

Course Descriptions CiE

Course code:

Course title: Finite Element Method

Hours per week: 2

Semester: SS

Number of Credits allocated/work load: 3

Course contents:

- Vectors, Matrices and Tensors
- Variational formulation of structural analysis
- Approximation of displacements and strains
- Assembling of global Matrices with boundary conditions
- Solution of equation systems
- Stress or heat analysis (optional)
- Computer program organization
- Training on a general purpose FE program

Prerequisites:

- Mathematics
- Numerical Methods
- Mechanics and heat transfer

Objective of the course/learning outcome: Knowledge of the basics (theory) in FEM-Programs

Recommended Reading: K.-J. Bathe, Finite Element Procedures, *Prentice Hall*, 1996

Teaching methods: Seminar-style lecture and self-study

Assessment methods:

Language of instruction: English

Name of lecturer: Prof. Dr.-Ing. Roman [Mair](#)

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Link: http://www.fh-muenchen.de/home/fb/fb05/vs/Professoren/d_mair.pcms

Examination: written exam (90 min)