COURSE DETAIL

COMPUTER BASED ENGINEERING: DESIGN ANALYSIS 2
Country Sweden
Host Institution Lund University
Program(s) Lund University
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Mechanical Engineering
UCEAP Course Number 172
UCEAP Course Suffix
UCEAP Official Title COMPUTER BASED ENGINEERING: DESIGN ANALYSIS 2
UCEAP Transcript Title DESIGN ANALYSIS 2
UCEAP Quarter Units 6.00
UCEAP Semester Units 4.00

Course Description
The main emphasis of the course is on non-linear design analysis. Design analysis in this context primarily concerns the utilization of computer based analysis methods/techniques for quantitative problem solving in the design process. The finite element method (FEM) is primarily dealt with and methods and techniques for the analysis of non-linear static and dynamic mechanical systems. The course also deals with how computationally expensive analyses can be completed by metamodeling in order to enable time-efficient optimization. The current software programs are ANSYS, WorkBench, Autodesk CFD, modeFRONTIER and PTC. Modelling is a crucial element in the analysis activity, in which the goal is a transfer of the technical solution that has been developed in a usable form for the subsequent operations. Structural analysis, thermal analyses, and CFD analyses of non-linear and/or dynamic phenomena are becoming increasing more common in product development in order to optimally simulate the product's actual environment and characteristics. The lectures are focused on modelling and selection of analysis type, as well as showing industrial applications. Guest lecturers with deep insights in specific techniques are invited. Each student is expected to solve and submit a modelling and analysis assignment.

Language(s) of Instruction
English

Host Institution Course Number
MMKN51

Host Institution Course Title
COMPUTER BASED ENGINEERING, DESIGN ANALYSIS 2

Host Institution Course Details

Host Institution Campus
Engineering

Host Institution Faculty

Host Institution Degree

Host Institution Department
Engineering- Product Development

Course Last Reviewed

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