Overview

Purpose
To provide participants with an understanding of the varying methods of analysis to calculate differences between groups as well as differences within groups. The focus of this module will be on data associated with repeated measures (such as longitudinal surveys or medical experiments) as well as univariate time-series data (such as police offence data or sales data). This module will demonstrate how to apply different methods of analysis to the same data and how to account for correlation of variance.

Learning objectives
On completing this module, participants will have an understanding of:

1. the different methods to analyse the same data source
2. the importance of accounting for correlation of variance (or serial correlation)
3. how to test for differences
4. how to visually display repeated measures and time series data
5. how to interpret results from these tests

Who should attend, and module pre-requisites
This module is designed for people who need to have an understanding of the statistical tests required to analyse data that has a degree of correlation (due to repeated measures). This module will be beneficial for those who need to analyse longitudinal survey data or repeated measures hospital data, as well as time series aggregate data.

Participants will need a sound understanding of quantitative data and a strong understanding of regression modelling technique (such as ordinary least squares, or logistic regression).

Topics covered
Session 1
a) Introduction
b) Demonstration of different data where auto-correlation of the data exists.
c) Demonstration of different methods to analysis the same data.
d) Visually presenting data

Session 2
e) Understanding results
f) Testing for differences within groups and between groups
g) Applying model diagnostics