

# Units in Data Analytics (YEAR 2)

*Offered by the department of Social Statistics.*



The University of Manchester

School of Social Sciences

## Why take our units?

The world needs critical data consumers and producers now more than ever. The department of Social Statistics offers units that give you the opportunity to develop data analytic and statistical skills and gain hands on experience in analysing data with a variety of statistical software. Whatever your degree subject, whatever your career ambitions, acquiring critical data skills will make you a highly valued prospective employee upon graduating. Our units emphasise the application of statistics and data analytics methods to real world problems, making them relevant and exciting as well as useful. We offer options that will suit a range of needs and previous experience. Whether you are a student looking for more advanced training in data analytics or statistics or someone who did not have a positive experience of maths at school and is looking for a more basic introduction, there is something for you

## Units in Data Analytics offered by the Department of Social Statistics in Year 2.

### **SOST20031 Market Research (10 credits)**

The aim of this course is to offer a working knowledge of basic techniques used in market research. The course introduces you to a range of secondary data sources used for describing and understanding UK markets. It also trains you in how to plan the collection of primary data (including sampling, designing questionnaires, and conducting focus groups). By the end of the course you will be able to implement a simple qualitative methodology (focus groups), and design a simple market research process.

### **SOST20131/30031 Answering Research Questions Using Statistical Models (20 credits)**

This course introduces the concepts, theory and application of two important statistical modelling techniques in social science: multiple regression and logistic regression. It is a course which combines theory with practical application. The course includes training in the use of statistical software to carry out such analyses on survey data and considers issues relating to the substantive interpretation of the results, drawing on examples of the use of linear and logistic regression in the literature

### **SOST10142/SOST20142 Applied Statistics.**

This is a practical course where students will learn how to prepare and analyse real world data using the popular statistical software “R”. After covering some of the essential statistical techniques, you will learn to implement increasingly powerful and advanced models, ranging from regression all the way to generalized linear models.

### **SOST20022 Essentials of Survey Design & Analysis (20 credits)**

The course introduces the essential methods for the design and analysis of surveys, covering survey planning, survey management, and sampling designs. Students learn how to adapt standard statistical methods to take into account the survey design and increases the representativity of statistical analyses. The course is delivered as a combination of lectures, discussion-based seminars and computer lab sessions, and students use data and from a range of UK and international social sciences surveys.

### **SOST20012 The Survey Method in Social Research (20 credits; Only available to students in Sociology programmes)**

The course provides an introduction to the theory and practice of quantitative survey research. We start by reviewing the many ways surveys are used in social research. We explore the vast range of rich and accessible survey data and the opportunities it presents for final year dissertations. We move on to look at how to design and implement a survey, including questionnaires, sampling and data collection. Finally we look at the ways we analyse survey data, with practical training using the software SPSS and a range of real world social datasets.

# New degree pathways in data analytics

The Department of Social Statistics and the School of Social Sciences now offer a range of **joint degree pathways** that allow students to combine the study of Data Analytics with a range of social science subjects including Economics, Politics, Sociology, Criminology Philosophy and Social Anthropology.

**Why a joint pathway with data analytics?** Our Data Analytics pathways are designed to emphasise the application of methods to real world issues and problems. By combining study of a social science subject like Politics or Sociology alongside training in data analytics you develop not only a theoretical understanding of your subject but the skills to explore the topics and questions that interest you with real data. It is a combination that will help you to understand your subject better as well as enabling you to conduct your own research more effectively in projects and dissertations.

## Our Pathways

### BA Economics (BAEcon) and Social Statistics\*

*\*to be restructured and renamed 'and **Data Analytics**' from 2021*

*Students take the following units in data analytics alongside units in Economics*

Year 1	SOST10142 Applied Statistics
Year 2	SOST20022 Essentials of Survey Design SOST20131 Answering Research Questions Using Statistical Models
Year 3	SOST30062 Data Science Modelling SOST30172 Quantitative Evaluation of Policies, Interventions and Experiments <i>and at least one from:</i> SOST30022 Advanced Social Networks Analysis SOST30012 Theory & Method in Demography

### BA Social Sciences (BASS) Subject area\*\* and Quantitative Methods\*

*\*to be restructured and renamed 'and **Data Analytics**' from 2021*

*\*\*choose from Politics, Sociology, Criminology Philosophy and Soc Anthropology*

*Students take the following units in data analytics alongside units in their other subject*

Year 1	SOST10021 Measuring Inequalities
Year 2	SOST20022 Essentials of Survey Design SOST20142 Applied Statistics
Year 3	SOST30031 Answering Research Questions Using Statistical Models <i>and at least one from</i> SOST30062 Data Science Modelling SOST30172 Quantitative Evaluation of Policies, Interventions and Experiments SOST30022 Advanced Social Networks Analysis SOST30012 Theory & Method in Demography

### What do our students say?

*'I never thought maths was my strong suit but the BASS degree enabled me to blend statistics with sociology. I did a quantitative dissertation, on young people's sleep patterns, and I now work as an employment and skills data analyst in the Greater Manchester Combined Authority. My degree opened career options to me I never thought I'd have.'*

*'My internship with the Home Office helped me meet social researchers and data analysts and understand what those roles are, and how I could get into those jobs as a graduate. It's given me a lot more confidence career-wise'*

**Internships:** We have a strong track record in providing high quality paid internships with a wide range of prestigious organisations (from small local charities to government departments). These give students the opportunity to apply and further develop their data skills in a real-world data-driven research project, and develop professional networks.

**Data Analytics Student Network:** Involving all students on our pathways, the network will connect you to the data analytics community at the university and the many organisations we work with. It will offer opportunities to get involved and learn more about the ways you might apply your skills and interests in study and future careers

### More information? Contact..

Mark Brown (UG Director) [mark.brown@manchester.ac.uk](mailto:mark.brown@manchester.ac.uk)

Jackie Carter (BASS Data Analytics Pathway Director and Internships lead) [Jackie.carter@manchester.ac.uk](mailto:Jackie.carter@manchester.ac.uk)

Eduardo Fe (BAEcon Data Analytics Pathway Director) [eduardo.fe@manchester.ac.uk](mailto:eduardo.fe@manchester.ac.uk)