

Course report

Date: January 31, 2018

Course code/title: TMA4315 Generalized linear models

Semester: autumn 2017

Study programmes: MTFYMA, MLREAL, BMAT, MSMNFMA

Course responsible: Mette Langaas

Teaching assistant: Ingeborg G. Hem

Reference group: Elisabeth Hetlelid, Dag Johnsrud Kristiansen, Kwaku Peprah Adjei.

Learning outcome for the course

Knowledge: The student can assess whether a generalised linear model can be used in a given situation and can further carry out and evaluate such a statistical analysis. The student has substantial knowledge of generalised linear models and associated inference and evaluation methods. This includes regression models for Gaussian distributed data, logistic regression for binary data and Poisson regression.

The student has theoretical knowledge about linear mixed models and generalized linear mixed effects models, and associated inference and evaluation of the models. Main emphasis is on Gaussian and binomial data.

Skills: The student can assess whether a generalised linear model or a generalized linear mixed model can be used in a given situation, and can further carry out and evaluate such a statistical analysis.

Data the report is based on

Grade statistics, online survey (attached results), focus interviews (by Gabrielle Hansen, not attached), reference group report (uploaded separately). A talk on the experiences of using the interactive learnings space Smia is attached.

Evaluation of the quality of the course

A total of 35 students handed in compulsory activities in the course (30% of final grade), and 33 sat for the final exam. The grade distribution grade frequencies were A :73% B: 18%, C: 3%, D: 6%. All students were given the opportunity to access a detailed evaluation of their exam paper.

Compared to autumn 2016: 13 students sat for the exam with A (84%), B (8%), C (8%).

Observe the large increase in the number of students. This may be explained by an increase in the number of students choosing to study statistics and the fact that this year both year 4 and 5 students enrolled in the course (previously mostly year 5 students).

The teaching was concentrated around 8 themes, and the students had access to

- plenary lectures (PL), interactive lectures (IL), supervision of exercises,
- module pages available in R markdown, html, pdf format
- recommended exercises - on the bottom of each module page
- compulsory exercises – 3 in total - handed in and graded
- textbooks, and other ebook resources
- quizzes

- exam questions

Blackboard was used for the course management, but all files were available also outside Blackboard.

The attendance at plenary and interactive lectures was ok, see attached self-reported numbers. Most students experienced an including and stimulating learning environment.

The course responsible would evaluate the quality in the course to be good, and this is in agreement with answers to the student survey and the report from the reference group.

Followed up from earlier years:

The reading list was change to updated use of new methods, in particular linear mixed effects models. Heavy R-based exercises (building R library) kept, since well received in earlier years.

Action points (for autumn 2018 semester)

- Make small changes to module pages and compulsory exercises. Maybe add one module on multinomial GLM.
- Apply to use Smia for interactive lectures, but might experience a drop in student attendance since many year 4 students followed the course in 2017.
- Run the same scheme as autumn 2017, to evaluate the effect on different student groups.