COURSE SPECIFICATION DOCUMENT

Academic School / Department:	Science, Innovation & Technology
Programme:	School of Applied Liberal Arts
***FHEQ* Level:**	4
Course Title:	Data Literacy
Course Code:	DATA 4301
Total Hours:	160
Timetabled Hours:	45
Guided Learning Hours:	15
Independent Learning Hours:	100
Credits:	16 UK CATS credits 8 ECTS credits 4 US credits

Course Description:

This course Introduces the concept of data analytic cycles and their role in data analysis. Users will learn why data is important and explore how data is quantified to understand trends and patterns of data structure. They will understand types of data and include relevant statistical metrics and parameters used to describe data patterns and help to explain societal patterns and measure behaviour. Students will use primary tools for analysing exploring data analysis, learn about and the statistical processes underpinning this analysis, this will encourage wide-ranging debates about the ethical, sustainability and social implications of data analysis.

Prerequisites:

None

Aims and Objectives:

This course introduces students to the techniques, tools and debates around the field of data analytics and how it can be used to analyse data. It outlines the role of the data analyst, explore skills that students need for using and evaluating the plethora of available tools, and outlines the key theories related to the ethical application of such technologies.

Programme Outcomes:

L4 AI, BI, CI, DI.

A detailed list of the programme outcomes is found in the Programme Specification. This is maintained by Registry and located at: https://www.richmond.ac.uk/programme-and-course-specifications/

Learning Outcomes:

By the end of this course, successful students should be able to:

1. Demonstrate a broad understanding of key concepts, issues, ethics and authors in the area of data analysis, particularly as it relates to identities, relationships, social practices and institutions.
2. Demonstrate the ability to use relevant tools and frameworks for the analysis of datasets, including foundational understanding of probability and statistics
3. Process collected data using appropriate methods (correlation, linear regression etc.) and derive insights
4. Demonstrate fluency in the application of this data and how it can refine content generated in future

Indicative Content:

- Theories and approaches to data collection
- Understanding metrics and parameters
- Spreadsheets and databases
- Concepts of Probability and Statistics
- Visualising and presentation of data
- Common probability distributions
- An introduction to web scraping and coding
- Politics and Ethics of big data analysis
- The Analytic cycle and Data Analysis

Assessment:

This course conforms to the University Assessment Norms approved at Academic Board and located at: https://www.richmond.ac.uk/university-policies/

Teaching Methodology:

This course will use interactive lectures, workshops, and group work in the class and online.

Indicative Text(s):

EMC Education Services (2015) *Data Science and Big Data Analytics: Discovering, Analyzing, Visualizing and Presenting Data*. New York: John Wiley & Sons.

Eremenko, K. (2018) *Confident Data Skills: Master the Fundamentals of Working with Data.* London: Kogan Page.

Eubanks, V. (2018) *Automating Inequality*. New York: St. Martin's Press.

Linoff, G. (2016) *Data Analysis Using SQL and Excel*. 2nd edn. New York: John Wiley & Sons.

Mayer-Schönberger, V. and Cukier, K. (2017) *Big data: the essential guide to work, life and learning in the age of insight*. London: John Murray.

Nussbaumer Knaflic, C. (2015) *Storytelling with Data: A Data Visualization Guide for Business Professionals*. New York: John Wiley & Sons

Russell, M. and Klassen M. (2019) *Mining the Social Web*. USA: O'Reilly.

Spiegelhalter, D. (2019) *The Art of Statistics: Learning from Data*. London: Pelican Books.

See syllabus for complete reading list.

Change Log for this CSD:

Nature of Change	Date Approved & Approval Body (School or AB)	Change Actioned by Registry Services
New course	Dec 2024	