

SYLLABUS

Numerical Methods 7.5 credits B0006M

Numeriska metoder

Course syllabus admitted: Autumn 2012 Sp 1 - Autumn 2012 Sp 2

**DECISION DATE
2012-04-03**

Numerical Methods 7.5 credits B0006M

Numeriska metoder

First cycle, B0006M

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	G U 3 4 5	Matematik	Mathematics

Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language and Mathematics Calculus, Undergraduate Level 1

Selection

The selection is based on 1-165 credits.

Examiner

Lars Bergström

Course Aim

After the course the student should:

- be able to identify different mathematical problems and rewrite them so that a numerical method may be applied.
- understand how different numerical methods are constructed and how they are used.
- be able to implement numerical algorithms in a programming language or a program for mathematical computations.

Contents

Numerical, iterative, solution of nonlinear equations, direct and iterative numerical solution of systems of linear equations, interpolation and curve fitting, numerical integration and numerical solution of ordinary differential equations.

Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

The course consists of both theory and implementation assignments. Lectures and tutorials give theoretical knowledge about different numerical methods, and the methods are implemented and investigated during computer sessions.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided. Written exam and assignments.

Literature. Valid from Autumn 2012 Sp 1

Johansson, Per-Gunnar. (1995) Numeriska metoder : en grundläggande introduktion. Lund : Studentlitteratur. (226 s). ISBN 91-44-49811-X
Laborationsuppgifter i kompendieform.

Course offered by

Department of Engineering Sciences and Mathematics

Items/credits

No items/credits available

Syllabus established

by Dept TVM Mats Näsström 2012-04-03