



**LUND**  
UNIVERSITY

Faculty of Science

## **MATM19, Integration Theory , 7.5 credits**

*Integrationsteori, 7,5 högskolepoäng*

Second Cycle / Avancerad nivå

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### **Details of approval**

The syllabus was approved by Study programmes board, Faculty of Science on 2012-10-02 to be valid from 2012-10-02, spring semester 2013.

### **General Information**

The course is an elective course for second-cycle studies for a degree of Master of Science (120 credits) in mathematics.

*Language of instruction:* English

*Main field of studies*

Mathematics

*Depth of study relative to the degree requirements*

A1N, Second cycle, has only first-cycle course/s as entry requirements

### **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 student should: be familiar with basic concepts and methods of integration theory have acquired basic knowledge for continued studies in integration theory. Skills and abilities On completion of the course, the student should: have developed the ability to communicate mathematics in speech and writing. Values and approach On completion of the course, the student should: have a good knowledge of integration theory as a tool for other parts of mathematics.

### **Course content**

Basic theory of Lebesgue integration: basic measure theory, construction of the Lebesgue measure, convergence theorems and Fubini's theorem.

## Course design

The teaching consists of lectures and seminars. Compulsory written assignments occur during the course.

## Assessment

The examination consists of a written exam followed by an oral exam. The oral exam is given only to those who pass the written exam. For students who do not pass the regular exam, an additional exam is offered shortly afterwards.

*Subcourses that are part of this course can be found in an appendix at the end of this document.*

## Grades

Marking scale: Fail, Pass, Pass with distinction.

The final grade is decided by joining the results on the written and oral exams.

## Entry requirements

For admission to the course, at least 60 credits in mathematics as well as English B or the equivalent are required.

## Further information

The course may not be included in a higher education qualification together with MAT414 Integration theory 10 p or MATP14 Integration theory 7.5 credits.

## Subcourses in MATM19, Integration Theory

Applies from V13

1201 Examination, 7,5 hp  
Grading scale: Fail, Pass, Pass with distinction