STA406 Generalised Regression

Syllabus, Fall 2020

Epidemiology, Biostatistics and Prevention Institute (EBPI), University of Zurich, Switzerland

September 28, 2020

NOTE: This syllabus may be subjected to changes. Important changes will be communicated via email.

1 General information

- **Lectures:** Torsten Hothorn, HRS F21, torsten.hothorn@uzh.ch,
  Tuesday 9-11, Y27 H46
- **Exercises:** Luisa Barbanti, HRS F25, luisa.barbanti@uzh.ch, Lucas Kook, HRS F25, lucasheinrich.kook@uzh.ch,
  Tuesday 11-12, Y27 H46
- **Website:** on OLAT

2 Course description

Introduction to modern regression methods. After a brief recap of classical regression techniques the following topics will be discussed: exponential family of distributions and generalized linear models (GLM), estimation and inference for GLMs, likelihood ratio and deviance, normal linear models, categorical data and logistic regression, Poisson regression and log-linear models. If time allows we might also discuss mixed effects models, nonparametric regression and additive models.

3 Material and reading

Course is self contained. A script will be provided.

4 Lecture

The lecture will take place from 9:00 am to 10:00 am online: http://collab.math.uzh.ch/b/tho-7gd-226

5 Exercises and admittance to exam

The exercise session takes place mixed live and online from 11:00 am to 11:45 am, starting on Tuesday, 22.09.2020. The first exercise sheet will be uploaded to OLAT on 15.09.2020.
Please note that a maximum of 15 students are allowed in the lecture hall at a time, so organize yourselves via the OLAT forum. Students will be allowed in the room on a *first come first serve* basis.
https://uzh.zoom.us/j/97498354601?pwd=enllaGxmQ2ZvWTlTbGJoVTI1N00rQT09
Meeting ID: 974 9835 4601
Passcode: 246715
Each week students get an exercise sheet. They work on it until the subsequent week and in the exercise session everyone indicates which exercises they have solved. If an exercise is indicated as solved the student needs to be prepared to present

their solution on the blackboard/beamer or via screen sharing. There is no penalty for incorrect solutions. However, a reasonable attempt should have been made. Each student needs to present at least one time to be admitted to the final exam.

6 Exam

The exam is open-book, a non-programmable calculator may be used. The exam will take place on Tuesday, January 19th 2021, from 10:00 to 12:00. More details will be announced in due time.