Department of Mathematics
(incl. Math. Statistics)

Stockholm University

# Education plan

for

**Master's Programme in Mathematics**
**Masterprogram i matematik**

**120.0 Higher Education Credits**
**120.0 ECTS credits**

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| **Programme code:** | NMATO |
| **Valid from:** | Autumn 2007 |
| **Date of approval:** | 2006-10-18 |
| **Department:** | Department of Mathematics (incl. Math. Statistics) |

## Decision

This syllabus has been approved by the Board of the Faculty of Science at Stockholm University.

## Prerequisites and special admittance requirements

To qualify for the programme a Bachelor's degree of science is required. In addition knowledge equivalent to 90 credits in mathematics, including a degree project, is required. Also required is knowledge in English equivalent to Swedish upper secondary school course English B or one of the following tests: Cambridge CPE and CAE: pass, IELT: 6.0 (with no part of the test below 5.0), TOEFL (paper based): 550 (with minimum grade 4 on the written test part), TOEFL (computer based): 213, TOEFL (internet based): 79.

## Programme structure

The programme is a two year full-time study programme that is composed of courses in mathematics, mathematical statistics, scientific computing and computor science of 90 credits including a degree project of 30 credits. At least 60 credits must be in the main field of study mathematics. In the programme there is room for optional courses of 30 credits.

## Goals

The main field of study is mathematics. For a Degree of Master students must
- demonstrate knowledge and understanding in their main field of study, including both broad knowledge in the field and substantially deeper knowledge of certain parts of the field, together with a deeper insight into current research and development work,
- demonstrate deeper methodological knowledge it the main field of study,
- demonstrate an ability to critically and systematically integrate knowledge and analyse, assess and deal with complex phenomina, issues and situations, even when limited information is available,
- demonstrate an ability to critically, independently and creatively identify and formulate issues and to plan, and in using appropriate mehods, carry out advanced tasks within specified time limits, so as to contribute to the development of knowledge and to evaluate this work,
- demonstrate an ability to clearly present and discuss their conclusions and the knowledge and arguments behind them, in a dialogue with different groups, orally and in writing, in national and international contexts,

- demonstrate the skill required to participate in research and development work or to work independently in other advanced contexts,
- demonstrate an ability to make assessments in the main field of study, taking into account relevant scientific, social and ethical aspects, and demonstrate an awareness of ethical aspects of research and development work,
- demonstrate insight into the potential and limitations of science, its role in society and people's

responsibility for how it is used, and
- demonstrate an ability to identify their need of further knowledge and to take responsibility for developing their knowledge.

### Courses

Obligatory courses: Foundations of analysis, SL, 7.5 credits, Analytic functions I, SL, 7.5 credits, Algebra III, SL, 7.5 credits, Combinatorics II, SL, 7.5 credits, Mathematics, degree project, SL, 30 credits.
Optional courses in mathematics, mathematical statistics, scientific computing and computor science: 30 credits.
Optional courses: 30 credits

### Degree

Master's degree.

### Misc

Students, admitted to the program and not having finished it within two years, may request that they be allowed to finish the program even after it has ceased to apply. By this the limitations given in the syllabi of the courses in the program must be taken into consideration.
The education may be given in English.