

Course outline

Master thesis project (*masteruppsats*), 30 credits, Advanced level

Contents and learning outcomes

The course “Master thesis project” comprises three modules:

1. **Master thesis**, 26 credits
2. **Discussion**; discussion of the master thesis of another student, 3 credits
3. **Presentation**; presentation of your own thesis, 1 credit

The main part of the course is the writing of a master thesis on a topic in applied or theoretical statistics. The work on the thesis starts at the beginning of the autumn semester and is to be completed at the end of the spring semester. The student is assigned a supervisor, usually a teacher at the Department of Statistics. The student may suggest a topic; the topic may also be given by the supervisor.

Sometimes two students co-operate on a thesis; this will typically happen only if there is a shortage of supervisors.

During the course students will acquire planning skills as well as skills on how to organize and successfully complete a large project. There are many other facets of the course that are vital in any applied or theoretical project; for example, students will have to find ways to apply or devise methods in a field that is unfamiliar to them. Other tasks that students will practice include finding relevant literature, assessing it critically; organising and writing a scientific report. At the master theses seminars at the end of the course each student present her or his thesis orally and take part in discussions of other students' theses. In sum, the course will give students ample opportunity to develop transferable skills of great importance for all types of applied and scientific work and indeed any type of inquiry.

Learning outcomes

Having successfully completed the course, students will be able to:

- formulate, analyse and adequately solve a statistical problem
- document and report on a scientific project in writing
- assess statistical reports and scientific studies critically
- present and discuss statistical reports orally

Co-ordinator and resources

Coordinator:

Dan Hedlin

Office:

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Email:

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Course literature and other resources

Students will usually need specialised literature to complete their theses. Any literature common for all students taking the course will be specified at the lecture at the beginning of the course.

Teaching

The teaching consists of one lecture in the autumn semester and supervision throughout the course. Attendance at the master theses seminars is mandatory. There may be other events, which may be mandatory; if so, students are informed well ahead of time.

Timetable and deadlines

Topic and supervisor

At the start of the autumn semester students are informed about the master theses. Supervisors are assigned to the students who intend to take the course.

Students who have not been in touch with the course coordinator (see name above) about their intention to take the course this academic year must do so on 22 Oct 2012 at the latest. Students who have not got in touch with the coordinator by this date may not be able to write a master thesis with supervision this academic year.

Outline

Students should submit an outline (typically 2-3 pages) of their thesis to their supervisor on **30 November 2012 at the latest**. The student and the supervisor may agree on an alternative way to go; what is important is that there is some written plan for the master thesis on November 30 at the latest.

Draft

Students should submit a draft of their thesis **at latest on 26 April, 2013**, to their supervisor. In many cases the student and the supervisor will agree on an earlier date for a first draft.

Submission

Students should – provided that the supervisor has agreed to it – submit a copy-ready manuscript to the Student Office at the Department **on 24 May at 3 o'clock pm**, at the latest.

Seminars

The master theses seminars will take place on **3, 4 and 5 June** in room B705 if nothing else has been announced. The schedule for these days, with time slots when theses are to be presented and discussed, will be set out at the latest one week ahead of time. The schedule will include which thesis each student is expected to discuss. All master theses seminars are mandatory for all students taking the course.

Assessment

Grades

Grades for Module 1 (the thesis) are given at a seven-point criterion-referenced rating scale:

- A. Excellent
- B. Very good
- C. Good
- D. Satisfactory
- E. Pass
- Fx. Insufficient
- F. Completely insufficient

See criteria below. To pass Module 1, a minimum grade of E is required. This may require a revision of the thesis in accordance to written or oral specifications given by the supervisor after the master theses seminar. It is important to note that presenting the thesis at the seminar does not in itself mean that the thesis is graded as a pass.

Each of Modules 2 and 3 is graded as either pass or fail. See further below for criteria for pass.

Final grade

The final grade is determined to a large extent by the grade on Module 1, provided that the student has passed Modules 2 and 3. If the student has failed any of Modules 1, 2 or 3, the student has not passed the course.

Students not passing the course during the current academic year, are requested to contact the course coordinator at the beginning of the course the next time the course is given for information about the rules for examination.

Grading criteria

Module 1: Master thesis

Module 1 is graded on the basis of criteria found below.

Note that if two students co-operate on a thesis, they are graded on their individual performance. That is, they can achieve different grades.

Grade	Criteria
A	Knowledge. If relevant, the thesis indicates extensive knowledge of statistical concepts, methods and reasoning. The thesis shows clear signs of thorough, in-depth knowledge of the areas most relevant to the thesis and profound insights into the state-of-the-art of

	<p>statistical research relevant to the thesis. The student has also in Modules 2 and 3 showed excellent knowledge of some areas of the statistical science.</p> <p>Adroitness of work. The student has with a large degree of independence formulated, analysed and solved a statistical problem. The student has contributed to a novel choice of issue or creative formulation of a statistical problem. In many statistical endeavours there is scarce data; it is looked very favourably upon if the student has produced a compelling treatment of a problem in an information meagre situation and other difficult situations. Furthermore, the student has documented and presented her or his research in an outstanding way. The student has with excellent research skills critically reviewed scientific articles and papers. The student has made a clear account of the arguments that form the basis of the conclusions presented in the thesis. The student has been able to combine and integrate information into new knowledge and in her or his applying the knowledge been able to contribute to the development of knowledge in the area of the thesis.</p> <p>The thesis. The thesis is written clearly, succinctly and accurately; it is well organised, has skilfully crafted tables and graphs (if relevant), effective and carefully used references, etc.</p> <p>Judgment. The student has in Modules 1-3 shown excellent ability to form sound judgments, both in terms of scientific judgment and judgment in choice of problem solving methods (including choice of focus and assumptions that are appropriate for the problem). The student has through her or his way of working and achievements shown excellent ability to assess her or his own work.</p>
B:	Somewhere between A and C, either in extent (i.e. number of criteria that have been satisfied) or in level.
C:	<p>Knowledge. If relevant, the thesis indicates considerable knowledge of statistical concepts, methods and reasoning. The thesis shows solid, in-depth knowledge of the areas most relevant to the thesis and good insights into the state-of-the-art of statistical research relevant to the thesis. The student has also in Modules 2 and 3 showed considerable knowledge of some areas of the statistical science.</p> <p>Adroitness of work. The student has with some degree of independence formulated, analysed and solved a statistical problem. The student has to some extent contributed to a novel choice of issue or creative formulation of a statistical problem. In many statistical endeavours there is scarce data; it is looked very favourably upon if the student has produced a persuasive treatment of a problem in an information meagre situation and other difficult situations. Furthermore, the student has documented and presented her or his research very well. The student has with good research skills critically reviewed scientific articles and papers. The student has made a clear account of the arguments that form the basis of the conclusions presented in the thesis. The student has been able to combine and integrate information into new knowledge and in her or his applying the knowledge been able to contribute to the development of knowledge in the area of the thesis.</p> <p>The thesis. The thesis is written clearly and accurately; it is well organised, has well crafted tables and graphs (if relevant), effective and carefully used references, etc.</p> <p>Judgment. The student has in Modules 1-3 shown great ability to form sound judgments, both in terms of scientific judgment and judgment in choice of problem solving methods (including choice of focus and assumptions that are appropriate for the problem). The student has through her or his way of working and achievements shown great ability to assess her or his own work.</p>

D:	Somewhere between C and E, either in extent (i.e. number of criteria that have been satisfied) or in level.
E:	<p>Knowledge. If relevant, the thesis indicates wide knowledge of statistical concepts, methods and reasoning. The thesis shows satisfactory knowledge of the areas most relevant to the thesis and some insights into the state-of-the-art of statistical research relevant to the thesis. The student has also in Modules 2 and 3 showed some in-depth knowledge of some areas of the statistical science.</p> <p>Adroitness of work. The student has with the help of the supervisor formulated, analysed and solved a statistical problem. The student has to some extent contributed to a novel choice of issue or creative formulation of a statistical problem. In many statistical endeavours there is scarce data; it is looked very favourably upon if the student has produced a compelling treatment of a problem in an information meagre situation and other difficult situations. Furthermore, the student has satisfactorily documented and presented her or his research. The student has critically reviewed scientific articles and papers. The student has made a clear account of the arguments that form the basis of the conclusions presented in the thesis. The student has shown satisfactory ability in combining and integrating information into new knowledge.</p> <p>The thesis. The thesis has no severe shortcomings in a clear and accurate exposition, in its organisation, tables and graphs (if relevant), nor in its use of references, etc.</p> <p>Judgment. The student has in Modules 1-3 shown ability to form sound judgments, both in terms of scientific judgments and judgments in choice of problem solving methods (including choice of focus and assumptions that are appropriate for the problem). The student has through her or his way of working and achievements shown some ability to assess her or his own work.</p>
Fx:	The thesis is clearly not 26 credits worth of work <i>or</i> the student's achievements with respect to at least one of the criteria in E has serious shortcomings.
F:	The learning outcomes have not been achieved. The task of achieving them appears insurmountable within the period of time of supervision.

Module 2: Discussion

Having successfully completed the module, students will be able to

- critically assess statistical reports and scientific studies
- discuss statistical work

Module 2 is graded as either pass or fail.

To pass Module 2 students should discuss some other student's master thesis satisfactorily. Students must have read the thesis carefully, be able to summarise arguments and conclusions, and by way of discussion communicate the strengths of the thesis. Students should in their discussion be able to question or discuss choice of methods and the strength of conclusions as they have been presented. Students must for a pass also participate actively in master thesis seminars.

Module 3: Presentation of thesis

Having successfully completed the module, students will be able to

- present statistical reports and scientific studies
- discuss statistical work

Module 3 is graded as either pass or fail.

For a pass students should present their thesis clearly and accurately. Students should within the allotted time slot give an overview of the thesis and present and discuss relevant details, appropriately chosen with a focus on what is important. The conclusions of the thesis should be clearly presented and appraised. Students should be able to answer questions satisfactorily.