1. **Title of the module**

MAST5953 (MA5953) Creating Your Own Data

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

School of Mathematics, Statistics and Actuarial Science*.*

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

Level 5

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 and Spring

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

Pre-requisite: None

Co-requisite: None

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

\*Standard Programme Title\* with a Year in Data Analytics

1. **The intended subject specific learning outcomes.  
   On successfully completing the module students will be able to:**
2. demonstrate knowledge and critical understanding of how quantitative research informs our understanding;
3. demonstrate a systematic understanding of the core problems and concepts of generating data;
4. critically evaluate the different techniques covered in the module, and select the appropriate method based on the research question under study;
5. demonstrate an ability to store and manage datasets as part of a larger project workflow;
6. demonstrate an ability to carry out their own (small) surveys (either as observational method or for experiments), but also understand the limitations and problems of this approach;
7. demonstrate an ability to carry out their own (small) web scraping projects, but also understand the limitations and problems of this approach;
8. communicate the ideas, and problems of the approaches used to both specialist and non-specialist audiences, and use the generated data in their own data analysis.
9. **The intended generic learning outcomes.  
   On successfully completing the module students will be able to:**
10. make effective use of IT facilities for solving problems;
11. communicate straightforward arguments and conclusions reasonably accurately and clearly;
12. manage their own learning and development.
13. **A synopsis of the curriculum**

This module builds on already established statistical knowledge. It aims to further develop key statistical skills and the ability to apply these in conducting research. Learning will be oriented towards:

1. Assessing the strengths and limitations of various data generating techniques, including
   * Survey design
   * Carrying out small scale surveys for practice
   * Web scraping
2. how to use statistical software appropriately to generate data to answer research questions
3. how to use and contextualise the generated data to test broader scientific theories, and to communicate the findings to academic and lay audiences.
4. storage and management of different types of data projects.
5. **Reading list (Indicative list, current at time of publication. Reading lists will be published annually)**

Munzert, S., Rubba, C., Meißner, P. and Nyhuis, D. 2014. Automated data collection with R: A practical guide to web scraping and text mining. John Wiley & Sons.

Zhao Y. 2012. R and Data Mining. Examples and Case Studies. Elsevier Academic Press, Waltham, MA.

Tumasjan A, Sprenger TO, Sandner PG, and Welpe IM. 2011. Election forecasts with twitter. How 140 characters reflect the political landscape. Social Science Computer Review 29(4), 402–418.

Rea, L.M. and Parker, R.A., 2014. Designing and conducting survey research: A comprehensive guide. John Wiley & Sons.

1. **Learning and teaching methods**

22 Contact hours   
128 Hours of private study  
Total hours for the module: 150

1. **Assessment methods**

13.1 Main assessment methods

Class participation (10%)

Survey design task: 1,000 words (45%)

Web-scraping task: 1,000 words (45%)

13.2 Re-assessment methods

100% coursework

1. ***Map of module learning outcomes (sections 8 & 9) to learning and teaching methods (section12) 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* | *8.7* | *9.1* | *9.2* | *9.3* |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |  |
| **Private Study** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |
| Lecture | **X** | **X** |  |  | **X** | **X** | **X** |  | **X** |  |
| Seminar | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |  |
| Workshop | **X** | **X** | **X** | **X** | **X** | **X** |  | **X** |  |  |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |
| Participation | **X** | **X** | **X** |  |  |  | **X** | **X** | **X** | **X** |
| Survey design task | **X** | **X** | **X** | **X** | **X** |  | **X** | **X** | **X** | **X** |
| Web-scraping task | **X** | **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**

Data analysis is an international language using internationally recognised techniques developed and refined by statisticians and analysts across the globe. Mastery of the subject-specific learning outcomes will equip students to apply the theories and techniques of this module in a wide range of international contexts. The module team is drawn from the School of Mathematics, Statistics and Actuarial Science/School of Social Policy, Sociology and Social Research, which includes many members of staff with international experience of teaching and research collaboration.

In compiling the reading list, consideration has been given to the range of texts that are available internationally and a selection of texts has been identified to complement the delivery of the material.

Examples with an international dimension are included in the module where appropriate.

The support SMSAS/SSPSSR provides to its students is also internationally attuned given our international student body.

**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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