SOS3003 SPRING 2010

Applied statistical data analysis for the social sciences (Anvendt statistisk dataanalyse i samfunnsvitskap)

Teaching period

Weeks 6-19, 8 February - 12 May

Lectures/ seminars: Erling Berge

Exercises: Rune Slettebak/ Joakim Døving Dalen

Time for Lectures/ Seminars:

Monday 08:15-10:00 and 10:15-12:00 in seminar room D6

First lecture: 8 February 08:15-12:00.

First seminar: 8 February 10:15-12:00 On learning a new language: Interpreting symbols used in regression.

Time for Exercises using SPSS

Monday 15:15-17:00 and Wednesday 10:15-12:00 in PC-room 12581

First exercise: 15 February

Deadline for essay: 10 May delivery by e-mail to <ISSInnlevering@svt.ntnu.no>

Written examination: 27 May

Prerequisite:

SOS1002 or equivalent. Ringdal, Kristen. 2000. **Enhet og Mangfold**. Bergen: Fagbokforlaget. Particularly chapters **14, 15, 16, 17, 18, and 19.**

Most important is chapter 18

Required reading (pensum)

Hamilton, Lawrence C. 1992. *Regression with graphics.* Belmont: Duxbury.

Hamilton, Lawrence C. 2008. A Low-Tech Guide to Causal Modelling. http://pubpages.unh.edu/~lch/causal2.pdf

Allison, Paul D. 2002. *Missing data.* No 136 Quantitative Applications in the Social Sciences. London: Sage**.**

Recommended additional literature

To translate between the theoretical text of Hamilton and the practical world of SPSS the following book is recommended:

- Eikemo, Terje Andreas, and Tommy Høyvarde Clausen. 2007. *Kvantitativ analyse med SPSS: en praktisk innføring i kvantitative analyseteknikker.* Trondheim: Tapir akademisk forl.

The following reading is recommended as a source for consultation on the necessary basics of our (social science) kind of mathematics (in Norwegian):

- Sommervoll, Dag Einar. 2009. Mattespettboka. Oslo: Gyldendal.

Fall 2009 **Schedule for lectures and seminars**			**Schedule for PC exercises**
1	**8 Feb**	Plan for the class/ Goals/ Required readings/ Term paper Variable distributions Hamilton Ch 1 s1-23 Bivariate regression Hamilton Ch 2 s29-59 *Seminar*: Interpreting symbols used in regression. On writing of term papers. Sources of data for term papers. Choice of dependent variable. Deadline for submission of abstract for the term paper, including an analysis of the dependent variable and a regression including age and sex as explanatory variables.	
2	**15 Feb**	Multivariate regression I Hamilton Ch 3 s65-80 *Seminar*: Variables and variation. Theory of measurement and levels of measurement. Coding and recoding. Missing data. **Choice of dependent variable.**	Exercise 1 Introduction
3	**22 Feb**	Multivariate regression II Hamilton Ch 3 s65-101 *Seminar*: Why logit regression?	Exercise 2 More introduction, Coding and filtering
4	**1 Mar**	Logit regression I Hamilton Ch 7 s217-233 *Seminar*: More on writing of term papers. Answering questions at the written examination.	Exercise 3 Regression analysis
5	**8 Mar**	Regression criticism I Hamilton Ch 4 s109-123 *Seminar*: Examination question from fall 2004: Q1 **Deadline for submission of abstract**.	Exercise 4 Multivariate Regression analysis
6	**15 Mar**	Regression criticism II Hamilton Ch 4 s109-137 *Seminar*: Examination question from fall 2004: Q2	Exercise 5 Logistic regression
7	**22 Mar**	Fitting Curves Hamilton Ch 5 p145-173 Robust Regression Hamilton Ch 6 p183-211 *Seminar*: Answers and solutions to fall 2004 examination Q1, Q2	Exercise 6 Curvilinear models (Kvadratledd)
8	**12 Apr**	Logit regression II Hamilton Ch 7 s217-242 *Seminar*: Examination question from spring 2004: Q2	Exercise 7 Interaction

9	**19 Apr**	Low-Tech Causal Modeling Hamilton 2008 Factor analysis Hamilton Ch 8 s249-288 *Seminar*: Examination question from fall 2009: Q 2	Exercise 8 Regression criticism
10	**26 Apr**	Missing data Allison (2003) *Seminar*: Examination question from fall 2009: Q 3	Exercise 9 Influential cases
11	**3 May**	<available for later allocation> *Seminar*: Examination question from fall 2009: Q 1	
12	**10 May**	Overview. Repeating basics. *Seminar*: Appendix 1 & 3 Hamilton s289-301&333-345	
	10 May	**Deadline for term paper.** Delivery by e-mail to <ISSInnlevering@svt.ntnu.no>	
	27 May	**Written examination**	

Permitted helpful materials during the written examination:

Calculator

Allison, Paul D. 2002. *Missing data.* No 136 Quantitative Applications in the Social Sciences. London: Sage**.**

Hamilton, Lawrence C. 1992. *Regression with graphics.* Belmont: Duxbury.

Hamilton, Lawrence C. 2008. A Low-Tech Guide to Causal Modelling. http://pubpages.unh.edu/~lch/causal2.pdf , Handout, 12 pages.

Norwegian-English / English-Norwegian dictionary

Berge, Erling. 2010. *SOS3003 Applied data analysis for social science: Collected lectures 2010.* Handouts, xx pages. Similarly for earlier years

Both textbooks and handouts may contain written notes.

It is not allowed to bring former examinations and grader's advice.