



## Course syllabus

Faculty Board of Science and Engineering  
School of Computer Science, Physics and Mathematics

4MA113 Topologi, 7,5 högskolepoäng  
Topology, 7.5 credits

**Main field of study**

Mathematics

**Subject Group**

Mathematics

**Level of classification**

Second Level

**Progression**

A1N

**Date of Ratification**

Approved by Organisational Committee 2009-12-01

The course syllabus is valid from autumn semester 2010

**Prerequisites**

15 hec at bachelor-level or equivalent.

## Expected learning outcomes

The student should be able to:

- operate with sets
- operate with various topologies
- apply topology for problem solving
- operate with definitions and central notions of the course in coupling with study of various problems
- operate, communicate and present argumentation using mathematical forms of representation
- show applications of topology
- give various examples of topological spaces, in particular compact topological spaces
- work with continuous maps in topological spaces
- use compact topological spaces in applications.

## Content

The course content is:

- introduction to set theory
- topological spaces

- continuous functions in topological spaces
- compact topological spaces
- applications of topological spaces.

## Type of Instruction

Lectures and seminars. Compulsory assignments may be given during the course.

## Examination

The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).

On request, students may have their credits translated to ECTS-marks. Such a request must be sent to the examiner before the grading process starts.

The student's knowledge is assessed in the form of oral and/or written examination.

## Course Evaluation

After the course a written evaluation of the course will take place according to the University guidelines.

## Required Reading and Additional Study Material

### Required reading

Fomin S V och Kolmogorov A N *Introductory Real Analysis*,  
Dover Publication, INC, New York, 1975. 403 pages.