

Introducing Statistics

Unit Reference Number	J/618/6105
Unit Title	Introducing Statistics
Unit Level	3
Number of Credits	10
Total Qualification Time (TQT)	100
Guided Learning Hours (GLH)	40
Mandatory / Optional	Mandatory
Sector Subject Area (SSA)	14.1 Foundations for learning and life
Unit Grading Structure	Pass / Fail

Unit Aims

This unit aims to introduce basic statistical concepts and fundamentals of statistical analysis, as well as build confidence in applying mathematical and statistical thinking and reasoning in a range of new and unfamiliar contexts to solve real-life problems.

Learning Outcomes, Assessment Criteria and Indicative Content

Learning Outcomes – The learner will:	Assessment Criteria – The learner can:	Indicative contents
1. Understand the underpinning concepts relating to the analysis of statistics.	1.1 Discuss language and symbols associated with set theory in the context of probability. 1.2 Represent and interpret probabilities using tree diagrams, Venn diagrams and two-way tables.	<ul style="list-style-type: none"> Statistical vocabulary Definitions and basic concepts Tree diagrams, Venn diagrams and Two-way tables.
2. Understand a range of data types and their representation.	2.1 Explain characteristics of different data types. Interpret sample data in terms of possible properties of the parent population. 2.2 Discuss variability of data and the main features of a distribution.	<ul style="list-style-type: none"> Primary, secondary; categorical, numerical; continuous, discrete. Sample mean as an estimate of population mean. Includes understanding that the average from a

		sample will generally be different from the population average. The main features include the central tendency (average) and spread.
3. Be able to calculate and interpret statistical diagrams and measures.	<p>3.1 Create and discuss a range of statistical diagrams appropriate to a variety of types of data.</p> <p>3.2 Calculate and interpret appropriate measures of central tendency.</p> <p>3.3 Calculate and interpret appropriate measures of spread.</p>	<ul style="list-style-type: none"> Diagrams include: box and whisker plots, dot plots, scatter diagrams, bar charts, pie charts, histograms, frequency charts, cumulative frequency diagrams. Mean, median, mode. Includes grouped data and calculation or estimation for data in a statistical diagram. Calculate range, inter-quartile range, semi inter-quartile range. Includes grouped data and calculation or estimation for data in a statistical diagram. <p>*Learners are expected to calculate standard deviation.</p>

Assessment

To achieve a 'pass' for this unit, learners must provide evidence to demonstrate that they have fulfilled all the learning outcomes and meet the standards specified by all assessment criteria.

Learning Outcomes to be met	Assessment criteria to be covered	Type of assessment
All 1 to 3	All AC under LO 1 to 3	Coursework – The assessment focuses on breadth, challenge and application. Learners will draw on and extend the skills they have learned during the teaching of the unit.

Indicative Reading list

- Johnson, R. & Bhattacharyya, G. (2014) *Statistics: principles and methods*. 7th ed. John Wiley
- Rowntree, D. (2018) *Statistics without Tears: an introduction for non-mathematicians*. Penguin