Linnæus University

Course syllabus

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

4MA111 Integrationsteori, 7,5 högskolepoäng
Integration Theory, 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 2009-08-11

The course syllabus is valid from spring semester 2010

Prerequisites
15 higher education credtis on Bachelor level or equivalent.

Expected learning outcomes
The student should be able to

- perform calculations with Lebesgue integrals
- interpret and operate with measurable functions
- use measurable functions and Lebesgue integral for solution of various problems
- operate with definitions and central notions of the course in coupling with study of various problems
- operate, communicate and present argumentation with mathematical representation forms
- show applications of Lebesque integrals in probability theory

Content
The course content is

- introduction to set theory
- measurable functions
- measure theory
- Lebesgue integral

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 examinations.

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.
403 sidor.