Course syllabus

Endimensionell analys A2
Calculus in One Variable A2

FMAB50, 5 credits, G1 (First Cycle)

Valid for: 2020/21
Decided by: PLED F/Pi
Date of Decision: 2020-04-01

General Information

Main field: Technology.
Compulsory for: BME1, M1, MD1
Language of instruction: The course will be given in Swedish

Aim

The aim of the course is to give a basic introduction to calculus in one variable. Particular emphasis is put on the role that the subject plays in applications in different areas of technology, in order to give the future engineer a good foundation for further studies in mathematics as well as in other subjects. The aim as also to develop the student’s ability to solve problems, to assimilate mathematical text and to communicate mathematics.

Learning outcomes

Knowledge and understanding

For a passing grade the student must

- within the framework of the course with confidence be able to handle elementary functions of one variable, including limits and derivatives of them.
- be familiar with the complex numbers and their properties.
- be able to give a general account of how derivatives may be used to study mathematical models in the applications.
- be able to account for the contents of definitions, theorems and proofs.

Competences and skills

For a passing grade the student must

- without difficulties be able to calculate with complex numbers.
- in the context of problem solving be able to integrate knowledge from different parts of
the course.
• be able to demonstrate an ability to explain mathematical reasoning in a structured and logically clear way.

Contents


Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)
Assessment: Written test comprising theory and problem solving.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Admission

Assumed prior knowledge: FMAB45 Calculus in One Variable A1
The number of participants is limited to: No
The course overlaps following course/s: FMA410, FMA415, FMA645, FMAA05, FMAA01, FMAA50

Reading list

Contact and other information

Course coordinator: Studierektor Anders Holst, Studierektor@math.lth.se
Course administrator: Studerandeexpeditionen, expedition@math.lth.se
Course homepage: http://www.maths.lth.se/course/endimA2ny/
Further information: The course Calculus in one variable is taught and examined in two versions, track A (the courses Calculus in One Variable A1-A3) and track B (the courses Calculus in One Variable B1-B2) respectively, depending on the student’s programme. The goals are the same. The present course belongs to track A. A student who has enrolled in this course may not later enrol in courses from track B.