

Statistics - master

Name

Statistics - master

Qualifications awarded

Master of Science in Statistics.

Work load

The total work load of the program of study is 120 ECTS.

Learning outcome

The candidate...

Knowledge

- has advanced knowledge of statistical concepts, principles and methods
- has solid knowledge about fields close to statistics, especially within mathematics
- has sufficient knowledge of statistics to teach in senior high school
- has solid knowledge of a concrete scientific problem issue and the statistical model that describes the problem

Skills

- can enter complicated problem issues, uncover structures and formulate precise problems, find suitable analytical and/or numerical solution methods, and interpret the solutions
- has good practical skills in at least one commonly used statistical programming tool.
- can cooperate, if necessary in an interdisciplinary way, with other specialists.
- can find precise and scientific formulations, in oral and written language, in Norwegian as well as in English
- can use existing literature in an active way to understand the work of other scientists, and as support to solve own mathematical problems.
- can use statistical methods in theory and practice, and make an independent judgment of the applicability of a statistical model for a given practical problem

General Competence

- has solid knowledge of a broad variety of methods and techniques for analysis and problem solving within statistics.
- has acquired good theoretical insight and ability to apply the theory for development of methods and techniques to solve problems.
- possesses necessary qualifications for work within industry, technology, science, information technology, and schools.

- can apply knowledge within mathematics and statistics on problem issues within social and natural sciences.
- can do independent scientific work and formulate the contents of the work within the framework of the terminology of the field
- can make knowledge based judgments on general scientific issues and communicate these in public.

Admission requirements:

Admission to the Master's degree program in statistics requires a Bachelor's degree in statistics or another degree following a program of study of at least three years, or similar education approved in accordance with the Norwegian Universities Act section 3-4.

The education must contain a specialization in statistics/mathematics corresponding to at least 80 ECTS.

An average mark of "C" or better is required in the Bachelor's degree or similar basis of admission.

Group of students aimed at

The Master's program in statistics is meant for well-qualified students who has a Bachelor of Science degree in statistics or equivalent, and who want to acquire specialized knowledge in statistics. The study program is well suited for candidates who want to continue with research in statistics, and also candidates who want to work with people from other fields in research institutions, consultant companies, insurance companies, banks, industry, oil companies, education, advanced technology and software development.

Contents and teaching

The Master's degree program comprises a Master's thesis of 60 ECTS, 20 ECTS mandatory courses in computer-intensive statistics and multivariable statistical analysis, and four courses (40 ECTS) of electives or special curriculum.

The Master's thesis, electives and special curriculum make it possible for students to specialise in different areas such as climate statistics, biostatistics and medicine statistics among others. Statistics is important in all kinds of analysing and modelling of data in digital imaging, climate research, economy, physics, geology, biology, medicine and engineering.

The courses in statistics consist of lectures and coursework. A passing grade on the mandatory homework sets is normally required for permission to take the exam.

Program structure:

1. semester	STA-3002 Multivariable Statistical Analysis	Elective course	Elective course
2. semester	STA-3001 Computer-intensive Statistics	Elective course	Elective course
3. semester	STA-3900 Master's Thesis in Statistics		
4. semester			

Other relevant elective courses are STA-3000 Asymptotic Theory, STA-3810 Special syllabus and other courses in mathematics, physics or computer science at the 2000- or 3000-level.

Exam and evaluation

The courses in the program are evaluated in different ways; written exam, oral exam, or written home assignment. An oral exam is most common for the Master's degree courses. The details of the way the courses are evaluated are contained in the course descriptions.

The Master's thesis is assessed by a committee based on the thesis itself, an oral presentation of the thesis and an oral exam.

Work practices

No work practice is demanded in this program of study.

Language of instruction and examination:

The language of instruction is English and all of the syllabus material is in English. Examination questions will be given in English, but may be answered either in English or a Scandinavian language.

The Master's thesis may also be written either in English or a Scandinavian language.

Internationalization and student exchange

The Department of Mathematics and statistics is establishing arrangements for student exchange.

Other rules

“Utfyllende bestemmelser for 2-årig masterprogram ved NT-fak” revised at NT-fak, fall 2011.

The study program will be evaluated every year. Each course will be evaluated at least every three times when it is given. Course evaluation consists of the assessments by the students and the course teacher(s). An overview of which courses that is to be evaluated each semester is to be found on the web pages of the faculty in question.

Syllabus

The recommended reading will be available.

Demands for the Master's thesis

The Master's thesis STA-3900 Master's Thesis in Statistics has a work load of 60 ECTS and is written in two semesters. The thesis is normally written individually, but it is possible to finish the master thesis as a part of a group work. The master thesis is graded by a letter grade A–F. The grade scale is used according to definitions and guidelines worked out by the national councils for the fields in question.