and society.

Overview of the curriculum:

- Data storage, security, processing, governance
- Big Data, Linked Data and the Semantic Web
- Structured, Unstructured, Semi-structured data
- DIKUW Pyramid
- Issues surrounding Public and Private Data
- Characteristics of useful Data
- Use of Statistical Analysis tools
- Data scraping, cleansing and de-duping
- Data Visualisation and Manipulation
- Descriptive, Predictive and Prescriptive analytics

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11. Reading List (Indicative list, current at time of publication. Reading lists will be published annually)

- Provost, Fawcett (2013), "Data Science for Business: What you need to know about data mining and data-analytic thinking", O Reilly Media
- Mason, Patil (2015), "Data Driven: Creating a Data Culture", O Reilly Media
- Dumbill, Steele (2015), "Understanding the Chief Data Officer" O Reilly Media
- Hastie, "The Elements of Statistical Learning: Data Mining, Inference, and Prediction (Hardcover)" Springer
- Foreman (2013), "Data Smart: Using Data Science to Transform Information into Insight", Wiley
- Schutt (2013), "Doing Data Science (Paperback)" Schroff

12. Learning and Teaching methods

For full details please see the teaching and learning strategy in the programme specification. Students can study this module in the interactive classes model or the mentored independent model. Those on the former will typically experience one lecture and one seminar each week.

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|---------------------------------|-----|
| <i>Scheduled Hours:</i> | 25 |
| <i>Placement Hours:</i> | 00 |
| <i>Independent Study Hours:</i> | 125 |
| <i>Total Study Hours:</i> | 150 |

13. Assessment methods.

This module will be assessed by:

- A 5,000 word consultancy style group project report (25% of overall grade)
- A 20 minute group oral assessment in the form of a client progress meeting, based on the group report in part 1 (25% of overall grade).
- Individual coursework of 4,500 words (50% of overall grade).

The maximum group size for the group report and oral assessment will be five people.

In order for a student to pass the module they must pass the individual coursework and they must also pass at least one of the group assessments (either the presentation or the report) and must achieve an overall mark of at least 50% for the module.

Other alternative forms of assessment may be developed for resits.

14. Map of Module Learning Outcomes (sections 8 & 9) to Learning and Teaching Methods (section 12) and methods of Assessment (section 13)

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| Module learning outcome | | 8.1 | 8.2 | 8.3 | 8.4 | 8.5 | 8.6 | 9.1 | 9.2 | 9.3 | 9.4 |
|-------------------------------------|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Learning/teaching method | Hours allocated | | | | | | | | | | |
| Private Study | 115 | | | | | | | X | X | X | X |
| Lectures | 10 | X | X | X | X | X | X | | X | X | X |
| Seminars | 15 | X | X | X | X | X | X | X | X | X | X |
| Assessment method | | | | | | | | | | | |
| Group presentation (20 mins) | | | | X | X | | | | | | X |
| Group report (5,000 words) | | | | X | X | | | X | | | X |
| Individual coursework (4,500 words) | | X | X | | | X | X | X | X | X | X |

15. **Pearson College London recognises and has embedded the expectations of current disability equality legislation, and supports students with a declared disability or special educational need in its teaching.**

Within this module we will make reasonable adjustments wherever necessary, including additional or substitute materials, teaching modes or assessment methods for students who have declared and discussed their learning support needs. Arrangements for students with declared disabilities will be made on an individual basis, in consultation with the College's Registry which oversees disability/dyslexia student support, and specialist support will be provided where needed.

16. **Campus(es) or Centre(s) where module will be delivered:**

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Pearson College London

If the module is part of a programme in a Partner College or Validated Institution, please complete sections 17 and 18. If the module is not part of a programme in a Partner College or Validated Institution these sections can be deleted.

17. Partner College/Validated Institution:

Pearson College London

18. University School responsible for the programme:

Kent Business School

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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.

| 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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