



Introduction to Analysis of Variance: a Health Data Science training course

Course overview

In this workshop we introduce the issues and design concepts that need to be taken into consideration when planning a study using single, replicate or repeated test samples, or planning a simple dose-response study. The workshop will build on the standard hypothesis tests to consider situations where there are more than two comparator groups or more than one sample per subject.

Who should attend? Is it right for me?

This module is aimed at researchers in the laboratory and medical fields. It is suitable for those who have no previous experience of data analysis, as well as those seeking to refresh their skills. Understanding the assumptions and characteristics of statistical methods is important in order to obtain the correct analysis and biological interpretation of results.

What will delegates learn?

By the end of this course delegates will have an understanding of:

- Understand the Analysis of Variance (ANOVA) approach
- Be aware of the assumptions behind ANOVA
- Have an understanding of power and sample size calculation
- Be able to work with multiple comparisons
- Know how to choose the most appropriate methods of analysis.

What does the course cover?

- Introduction to one-way ANOVA
- Power and sample size in one-way ANOVA
- Non-parametric one-way ANOVA
- Dose-response analysis
- Two-way ANOVA
- Analysis of Covariance
- A practical session using standard statistical software will be included

To find out more

Contact Dr Steven Lane (slane@liverpool.ac.uk) in the Department of Health Data Science: Alternatively, visit the department's website at:

<https://www.liverpool.ac.uk/population-health/about/healthdatascience/coursesandworkshops/>