Zurich University of Applied Sciences

School of Engineering

t.MNMT2 - Mathematik: Numerik für Maschinentechnik 2

Person responsible for the course:	Nadin Stahn, stan
Credits:	2
Valid for:	2010/2011
Last saved:	19.08.2010 14:53

Learning objectives:

This course
- provides the numerical armamentarium and the numarical skiills needed for the ingeneering courses
- introduces to the way of thinking of discrete and numerical mathematics.

The students have
- an overview of the most important numerical methods

and can
- categorise problems and choose an adequate numerical solving method
- analyse, apply and modulate software
- implement algorithms for selected problems.

Course content:

numerics of ODEs and ODES - selected examples
- Euler's method
- Taylor's method
- Runge-Kutta's method

shooting methods for solving boundary value problems numerical

numerics of PDEs - selected examples
- finite differences
- finite elements

Previous knowledge:

MAE1, MAE2, MAE3, MLAE1, MLAE2, MNMT1

Teaching method:

Type of lesson:	Number of lessons per week:
Lecture	14x2L
Tutorial/Practicum	
Group teaching	
Block instruction	
Seminar	

Assessment:

According to the table or as specified in writing by the lecture at the beginning of the semester!

Number	Type	Weighting
1	End of term exam	
	Exam during the semester	
	Further assessments	accordant written determination of the lecturer at the beginning of the semester

Language of instruction:

Deutsch

Instruction material:

Dozierendenabhängig

Preuß und Wenisch (Herausgeber): Lehr- und Uebungsbuch Numerische Mathematik. Hanser

Stiefel: Einführung in die numerische Mathematik. Teubner

Comments:

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