elevate your health knowledge

Mixed Models

offered by the MSc Epidemiology Program
of the UMC Utrecht and Utrecht University

In the biosciences, response variables are often observed more than once per individual. This enables the researcher to study the development of the variable of interest within individuals, thereby eliminating the variation among individuals, and thus increasing the power of the design. However, since observations on the same individual are almost always correlated, special methods are needed to deal with this dependence.

Mixed models are one way of analyzing this kind of data. This statistical technique allows for the dependency of measurements in hierarchically structured data, and separately examines the effects of variables at different levels. An important part of the course will be about the use (and theory) of linear mixed effects models (LME's).

Starting with analysis of summary statistics on each individual's observations, this course will lead you to more advanced methods for analyzing multilevel and longitudinal data. Similarities between longitudinal data analysis and multilevel analysis will be clarified. The course will focus primarily on continuous outcome variables, but attention will also be paid to dichotomous and count data.

Learning objectives

By the end of this course, you should be able to:

- √ Understand the difference between fixed and random effects
- √ Know when to apply a mixed model in practice
- √ Perform mixed model analyses using statistical software (R or SPSS)
- √ Interpret the output of mixed model analyses in terms of the context of the research questions

For whom?

- √ Researchers
- √ Medical doctors
- √ PhD candidates

Facts

- √ 1,5 ECTS
- √ 3 weeks
- √ 28 Aug 2017 to 17 Sep 2017
- √ 14 hrs/week workload
- √ Online
- √ 785 Euros
- √ English
- √ Web lectures, exercises, group discussions

You may be also interested in

- √ Classical Methods in Data Analysis
- √ Modern Methods in Data Analysis

Utrecht University

UMC Utrecht

MSC EPIDEMIOLOGY

Visit our course page to find out more about this course.