Masters Programmes in Management Science

Student Projects
Does your organisation have a business problem to solve this summer?

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Projects are carried out by students for organisations in the private and public sectors, and are acknowledged by students and staff to be the most valuable part of the course.

Students all have good first degrees in a discipline with significant quantitative material and have been following a variety of courses at Lancaster covering analytic techniques, operational research, statistics, computing skills, marketing analytics, including credit and risk applications, and logistic and supply chain analysis and applications.

Projects take place over three months in the summer and usually take the form of a consultancy-style project either directly for senior management or in co-operation with in-house professionals.

**PROJECT EXPERIENCES SPAN:**
- Problem recognition
- Structuring and formulation
- Analysis of data
- Model building
- Communicating results via presentations and report writing

**CORE SKILLS:**
- Consultancy Skills
- Communication Skills
- Spreadsheet Modelling
- Statistical Analysis
- Problem Structuring
- Forecasting
- Simulation
- Optimisation
- Process improvement
- Capacity and inventory management
- Supply relationships
- Information Systems
- Systems Methodologies
- Data Mining

**QUESTIONS ANSWERED:**

- **What is the basic proposition?**
  - A Management Science MSc student will work on a business or operational issue under the supervision and guidance of a member of the Department of Management Science (from within the Lancaster University Management School).
  - The sponsor organisation agrees the project specification, terms of reference and deliverables in conjunction with the supervisor, and provides the student with relevant support.

- **What’s in it for you?**
  - Focussed, skilled and methodical approach to a business or operational issue with minimal disruption to ‘business as usual’.
  - Maintain contact with the Management School.
  - Knowledge and development
  - Recruitment

- **What do you have to do?**
  - Identify the issue/topic to be developed.
  - Support and encourage the students’ integration into the organisation giving access to contacts and facilities.

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The summer project was the most important feature of the course for me. Not only did I use the skills acquired through the course on my project, but I also obtained extremely valuable experience working in an international company – Shell.

**KAROLINA KRZEMIENIEWSKA**
MSc LOGISTICS & SUPPLY CHAIN MANAGEMENT

“I did my summer project and dissertation with the Capital Team in the Decision Science Department at Barclaycard. The project was both challenging and intensive, but a very rewarding experience.”

**SUYN GUAN,**
MSc MANAGEMENT SCIENCE & MARKETING ANALYTICS

Lancaster University Management School

Accredited by Association of MBAs
EQUIS
AACSB
How much does it cost?

- Fixed fee £2,900 + VAT (£2,200 + VAT per student if more than one student).

- Travel and out-of-pocket accommodation costs.
  - These are costs beyond the equivalent Lancaster based living costs.
  - A budget can be agreed

When does it happen?

- March-April
  - Confirmation of participation

- Mid-May to mid/late August
  - Student working on project. Based either ‘in-house’ or at Lancaster.
  - The supervisor will be in regular contact with the student and will also visit the organisation during the project.

- Mid/late August to mid-September
  - The student is based in Lancaster and completes a client focused project report, which will be made available to the client, and an academic dissertation.

Recent Examples of the Many Projects Carried Out Each Year

**National Health Service / PCTs**
- Reducing the response time for cervical smear tests
- Planning emergency admissions at a healthcare trust
- Coordinating staff absences at a radiology department
- Improving inventory control at a large hospital
- Cost-effectiveness of treatments for type 2 diabetes mellitus

**Manufacturing**
- The use of cognitive mapping in the context of risk management
- Developing tools for a planning department
- Estimating staffing effects on major projects using system dynamics
- Reducing waste at a bakery

**Business Services**
- Call centre demand forecasting for Centrica and Barclaycard
- Improving the utilization of relief workers at a security company

**Government Agencies**
- Forecasting demand for slow moving inventory in the RAF
- Forecasting incapacity benefit

**Financial Services**
- Investigation into the price sensitivity of insurance premiums
- Credit limit management strategies at a major bank

**Retail/Consumer Sales**
- Improving forecasting at major music retailer
- The effects of weather on home beer sales
- Targeting of Christmas mail order catalogues
- Predicting goods lost in transit (GLID) for goods deliveries
- Optimizing debt collections for an outbound call centre
- Analysing consumer behaviour in omni-channel retailing
- Promotional modelling for McBrides and Wilkinson’s

**Transport and Logistics**
- Examining the impact of speed on road safety
- Logistics Modelling for food companies
- Implementing inventory policies for a production plant

QUESTIONS ANSWERED:

**During the summer project I worked with Advancing Quality Alliance, modelling the progression and treatment of the lung disease COPD. This required the use of the problem structuring, computer simulation, spreadsheet modelling and data mining techniques that I had learnt on the course.**

JAMES EDWARDS, MSc OPERATIONAL RESEARCH & MANAGEMENT SCIENCE
“This was Risk Solutions first experience of sponsoring a student’s MSc dissertation. The project was extremely challenging and difficult. I was very impressed by the student’s ability to get up to speed on the issues and her ability to apply her research in related areas to the problem in question.” Risk Solutions, 2013

“A wide range of research was undertaken to investigate the most appropriate method for the modelling infrastructure and process. Conceptual designs of the model were impressive; exceeding Dstl’s expectations. The work that the student has produced has provided the Dstl team with a number of potential solutions for developing future modelling approaches, but more importantly provided the team with a rigorous assessment in support of the providing a way ahead for the MEDEVAC capability.” Dstl, 2013

“The student’s attention to detail and ability to analyse complex data and processes and formulate coherent strategies was excellent. She was also able to work methodically through a project, identify improvement opportunities and present them in a clear and enthusiastic manner.” United Utilities, 2013

“Population Matters is very grateful for the student’s commitment. Once the report is graded and released for publication, barring unexpected mishaps we shall circulate it to the members of the European Population Alliance, and send it to the European Commission.” Population Matters, 2013

“The student was an excellent addition to the team and delivered a project that we can take forward and will benefit the business in an ever growing environment.” ShopDirect Group, 2013

For further information, please contact:

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