Syllabus

for course at first level

Analysis of Survival Data with Demographic Applications
Analys av överlevnadsdata med demografisk tillämpning

7.5 Higher Education Credits
7.5 ECTS credits

Course code:	ST303G
Valid from:	Autumn 2007
Date of approval:	2007-04-25
Department	Department of Statistics
Subject	Statistics
Specialisation:	G2E - First cycle, has at least 60 credits in first-cycle course/s as entry requirements, contains degree project for BA/BSc

Decision

This syllabus was approved by the Board of the Department of Statistics on April 25, 2007.

Prerequisites and special admittance requirements

Statistisk teori fk, 10 credits, or Statistical theory II, 15 ECTS credits, or Statistical theory with applications, 15 ECTS credits or equivalent.

Course structure

Examination code	Name	Higher Education Credits
11AE	Analysis of Survival Data with Demographic Applications	7.5

Course content

Basic concepts like Censoring, Functions of Survival time and their nonparametric and parametric estimation and comparison (Life-table, Kaplan-Meier, Nelsen-Aalen methods; Log-Rank & related tests; as well as theoretical distributions like the Weibull, exponential, log-normal and gamma); Models of Regression type - Proportional Hazards models, Parametric Models for the survival time, Log-Linear hazard models for grouped survival data as well as logistic regression for dichotomous outcome variable – and overview to advanced topics like multilevel modelling, unobserved heterogeneity, and selection biases.

Learning outcomes

After completing the course, students should be able to:
•Describe and explain basic concepts in survival data and their statistical distributions,
•Estimate and compare survivor functions for different categories
•Model relationship between survival functions and explanatory variables as well as test hypotheses related to models and parameters
•Make use of one or more statistical program software to describe and analyse survival data in various formats – binary, grouped, continuous.
•Identify the limitations in the basic survival models and possible alternatives.

Education

Teaching forms may consist of lectures, exercises, seminars,computer sessions and tutoring. Some

compulsory attendance and other mandatory elements may occur.

Forms of examination

a. Examination will be done by measuring the knowledge of the learning outcomes. Examination will comprise written tests and written reports of one individual compulsory exercise and one group compulsory exercise.

b. Grading is done according to a 7-point scale related to the specified learning outcomes:
A = Excellent
B = Very Good
C = Good
D = Satisfactory
E = Sufficient
Fx = Insufficient
F = Completely insufficient

c. Grading criteria will be distributed at the beginning of the course.

d. To pass the entire course, a minimum grade of E for the part.

e. Students who have received the grade Fx or F on an examination are entitled to at least four additional examinations to achieve the lowest grade E as long as the course is given.
Students who have received the grade E on an examination may not retake this examination in order to attempt to achieve a higher grade.
Students who have received the grade Fx or F on an examination on two occasions by the same examiner have the right to request that a different examiner be appointed to set the grade of the examination. Such a request must be in writing and sent to the head of the department.
Here, the term examination denotes all compulsory elements of the course.

Limitations

Students can request examination in accordance with this syllabus up to three times during a period of two years after the course is no longer given. Such a request must be in writing and sent to the head of the department.
Here, the term examination denotes all compulsory elements of the course.

Required reading

The course literature is described in an appendix to the syllabus.