

Introduction to pre- processing with ANSA and solving with EPILYSIS Online Course

Length: 12 hours

Dates:

Monday May 5th : 9:30 – 13:30 (EEST)
Tuesday May 6th : 9:30 – 13:30 (EEST)
Wednesday May 7th : 9:30 – 13:30 (EEST)

Course Description:

This course offers a thorough introduction to pre-processing modeling with ANSA and solving using EPILYSIS

Learning Objectives:

Participants will learn how to set up and optimize simulation models in ANSA, apply boundary conditions, and efficiently prepare them for solving in EPILYSIS. This course equips participants with the skills to streamline the simulation process, improve model accuracy, and enhance overall workflow efficiency. Ideal for beginners and those looking to strengthen their FEA proficiency

Software used:

- ANSA
- EPILYSIS

Audience: Students

Prerequisites: An understanding of the basics of FEA



Modules in this course:

Day 1

- Introduction to ANSA
- Main terms and GUI
- CAD Translation
- Geometry Handling
- Middle surface extraction
- Model Organization & Handling

Day 2

- Introduction to Surface Mesh
- Batch Mesh
- Surface mesh improvement
- FE Mesh Handling
- Post - Mesh checks

Day 3

- Volume Mesh
- Connections and Assembly
- Introduction to Solver Decks and Model Management
- Introduction to EPILYSIS



Session 2:

- Manual meshing techniques (Spacing, CFD mesh, Improve)
- Detect and manage geometry features with the Feature Manager (sharp edges, trailing/leading edges etc.)
- Using the Quality Criteria tab
- Batch Meshing setup
- Size Boxes and Size Field for local mesh refinement
- Checking the surface mesh with Checks Manager and quality improvement
- The Octree/Wrap function

Session 3:

- Layers generation (important options and settings)
- Volume Mesh algorithms (Tetra, HexaInterior etc.)
- Generate Layers and Volume Mesh with Batch Mesh manager
- Checking and fixing volume mesh quality

Session 4:

- The use of DECKS menu for the setup of a case
 - Proper PID definition in order to setup correctly the case for a CFD run.
 - Demonstration of the output for a test case
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- Basic use of META - How to load a model and results.
 - Labels and Fringe options.
 - The use of User calculations.
 - The use of Cut Planes and CFD Post toolbar.
 - Generation of streamlines and isofunctions.

You can find useful video tutorials on our [YouTube](#) channel at the following links:



- [ANSA tutorials](#)
- [META tutorials](#)