MASM26, Mathematical Statistics: Stationary and non-stationary spectral analysis
, 7.5 credits
Matematisk statistik: Stationär och icke stationär spektralanalys
Second Cycle / Avancerad nivå

Details of approval
The syllabus was approved by Study programmes board, Faculty of Science on 2011-04-27 to be valid from 2011-04-27.

General Information
The course is an elective course for second-cycle studies for a Master of Science in Mathematical statistics.

Language of instruction: English and Swedish

Main field of studies Depth of study relative to the degree requirements
Mathematical Statistics A1F, Second cycle, has second-cycle course/s as entry requirements
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Learning outcomes
The aim of the course is that students on completion of the course should have acquired the following knowledge and skills:

Knowledge and understanding
On completion of the course, the students are expected to:

- interpret and understand parametric and non-parametric spectral estimation methods.
- interpret and understand spatial spectral analysis and classical estimation techniques of
interpret and understand time-frequency analysis and classical estimation techniques of non-stationary spectra.

**Skills and abilities**
On completion of the course, the students are expected to:
- be able to estimate classical parametric and non-parametric spectral estimates.
- be able to estimate spectra of non-uniformly sampled sequences.
- be able to use classical time-frequency methods for estimation.

**Course design**

**Course implementation**
Teaching consists of lectures, home assignments, exercises, computer exercises and projects. Participation in computer exercises and thereby integrated teaching is compulsory.

**Assessment**
The examination is done written and orally by home assignments and computer exercise reports.

**Subcourses**
1101 Home assignment, 4,0 hp Grading scale: Fail, Pass, Pass with distinction.
1102 Project, 3,5 hp Grading scale: Fail, Pass, Pass with distinction.

**Grades**
For passing grade on the entire course passed home assignments, computer exercise reports and participation in compulsory parts are required. The grade is formed by weighing together the results on the parts which are included the examination.

Marking scale: Fail, Pass, Pass with distinction.

**Entry requirements**
For admission to the course knowledge equivalent to the courses MASC04, Stationary Stochastic processes, 7.5 credits and MASM17, Mathematical Statistics: Time series analysis, 7.5 credits are required together with English B.