Learning Objectives per module

Part A: Introduction to statistics

WEEK 1

- **A1 Introduction to statistics using R, Stata & SPSS** (*prerequisites: no prior knowledge of statistics required)*
- **A2 Power & sample size calculations** (*prerequisites: module A1)*

Module	Lecture Title	Lecture Content	Online Practical Tutorial Title
A1	Introduction to statistics using R, Stata & SPSS	- Welcome to R, SPSS or Stata - Descriptive statistics - Statistical inference - Hypothesis testing I	PA1.1 Introduction to statistics
A2	Power & sample size calculations	- The concept of power - Calculations of power and sample size for different study designs	PA2.1 Power & sample size calculations

Part B: Analysis of continuous outcomes

WEEK 2

- **B1 Linear regression** (*prerequisites: module A1)*

Module	Lecture Title	Lecture Content	Practical Tutorial Title
B1	Linear regression	- Linear correlation - Simple linear regression - One-way ANOVA and overall F-tests - Multiple linear regression - F-tests for testing coefficients and comparing models	PB1. Linear regression

WEEK 3

- **B2 Hypothesis testing II** (*prerequisites: module A1)*
- **B3 Non-parametric measures** (*prerequisites: module A1)*

Module	Lecture Title	Lecture Content	Practical Tutorial Title

B2	Multiple comparisons and repeated measures	• ANCOVA, MANOVA, etc. • Paired t-tests • Repeated measures ANOVA	PB2. Hypothesis testing II
B3	Non-parametric measures	• When to use non-parametric methods • Mann-Witney U, Wilcoxon signed rank, Kruskal-Wallis, Friedman test, Spearman's rank order correlation • Non-parametric tests for repeated measures	PB3. Non-parametric measures

Part C: Analysis of binary and survival data

Week 4

- **C1 Binary data and logistics regression** (*prerequisites: module A1, B1*)
- **C2 Survival data** (*prerequisites: module A1, B1, C1*)

Module	Lecture Title	Lecture Content	Practical Tutorial Title
C1	Binary data and logistic regression	• Calculation of prevalence, risk, odds, rate • Calculation and interpretation of CI for risks, ratios and rates • Chi-square test; Fisher exact test • Logistic regression	PC1. Logistic regression
C2	Survival data	• Characteristics of survival and time-to-event data • Kaplan-Meier method and the log-rank test • Poisson regression • Cox proportional hazards regression	PC2. Survival data