

Qualification Unit

This unit forms part of a regulated qualification.

Unit Title: Research Methods

Unit Reference Number: K/651/9000

Level: Six (6)

Credit Value: 10

Minimum Guided Learning Hours: 30

The primary aims of this unit are:

- to understand the different research designs and different types of data that can be collected
- to understand the use of descriptive statistics
- to identify and perform suitable simple inferential statistical tests
- to interpret statistical findings and relate this back to the research hypothesis
- to consider ethical implications in research

| Learning Outcome (The Learner will): | Assessment Criterion (The Learner can): |
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| 1. Be able to select and apply appropriate statistical analysis for a given research question and study design | 1.1 Present appropriate descriptive statistics for a given data set |
| | 1.2 Assess the distribution of the data and what deviation from a normal distribution means for subsequent analysis |
| | 1.3 Conduct simple inferential statistics of a given data set |
| | 1.4 Determine which statistical tests should be used for a given data set |
| | 1.5 Select ways in which results can be displayed using appropriate graphs and figures |
| 2. Understand ethical implications in the study design and research | 2.1 Discuss ethical issues which may affect a particular research question |

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| question | 2.2 Explain the process of an ethics application |
| | 2.3 Assess the importance of sample size calculation when planning a study |

| Indicative Content | |
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| LO1 | <p>AC 1.1 Could include mean, standard deviation, mode, median, quartiles, interquartile range, frequency as appropriate.</p> <p>AC 1.2 Could include performing a Shapiro-Wilk test to assess data distribution; interpret the output of the test.</p> <p>AC 1.3 Could include paired and independent <i>t</i>-tests, correlations, Analysis of Variance. Non-parametric tests including Mann-Whitney U test, Kruskal Wallis test. Linear regression. Use of computer software to perform inferential statistical tests.</p> <p>AC 1.4 Could include the selection and use of appropriate statistical tests according to the given data set.</p> <p>AC 1.5 Could include effective ways to arrange and visually present data in a logical and coherent manner, as appropriate to the given data set.</p> |
| LO2 | <p>AC 2.1 Could include invasive treatments or measurements, other forms of suffering, withholding treatments, sensitive issues, risk assessment, anonymisation, data protection.</p> <p>AC 2.2 Could include considerations and processes typically involved in the submission of an ethics application involving equine and human participants.</p> <p>AC 2.3 Could include implications and limitations associated with sample size in scientific research.</p> |