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Advanced Statistical Methods for Healthcare Research  
Information

**Length:** 2.0 Days  
**\_\_Ref:** 0G016G-X  
**Delivery method:** Classroom  
**Price:** EUR

Overview

The first part of the course focuses on the Analysis of Variance (ANOVA) techniques which allow you to test whether the means of several populations are the same. You will develop an understanding of when to apply the techniques, how to apply them and how to interpret the results. The second part of the course will build upon your knowledge of linear regression and will introduce you to logistic regression. We will include categorical predictors in regression models via dummy variables, discuss variable selection methods, model building philosophies and learn how to run and interpret logistic regression in IBM SPSS Statistics.

Public

Healthcare professionals who want to identify significant differences between two or more groups and who want to analyze binary outcome data using logistic regression methods.

Prerequisites

A good working knowledge of IBM SPSS Statistics Base and inferential statistics is required prior to attending this course. Attendance on the Statistical Methods for Healthcare Research course is strongly recommended.

Objective

Please refer to course overview for description information.

Topics

- Logic of testing for mean differences
- Comparing two groups: review of t-test
- Comparing more than two groups: ANOVA
- Examining the data
- Hypothesis testing and assumptions
- One-way Analysis of Variance (ANOVA)
- Multi-way univariate ANOVA
- Multi-way multivariate ANOVA (MANOVA)

- Nonparametric (distribution free) alternatives
- Post hoc testing and planned comparisons
- Graphing the results
- Review of multiple linear regression
- Influential points and multicollinearity
- Including categorical predictors in regression models via dummy variables
- Running logistic regression in IBM SPSS Statistics
- ROC curves
- Interpreting logistic regression output
- Repeated measures ANOVA