



MSc Business Analytics – dissertation projects

We are looking for projects for our Masters in Business Analytics. The Business Analytics MSc has been ranked 9th in the world in the latest QS Global Business Masters ranking, after only one year of operation.

The programme is designed to train analysts capable of taking on complex challenges, and getting them industry-ready. The programme prepares students not only to be able to analyse and digest data available, but also to translate this into effective decision-making. All students carry out a research-based dissertation projects between April and August. One of the key elements of the programme is engagement with businesses. Students gain further hands-on and practical experience when applying their knowledge to industry projects in different business settings. A company-sponsored dissertation (CSD) involves a student carrying out an authoritative piece of work on a business analytics issue identified by a project client. The work will typically take an in-depth look into a defined research area and result in a substantial report containing extensive research, rigorous analysis and practical conclusions.

Students need to confirm their dissertation choices by mid-February. Companies are encouraged to submit project ideas by 26th January.

Benefits for Your Business

- Access specialised business thinking to undertake a piece of research or analysis that you may not have the resources to tackle in-house
- A dedicated piece of work for your business completed by a student approaching the end of an intensive Masters programme
- Receive a rigorous report setting out research, analysis and recommendations

All business projects have confidentiality agreements in place signed by the student, academic supervisor, and the company. Any data provided by the company is stored securely. There is flexibility in methods and tools used for the dissertation projects.

We are particularly interested in dissertation topics in optimisation or data science. Examples include:

Optimization

- Optimisation, Simulation or Simulation-Optimisation techniques, applied to airport operations and infrastructure
- Resilience Measurement and Optimisation (any methodology), with applications to the design and management of critical infrastructure
- Optimization for robust resource allocation
- Stochastic optimization of supply chains under disruptions

- Routing and Logistics optimization
- Scheduling, rescheduling, production planning and control
- Reverse logistics

Data Science

- Predictive analytics with machine learning
- Business process management/analysis/mining
- Sequence mining
- Customer churn/retention/cross-sell/profitability prediction
- Social media prediction
- Credit scoring or bankruptcy prediction
- Price competition
- Industrial microstructure

MSc Business Analytics students complete the following courses:

Compulsory Courses September December:

[Business Analytics with Heuristics](#)

[Predictive Analytics and Modelling of Data](#)

[Prescriptive Analytics with Mathematical Programming](#)

[Principles of Data Analytics](#)

Optional Courses January – April:

[Business Analytics with Simulation](#)

[Industrial Analytics](#)

[Media and Web Analytics](#)

[Project Management in Business Analysis](#)

[Supply Chain Analytics with Games](#)

Software packages/technical skills included in the above courses: Matlab, R, Python/OTree, and GAMS, Discrete Event Simulation using the Rockwell Arena, Agent Based Simulation in the Anylogic software, external libraries for forecasting, data mining, text mining, web analysis, deep learning, sentiment analysis, and recommender systems.

To discuss your project idea or for any questions please contact: ksenia.siedlecka@ei.ed.ac.uk