Department of Mathematics
(incl. Math. Statistics)

Stockholm University

Syllabus

for course at first level

Mathematics II - Analysis, part B
Matematik II - Analys, del B

7.5 Higher Education Credits
7.5 ECTS credits

Course code:	MM5011
Valid from:	Spring 2016
Date of approval:	2014-08-22
Changed:	2015-10-05
Department	Department of Mathematics (incl. Math. Statistics)
Main field:	Mathematics/Applied Mathematics
Specialisation:	G1F - First cycle, has less than 60 credits in first-cycle course/s as entry requirements

Decision

This syllabus has been approved by the Board of Faculty of Science at Stockholm Univeristy 2014-08-22 and has been revised 2015-10-05.

Prerequisites and special admittance requirements

To qualify for the course, knowledge equivalent to Mathematics II - Analysis, part A (MM5010), is required.

Course structure

Examination code	Name	Higher Education Credits
HELA	Mathematics II - Analysis, part B	7.5

Course content

The course covers theory of integral calculus in arbitrarily many variables, vector analysis (line integrals, Green's formula, surface integrals, Gauss' and Stokes' theorem, potentials) and something about analytic functions.

Learning outcomes

Upon completion of the course, the student is expected to be able to:
* define and explain basic concepts in integral calculus in one and several variables, in vector analysis and in the theory of analytic functions.
* present and prove basic theorems in integral calculus in one and several variables, in vector analysis and in the theory of analytic functions.
* explain and use methods basic concepts in integral calculus in several variables and in vector analysis to solve problems in mathematics and applications.

Education

Instruction is given in the form of lectures and exercise sessions.

Forms of examination

a. The course is examined in the following manner: measurement of knowledge is carried out through a written exam.

b. Grading is carried out according to a 7-point scale related to the learning objectives of the course:

A = Excellent
B = Very Good
C = Good
D = Satisfactory
E = Sufficient
Fx = Fail (some more work is required)
F = Fail (a lot more work is required)

c. Grading criteria for the course will be distributed at the start of the course.

d. A grade of at least E is required to pass the course.

e. Students who fail an ordinary examination are entitled to take additional examinations as long as the course is offered. There is no restriction on the number of examinations. The term "examination" here is used to denominate also other compulsory elements of the course. Students who have achieved a pass grade on an examination may not retake this examination in order to attempt to achieve a higher grade. Students who have failed to reach a pass grade on a course, or on a part of a course, on two occasions have the right to request that a different teacher be appointed to grade the next exam, unless there are special reasons against it. A request for such appointment must be sent to the departmental board.

The course has at least two examinations for each academic year in the years in which instruction is provided. Intervening years include at least one examination.

f. An opportunity to make up from grade Fx to the grade E is given. The examiner decides which assignments should be carried out to make up and the criteria for passing said assignments. The making up must take place before the next examination.

Interim

Students may request that the examination is carried out in accordance with this syllabus even after it has ceased to apply. This right is limited, however, to a maximum of three occasions within a two-year-period after the end of the course offering. A request for such examination must be sent to the departmental board. This provision is also valid in the case of revision of the syllabus.

Limitations

The course may not be included in a degree together with the course Mathematical Analysis IV (MM5002), or the equivalent.

Misc

The course can be taken within the Bachelor's Programmes in Mathematics, Mathematics and Philosophy, Physics, Biomathematics and Computational Biology, Oceanography, Astronomy, Meteorology and the Master's Programme in Medical Physics. It can also be taken as an individual course.

Required reading

Course literature is decided by the departmental board and is published on the web site of the Department of Mathematics at the latest 2 months before course start.