

Statistics and Data Analysis

Module Code:	COS5026-B
Academic Year:	2018-19
Credit Rating:	20
School:	Department of Computer Science
Subject Area:	Computer Science
FHEQ Level:	FHEQ Level 5
Module Leader:	Dr Ci Lei

Additional Tutors:

Pre-requisites:

Co-requisites:

Contact Hours

Type	Hours
Lectures	12
Laboratory	24
Directed Study	164

Availability Periods

Occurrence	Location/Period
BDA	University of Bradford / Semester 2 (Feb - May)

Module Aims

To encourage the acquisition of advanced skills of statistical data analysis and computational sciences. To introduce concepts and methodology behind statistical tests of significance and their application to data analysis.

Outline Syllabus

Summary and descriptive statistics.
Randomisation and sampling.

Statistical hypothesis tests.
Analysis of Variance.
Non-parametric test procedures.
Chi-squared goodness-of-fit tests

Module Learning Outcomes

On successful completion of this module, students will be able to...

- 1 formulate suitable statistical hypotheses concerning real-life phenomena, select and correctly apply an appropriate test procedure, and draw relevant conclusions.
- 2 appreciate the need to plan an experiment and to consider well in advance an appropriate method of analysis and interpretation for the results.
- 3 realise that science has a quantitative and an objective base.

Learning, Teaching and Assessment Strategy

A number of lectures, laboratory practices will provide essential theoretical knowledge, and practical skill. Practical examples will be provided to aid the learning. Discussion groups during laboratory sessions on each of the topics will enable critical engagement and analysis and application of the knowledge using the computer package of Matlab and/or R.

Mode of Assessment

Type	Method	Description	Length	Weighting	Final Assess'
Referral	Examination - closed book	Supplementary Examination - closed book 2h 30 min	2.5 hours	100%	No
Summative	Examination - closed book	Examination - closed book 2 hours	2 hours	70%	No
Summative	Coursework	Practical implementation of a programme using data analysis tools and techniques		30%	Yes

Legacy Code (if applicable)

Reading List

To view Reading List, please go to [rebus:list](#).