

SYLLABUS

Statistics 2: random models and inference 7.5 credits S0005M

Statistik 2: slumpmodeller och inferens

Course syllabus admitted: Spring 2020 Sp 3 - Spring 2020 Sp 4

**DECISION DATE
2019-11-12**

Statistics 2: random models and inference 7.5 credits S0005M

Statistik 2: slumpmodeller och inferens

First cycle, S0005M

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	U G VG *	Statistik	Statistics

Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language and Statistics 1: survey methods S0004M or S0006M or equivalent.

Selection

The selection is based on 1-165 credits.

Examiner

Adam Jonsson

Course Aim

After completing the course the student is expected to:

- describe the basic steps of a statistical study;
- identify probability distributions and calculate probabilities for the situations covered in the course;
- use statistical methods to analyze the model or population characteristics, i.e., point estimation, confidence intervals and hypothesis testing;
- be able by the question and type of data to choose appropriate statistical analysis method among those covered in the course;
- collect, compile, process and present data of different types;
- present orally and in writing the results of completed surveys;
- use a statistical software for processing, analyzing and presentation of materials.

Contents

The course consists of the following two parts:

- **Probability:** basic methods and models for random phenomena, including independent events, conditional probabilities, and some well-known probability distributions.
- **Inference:** methods to infer properties of the underlying random models or populations, including methods of point estimation, confidence intervals and hypothesis testing.

Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

The course is structured as follows:

- Tutorials where students work with suggested exercises. Computer assignments, usually done by pairs of students.
- Quizzes: answering exercises organized in sets on the course web.
- Seminars for discussion of larger projects, usually based on students' own data collection and done by groups of four or five students.
- Lectures, often given after a certain part has been covered in tutorials.
- The course includes group work to be presented orally and/or in writing. For this to work it requires active participation from the students throughout the course.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided. Written exam at the end of the course.

Beside the written exam, completion of the following parts are also required to pass the course.

- Completion of compulsory assignments.
- Attendance at certain course sessions.

Remarks

The course S0005M replaces and is partly equal to the course S0007M but with a broader scope of the subject. The courses cannot be part of the degree together.

Overlap

The course S0005M is equal to S0009M

Literature. Valid from Spring 2015 Sp 3

Introduction to the Practice of Statistics; Moore, Mc Cabe & Craig. WH Freeman

Course offered by

Department of Engineering Sciences and Mathematics

Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0001	Written Exam	U G VG *	3	Mandatory	S15	
0002	Webbased quizzes	U G#	2.5	Mandatory	S15	
0003	Compulsory assignments	U G#	2	Mandatory	S15	

Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

Last revised

by Niklas Lehto 2019-11-12

Syllabus established

by Mats Näsström 2014-06-10