SYLLABUS

Numerical Analysis 7.5 credits C0002M

Numerik

Course syllabus admitted: Autumn 2013 Sp 1 - Spring 2014 Sp 4

DECISION DATE
2013-02-15

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LULEÅ TEKNISKA UNIVERSITET

Numerical Analysis 7.5 credits C0002M

Numerik

First cycle, C0002M

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 Basic knowledge of mathematics such as Calculus M0029M, Linear Algebra and Calculus M0030M and Linear Algebra and Differential Equations M0031M or equivalent.

Selection

The selection is based on 1-165 credits.

Examiner

Ove Edlund

Course Aim

When the course is finished, you should
- know how to use MATLAB for scientific computing
- have insight in basic problems that arises when using floating point arithmetics on computers
- know the basic principles for constructing numerical algorithms
- know some algorithms from different problem areas
- know how to use numerical software and validate the correctness of the results

Contents

The course covers the basic principles of MATLAB, computer arithmetic, methods for solving equations, computations of integrals, interpolation, numerical linear algebra, approximation, 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 teaching consists of lectures and supervision in connection to the assignments

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.
Assignment reports and a written exam.

Remarks

The assignments are solved primarily with MATLAB.

Overlap

The course C0002M is equal to MAM208

Literature. Valid from Autumn 2008 Sp 1

Chapra, Steven C.: Applied Numerical Methods with MATLAB, for Engineers and Scientists, 2nd edition, McGraw Hill.
ISBN: 9780071259217

Course offered by

Department of Engineering Sciences and Mathematics

Items/credits

Number	Type	Credits	Grade
0001	Written exam	4.5	6 U G VG 3 4 5
0003	Assignment	3	U G#

Last revised

by Mats Naesstroem 2013-02-15

Syllabus established

This syllabus is valid from H07 (Autumn 2007).