

Module code

SEM-1402

Type of module

Undergraduate: Mathematical Sciences – Elective

Basic Statistics



Modular credits

4

Total student
engagement

56 hours

Prerequisite

None

Anti-requisite

None

Aims

To develop students' ability to summarise, analyse, interpret, and communicate data using fundamental statistical techniques and appropriate digital tools, with emphasis on practical application and evidence-based reasoning.

Module learning outcomes (MLO)

On successful completion of this module, a student will be expected to be able to:

MLO 1

Analyse data using summary statistics and basic inference for categorical data.

MLO 2

Model and interpret linear relationships with correlation and simple regression.

MLO 3

Interpret and communicate evidence-based conclusions from statistical analyses.

MLO 4

Evaluate the suitability of statistical methods for different types of data.

MLO 5

Apply statistical tools to real-world data sets and justify the choice of analysis.

Module contents

Data visualisation and interpretation of charts and tables

Descriptive Statistics and measures of central tendency

Measures of spread and variability in data

Properties and applications of the Normal distribution

Using the standard normal table for probability calculation

Assessing normality in sample data

Analysis of categorical and contingency table data

Chi-squared tests of independence

Correlation and simple linear regression analysis

Interpretation and significance testing of regression coefficients

Group comparison using statistical hypothesis tests

Assessment

60%

Examination

40%

Coursework

Examination
60%

Class tests
30%

10%

■ Examination — 60% ■ Class tests — 30% ■ Tutorial participation — 10%

Formative assessment

Weekly discussion
and feedback

Summative assessment

COMPONENT	WEIGHTING
Examination	60%
Coursework	40%
Individual	40%
Class tests	30%
Tutorial participation	10%

Graduate attributes and skills

University learning objectives (ULO) addressed

B Balanced & holistic individuals	E Ethical leaders	S Sustainable thinkers	T Transdisciplinary practitioners	A Adaptable & resilient lifelong learners	R Responsible global citizens	I Innovative problem- solvers
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B, T, A, I

Sustainability concept addressed

4 SDG 4 Quality Education

Digital skills/software used (not limited to)

- Learning management and collaboration platforms (e.g. CANVAS, Microsoft Teams)
- Spreadsheet and data analysis software (e.g. Microsoft Excel)

Micro-credentialling option

No

Stackable towards GenBESTARI Undergraduate Degree Programme or other relevant Lifelong Learning Programmes

No

Document details

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