

Multi Body Dynamics analysis with ANSA Kinetics tool Online Course

Length: 4 hours

Dates:

Friday May 9th : 9:30 – 13:30 (EEST)

Course Description:

This course introduces participants to the principles of kinetics and kinematics with ANSA and demonstrates how to set up a model for such types of analysis

Learning Objectives:

Upon completing the course, participants will gain a foundational understanding of setting up models for kinematic, dynamic, contact, and static equilibrium analysis. They will also learn to perform motion analysis and study the dynamics of mechanical systems that change their response over time

Software used:

- ANSA

Audience: Students

Prerequisites: Participants should have an engineering background. Basic knowledge of ANSA is necessary



Modules in this course:

Day 1

- What is ANSA Kinetics
- Markers
- Bodies
- Graphics
- Joints
- Motions
- Forces
- Simulator
- Results Viewer
- Exporting plotted curves as numerical data
- Expression Builder
- Measures



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](#)