Biometrics

August 2018 - January 2019

Health Academy

Radboudumc

Course information

Why take the Biometrics course?

Knowledge of the basics of biostatistics is essential for both the analysis of medical research data and for a critical appraisal of research articles. This postgraduate course is particularly aimed at those who have previously followed an introductory course in (bio)statistics and now intend to do research. This course aims to reintroduce the basics of biostatistics from an applied biomedical perspective, give a greater understanding of statistical concepts, and help researchers understand the most commonly used biostatistical methods, including when and when not to use them. We will cover statistical methods to adequately explore, describe, display and analyze data. The emphasis will be on understanding how to interpret statistical results and how observed effects in the sample can be generalized to the population.

Topics:

- Basic statistics:
  - Describing and displaying data
  - Distributions
  - Hypothesis testing
  - Estimation using confidence intervals
  - Interaction &Confounding
- Regression analysis
- Meta analysis
- Analysis of Variance (ANOVA)
- Analysis of Covariance (ANCOVA)
- Logistic regression analysis
- Linear Mixed Models for repeated measurements
- Missing value analysis
- Design of experiments
- Multi level models
- Survival analysis (Cox proportional hazards)

In addition, you will be given the opportunity to analyze your own data set with the help of an experienced biostatistician.

Aim of the course

The participant will:

- Get an overview of the most applied statistical methods used in biomedical research.
- Be able to communicate more efficiently with the biostatistician.
- Be able to use the basic statistical methods.

Course design

The course will begin on the 30th of August and will meet every Thursday afternoon starting at 1.30 pm - 04.30 pm. The course consists of 15 meetings and 2 sessions for the analysis of your own data set with the help of an experienced statistician. Every meeting consists of a lecture and a computer session. After every session suggestions for reading will be given. Examples from actual research will be used.

The program will follow the book 'Discovering Statistics using SPSS' by Andy Field (fourth edition, Sage Publications 2013). The costs of the book is included in the total course fee. You will receive the book and a syllabus on the first day of the course.

Prerequisites

Some familiarity with (bio)statistics, as usually results from the study of (Bio)Medical Sciences, Dentistry, Biology, Psychology, etc. is desirable. However, the course begins with a short refreshment of basic statistics.

Applied Medical Sciences Course line

The Biometrics course is part of the Applied Medical Scientific Research course line. The other course in this course line is SPSS, which takes place on the data 20th and the 27th of August 2018.

Teachers and preparation committee

Rana Dandis, MSc, *Phd student, Radboud university medical center*
Dr. Rogier Donders, *Biostatistician, Radboud university medical center*
Drs. Ton de Haan, *Biostatistician, Course Coordinator*
Radboud university medical center
Dr. Joanna in 't Hout, *Biostatistician, Radboud university medical center*
Dr. Nelly Peer, *Biostatistician, Radboud university medical center*
Dr. Steven Teerenstra, *Biostatistician, Radboud university medical center*
Marit Rensink, *Project Manager, Radboud university medical center*

Information

Location

The course will meet at Radboud university medical center, Nijmegen.

Certificate/accreditation

- You will be awarded a certificate upon completion of the course
- Assessment: written examination on the 17th of January 2019
- Accreditation has been requested at ABAN

Registration

- You can register and take care of your payment online at www.radboudumc.nl/biometrics
- The total course fee is € 1.245,-
- Registration will be limited to 30 participants
- You will receive more information about the location, within two weeks of the start of the course.

Contact

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