

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 2015
Date of approval:	2014-08-22
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 the Faculty of Science at Stockholm University on 22 August 2014.

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 the theory of integral calculus in several variables, vector analysis (curve integrals, Green's formula, surface integrals, Gauss's theorem, Stokes' theorem, potentials) and introduction to analytical functions.

Learning outcomes

It is expected that the student after taking the course will be able to:

- * define and account for the basic concepts in integral calculus in one and several variables, vector analysis and the theory for analytical functions,
- * account for and prove basic theorems in integral calculus in one and several variables, vector analysis and the theory for analytical functions,
- * explain and use methods in integral calculus in one and several variables and in vector analysis to solve mathematical and applied problems.

Education

Instruction is given in the form of lectures and exercises.

Forms of examination

- Examination for the course is in the following manner: measurement of knowledge takes place through written and oral examination.
- Grading is carried out according to a 7-point scale related to learning objectives:

A = Excellent
B = Very Good
C = Good
D = Satisfactory
E = Sufficient
Fx = Fail
F = Fail

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

d. A minimum grade of 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 denote even 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 two occasions have the right to request that a different teacher be appointed to set the grade of the course. 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. A student who receives the grade Fx will be given an opportunity to upgrade to E by successfully completing some extra task(s) assigned by the examiner, who also decides on the criteria to be fulfilled in order to pass. The completion must take place before the following examination session.

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 during a two-year-period after the end of giving the course. A request for such examination must be sent to the departmental board. The provision also applies in the case of revisions to 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 is a component of the Bachelor's Programmes in Mathematics, Mathematics and Philosophy, Physics, Biomathematics and Computational Biology, Oceanography, Astronomy, Meteorology and 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 described in an appendix to the syllabus.