COURSE DETAIL

COMPUTER BASED ENGINEERING: DESIGN ANALYSIS 1
Country Sweden
Host Institution Lund University
Program(s) Lund University
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Mechanical Engineering
UCEAP Course Number 171
UCEAP Course Suffix
UCEAP Official Title COMPUTER BASED ENGINEERING: DESIGN ANALYSIS 1
UCEAP Transcript Title DESIGN ANALYSIS 1
UCEAP Quarter Units 6.00
UCEAP Semester Units 4.00

Course Description
Design analysis in the given context primarily concerns the utilization of computer based analysis methods/techniques for quantitative problem solving in the engineering design process. The finite element method (FEM) is primarily dealt with for the analysis of these mechanical systems. An important part of the design analysis is modelling and handling of the interactions between the different software (structural, thermal and flow) utilized. The goal is to transfer the obtained analyses results into the actual design solution, thus facilitating the preceding design activities. The course also covers how a given design solution subjected to a single or complex phenomena is given a mathematical formulation (model), which in turn can be transformed into an optimization problem. Based on this formulation a suitable optimization method and tool is selected. The software utilized in the course are: ANSYS WorkBench, Autodesk CFD, modeFRONTIER and PTC Creo. The lectures are focused on modelling and selection of analysis type, optimization methods and design of experiments as well as showing industrial applications. Guest lecturers with deep insights in specific techniques are invited.

Language(s) of Instruction
English

Host Institution Course Number
MMKN46

Host Institution Course Title
COMPUTER BASED ENGINEERING: DESIGN ANALYSIS 1

Host Institution Campus
Engineering

Host Institution Faculty

Host Institution Degree

Host Institution Department
Engineering- Product Development

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