Bayesian Analyses Using SAS®

Kód kurzu: STBA42

The course focuses on Bayesian analyses using the PHREG, GENMOD, and MCMC procedures. The examples include logistic regression, Cox proportional hazards model, general linear mixed model, zero-inflated Poisson model, and data containing missing values. A Bayesian analysis of a crossover design and a meta-analysis are also shown.

Pobočka	Dnů	Cena kurzu	ITB

Uvedené ceny jsou bez DPH.

Termíny kurzu

Datum	Dnů	Cena kurzu	Typ výuky	Jazyk výuky	Lokalita

Uvedené ceny jsou bez DPH.

Pro koho je kurz určen

Biostatisticians, epidemiologists, and social scientists who are interested in the Bayesian analysis approach

Co vás naučíme

- Explain the concepts of Bayesian analysis
- Illustrate Bayesian analyses in PROC GENMOD, PROC PHREG, and PROC MCMC
- Incorporate prior distributions in a Bayesian analysis
- Illustrate a Bayesian analysis approach to a meta-analysis

Požadované vstupní znalosti

Before attending this course, you should:

- Be able to create SAS data sets and manipulate data. You can gain this experience from the SAS Programming 2: Data Manipulation Techniques course
- Have completed a statistics course such as the Statistics 1: Introduction to ANOVA, Regression, and Logistic Regression or Statistics 2: ANOVA and Regression course

Osnova kurzu

Introduction to Bayesian Analysis

- Introduce the basic concepts of Bayesian analysis
- Compute the diagnostic plots and diagnostic statistics for model assessment
- Discuss the advantages and disadvantages of Bayesian analysis
- Illustrate a Bayesian analysis in PROC GENMOD and PROC PHREG

Fitting Models with the MCMC Procedure

- Show the essential statements in PROC MCMC
- Show the supported distributions in PROC MCMC
- Fit a logistic regression model in PROC MCMC
- Fit a general linear mixed model in PROC MCMC
- Fit a zero-inflated Poisson model in PROC MCMC
- Incorporate missing values in PROC MCMC

Bayesian Approaches to Clinical Trials

- Use prior distributions in a Bayesian analysis
- Illustrate a Bayesian approach to clinical trials using PROC MCMC
- Illustrate the Bayesian approach to meta-analysis

GOPAS Praha
Na Strži 2097/63
140 00 Praha 4 - Krč
Tel.: +420 226 201 390
info@gopas.cz

GOPAS Brno
Nové sady 996/25
602 00 Brno
Tel.: +420 530 513 590
info@gopas.cz

GOPAS Bratislava
Dr. Vladimíra Clementisa 10
Bratislava, 821 02
Tel.: +421 902 903 132
info@gopas.sk

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