



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
Valid From:	Jan 1, 2014	Subject group:	MA1
Version:	1	Specialised in:	GIN
Reg number:	JTH 2013/194-122		

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: Introduction to probability and statistics

Author: Milton/Arnold

Publisher: McGraw Hill

ISBN: 9780071198592