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 proability 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 Scientistis
Author: Walpole, Myers, Ye
Publisher: Pearson
ISBN: 9781292161365