



Course syllabus

Faculty Board of Science and Engineering

School of Computer Science, Physics and Mathematics

4MA111 Integrationsteori, 7,5 högskolepoäng

4MA111 Integration Theory, 7.5 credits

Main field of study

Mathematics

Subject Group

Mathematics

Level of classification

Second Level

Progression

A1N

Date of Ratification

Approved 2009-08-11

Revised 2012-08-17 by School of Computer Science, Physics and Mathematics.

Prerequisites are revised.

The course syllabus is valid from spring semester 2013

Prerequisites

1MA153 Vector analysis 7.5 credits or equivalent.

Objectives

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 Lebesgue 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.
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