



CAD-IT CONSULTANTS (ASIA) PTE LTD TRAINING COURSES

COURSE NAME : Introduction to Finite Element Analysis Part 1

DURATION : 3 x 8hrs session

* Creditable for QUT Master program and Continuing Development (CPD) courses offered by the Professional Engineers Board (PEB) Singapore.

OBJECTIVES

Attendees will be trained to perform linear structural and steady-state thermal analysis. The emphasis is on the fundamentals of Finite Element Analysis (FEA) and the detailed procedure of conducting FEA, such as building the model, applying boundary conditions, reviewing & interpreting the results. Other utilities, such as graphics, select logic, and non-linearities, will be covered as well.

WHO SHOULD ATTEND

The course is intended for engineers or research fellows who need to conduct Finite Element Analysis. New FEA users are highly encouraged to attend both Introduction to Finite Element Analysis Part 1 and Introduction to Finite Element Analysis Part 2 courses. PEB members are able to obtain 35 PDUs upon completion of both courses.

PRE-REQUISITES

Engineering knowledge is required. Familiarity with the computer (PC or workstation) and knowledge of finite element theory are useful but not essential.

COURSE SYLLABUS

SESSION ONE

- Finite Element Fundamentals
- ANSYS GUI Introduction
- Analysis Approach Overview
- Creating the Solid Model and FE Model

SESSION TWO

- Defining the Material
- Loading and solution
- Stress analysis with result interpolation
- Thermal analysis and its stress effect
- Post Processing
- CAD connection and Modeling Techniques
- Coordinate Systems and Application

SESSION THREE

- Advanced Meshing Techniques
- Start File
- APDL and Parametric Design
- Batch Mode and Input

Each course chapter is followed by "hands-on" workshops and exercises.

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