Module Details for MLA

**Current Record**

Module Details

**Module Code**  ST3011

**Module Name**  MLA

**Module Short Title**  Multivariate Linear Analysis (MLA)

**ECTS weighting**  5

**Semester/term taught**  TBC

**Contact Hours**  
*Lecture hours: 22, Lab hours: 11, Tutorial hours: 0*

*Total hours: 33*

**Module Personnel**  
*Dr. Brett Houlding*  [https://www.scss.tcd.ie/Brett.Houlding/Index/Home.html](https://www.scss.tcd.ie/Brett.Houlding/Index/Home.html)

**Learning Outcomes**  Multivariate Analysis:
When students have successfully completed Multivariate Analysis they should be able to:

- Define and describe various classical dimension reduction techniques for multivariate data.
- Implement clustering and/or classification algorithms and assess and compare the results.
- Interpret output of data analysis performed by a computer statistics package.

Module
Learning Aims Multivariate Analysis:

Classical multivariate techniques of discriminant analysis, principal component analysis, clustering and logistic regression are examined. There is a strong emphasis on the use and interpretation of these techniques. More modern techniques, some of which address the same issues, are covered in the SS module Data Mining.

Module Content
Multivariate Analysis
- Principal Components Analysis
- Multidimensional Scaling
- Factor Analysis
- Hierarchical and Iterative Clustering
- K-Nearest Neighbours
- Discriminant Analysis
- Logistic Regression

Recommended Reading List
- Multivariate Analysis:
  - Introduction to Multivariate Analysis, C. Chatfield and A. Collins, Chapman & Hall

Module Pre Requisite
Module Co
Requisite

Assessment
Details  Exam: 80%  (2 hours)

Coursework: 20%.

Module Website
https://www.scss.tcd.ie/Brett.Houlding/Index/ST3011.html

Module approval date

Approved By

Academic Start Year

Academic Year of Data  2015/16