



COURSE SYLLABUS

Mathematical Statistics, 6 credits

Matematisk statistik, 6 högskolepoäng

Course Code: TMSG14	Education Cycle: First-cycle level
Confirmed by: Dean Apr 10, 2013	Disciplinary domain: Natural sciences
Revised by: Director of Education Apr 5, 2016	Subject group: MA1
Valid From: Jan 1, 2017	Specialised in: G1N
Version: 4	
Reg number: JTH 2016/1444-313	

Intended Learning Outcomes (ILO)

On completion of the course, the student should

Knowledge and understanding

- displaying knowledge of different methods used for statistically describing a data set
- being familiar with the terms correlation and correlation coefficient

Skills and abilities

- demonstrate comprehension of random variability in different situations
- demonstrating skills of doing basic probability calculations involving both continuous as well as discrete random variables
- demonstrating ability to compute different estimates of unknown parameters from a given data set
- demonstrating ability to perform and evaluate a relevant hypothesis test

Contents

The course focus on the basic probability theory and relevant statistical inference methods that are used when analyzing a data set. Random variability is a fundamental concept.

The course includes the following topics:

- Basic probability theory
- Random variables
- Discrete and continuous distributions, especially the normal distribution
- Central limit theorem with applications
- Descriptive statistics
- Point estimates and interval estimates
- Hypothesis testing

Type of instruction

Lectures and seminars.

The teaching is conducted in English.

Prerequisites

General entry requirements and Mathematics D or Mathematics 3c, alternatively completed course Basic Mathematics and Chemistry, 6 credits (or the equivalent).

Examination and grades

The course is graded 5,4,3 or Fail.

Registration of examination:

Name of the Test	Value	Grading
Examination	6 credits	5/4/3/U

Course literature

Literature

The literature is preliminary until one month before the course starts.

Title: Probability and Statistics for Engineers and Scientists

Author: Walpole, Myers, Ye

Publisher: Pearson

ISBN: 9781292161365