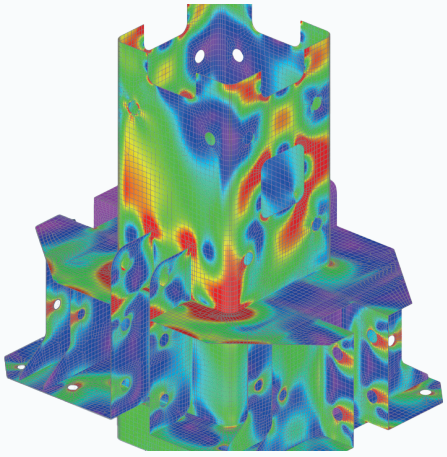
ENGINEERING TRAINER

enterfea

Finite Element Analysis (FEA) Essentials

Online Course



- Self-paced
- 8 modules & 5 case studies
- 24.5 hours
- English
- 1-yr access
- SPC601

Learn from home
100% online training

Video Lectures
watch multiple times

Available 24/7
1-year unlimited access

PDH Hours qualified course
Read more here

Course Objective

"To provide a solid understanding of the different engineering concepts and challenges involved with applying FEA to solve engineering challenges."

Program

Module 1	Introduction to FEA	45 min
Module 2	Important Engineering Concepts	1 hr 5 min
Module 3	Model Preparation	2 hr 10 min
Module 4	Model supports & Boundary Conditions	3 hr
Module 5	Loads	2 hr 6 min
Module 6	Meshin	3 hr 47 min
Module 7	Analysis	2 hr 5 min
Module 8	Post Processing	3 hr 25 min
Case 1	Steel plate under tension	45 min
Case 2	Bolted Cantilever	48 min
Case 3	Solid Bracket	1 hr 8 min
Case 4	Roof rafter stability	1 hr 37 min
Case 5	Street Lamp	3 hr 3 min

Results

After this course, you...

- have a fundamental understanding of the important concepts involved with FEA,
- have improved your engineering judgement related to FEA,
- know the different considerations to make for preparation of your models,
- understand how best to implement Boundary Conditions and Loads,
- know the different element types and how they impact your meshing,
- know the limitations of different analysis types,
- and understand typical post-processing steps,
- have seen 5 fully explained practical examples with video guides and solved with different approaches.

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Provided by

Łukasz Skotny, Ph.D.
Owner & Lead Designer of Enterfea

Finite Element Analysis

Enterfea is a team of passionate engineers.

For many years they have dealt with the most difficult engineering tasks, simply because they enjoy it. Thanks to their experience in design backed up with knowledge gained at work at Wrocław University of Science and Technology they are able to cope with any challenge.

Course Summary

Learning Finite Element Analysis can be challenging and many learning resources focus solemnly on the theoretical backgrounds or on software use. But very important when applying FEA to solve engineering challenges is to have a good understanding of the concepts and design choices involved.

This course teaches you the different approaches used in FEA and the engineering judgment required to properly design models, analyze problems and interpret results. It will help you to understand basic engineering concepts, develop your engineering judgment and gain essential FEA skills. Topics include stress definitions, model preparation, connection rigidity, boundary conditions discussions, realistic load application, meshing, analysis, and post-processing.

This course does not focus on the use of one particular set of software, rather it discusses FEA considerations generic for all software. Demonstrations and examples are given using Femap with NX Nastran.

The course consists of 8 online modules based on video and text content. You receive 1-year unlimited access to the course and the discussions forum. This allows you to perform modules again when you need to refresh knowledge for your work projects.

Who should attend this course

- Professionals of various industries involved with the execution of FEA projects,
- Those managing or overseeing FEA related work that need to be able to provide judgement about the assumptions and choices made.

Prerequisites

- Technical background is required,
- Basic experience with Finite Element Method software is beneficial.

Level I - Intermediate