



Analysis of Variance: a CPD module

Course overview

Analysis of variance (ANOVA) extends hypothesis testing to studies involving comparisons between three or more groups. An example may be comparing the effect of different dosing levels of a drug. In other applications, as well as differences between interventions, the researcher may want to also ask is there a difference in response between males and females. The objectives of the course are to provide an introduction to ANOVA and the statistical methods used to analyse the data.

Who should attend? Is it right for me?

This course is suitable for those who have no previous experience of data analysis, as well as those seeking to build on previous knowledge and experience.

What is the course schedule?

This course runs online. The lecture videos will be available online and can be watched at any time. A suggested schedule is given in the table below, which highlights the live session provided to allow participants to ask questions.

What will delegates learn?

By the end of this course attendees will:

- Be able to use various statistical methods to summarise and analyse data collect to compare outcomes between three or more groups
- Have an appreciation of how to analyse their data and interpret their results
- Have an understanding of how to use statistical packages to analyse their data (no formal computer learning, but attendees are given example datasets and instructions to how to analyse the data)

What does the course cover?

- Introduction to analysis of variance.
- One and two-way between group comparisons.
- Analysis of covariance and the inclusion of confounding variables in the analysis.
- Models to account for data that is not normally distributed
- Factorial design





Timetable

Time	Session
9:30 - 10:30	Session 1: Introduction to ANOVA and one-way ANOVA (recorded video)
10:30 - 10:45	BREAK
10:45 - 11:45	Session 2: Two-way ANOVA (recorded video)
11:45 - 12:00	Break
12:00 - 12:30	Session 3: Factorial Design and other methods (recorded video)
12:30 - 13:30	Live Q&A – TEAMS link to be provided

To find out more

Contact Dr Steven Lane in the Department of Health Data Science: slane@liverpool.ac.uk.

Alternatively, visit the department's website at

<https://www.liverpool.ac.uk/population-health/about/health-data-science/courses-and-workshops/>.

