Introduction

Welcome to Linear Statistical Models

Your Lecturer

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Blackboard Site

- Course material and course announcements will be available on Blackboard.
- Lecture slides posted on Bb before the lectures.
- Lecture recordings uploaded after the lectures, generally the same day.
- Send me e-mail if I forget to upload something!
- Consider using discussion board on Bb to ask questions.
- Some references are provided on Bb if you are interested in further reading, but it is not necessary to succeed in this course.

Blackboard site, cont.

In the tab Learning materials you find:

- Folder Lectures: in each red box you find:
  - Lecture slides posted on Bb before each lecture. All material in the slides is examinable.
  - Lecture recording uploaded after the lecture.
  - Lecture annotations in OneNote.

Blackboard site, cont.

- Workbook (WB) Collection of exercises.
- Folder Feedback Classes (FC) Hints for exercises from WB to try before FC.
- Folder Module Delivery Plan updated along the way.
- Statistical tables are given.

Books

- The following are good books for further reading, but they are not necessary to succeed in this course.
  - Peter Dalgaard, Introductory Statistics with R, Springer.
  - W. Mendenhall, R. L. Scheaffer and D. D. Wackerly, Mathematical Statistics with Applications, Duxbury Press, 2008.
- These books are available in the library, the first one online.

Communication

- Interactive activities during the lectures/FCs.
- Course announcements on Bb. It is your responsability to check this regularly.
- Discussion board: Ask questions on discussion board about the module (not about assessed coursework!). We strongly encourage you to answer questions from fellow students if you think you can help (even if you don't have a complete solution).

Communication, cont.

- E-mail me if you need help. Quick questions sometimes can be discussed over e-mail.
- Office hours: e-mail me for an individual online appointment.
- It is your responsibility to make the most out of the opportunities given above.

Assessment

- 30% marked coursework
- 70% written examination

Coursework

- Coursework:
  - Consisting of 3 problem sheets, to be done individually.
  - Hand in coursework electronically (one file per person).
  - See Blackboard home page for deadlines.
- Exam: 4 questions, 25 points each, exam date TBC.

Workbook

- Good to test and consolidate your understanding of the material in the lectures while the course is in progress, and to revise for the exam.
- Solutions will be released by chapter after coursework on that chapter is handed in.
- However, some questions will be discussed in the feedback class, and suggestions given beforehand.
- Summary table to link exercises and solutions (when released) with lecture material as we go along.
- Please **read the guidelines on the first page.**

Workbook table snapshot

Table of exercise numbers versus main section content needed

Exercise Nr.	Solution page	Main section content needed to perform the exercise
1.1	31	*Section 1.1*
1.2	31	*Section 1.1*
1.3	31	*Section 1.1*
1.4	32	*Section 1.1*
1.5	32	*Section 1.2*
1.6	33	*Section 1.2*
1.7	33	*Sections 1.2, 1.3*
1.8	34	*Sections 1.3, 1.4*
1.9	34	*Section 1.4*
1.10	35	*Section 1.5*
1.11	35	*Section 1.5*
2.1	36	*Sections 2.1, 2.2*

Figure: Screenshot from workbook table

Why taking this module

- Lots of different disciplines use linear regression as a basic form of data analysis: e.g. psychology, sociology, medicine, actuarial science, etc.
- Good for employability skills (basic data analysis, statistical software skills).

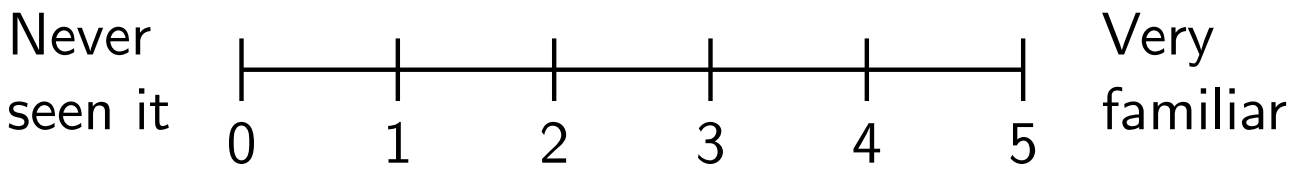
Syllabus

- Topic Outline:
  1. Probability (5 Sections)
  2. Statistical inference (4 Sections)
  3. Simple linear regression (10 Sections)
  4. Multiple linear regression (6 Sections)
  5. One way analysis of variance (3 Sections)

- Detailed syllabus in the course description on Bb.

- Module delivery plan in the folder 'learning materials' on Bb.

How familiar are you with random variables and their distributions ?



How familiar are you with confidence intervals and hypothesis tests?