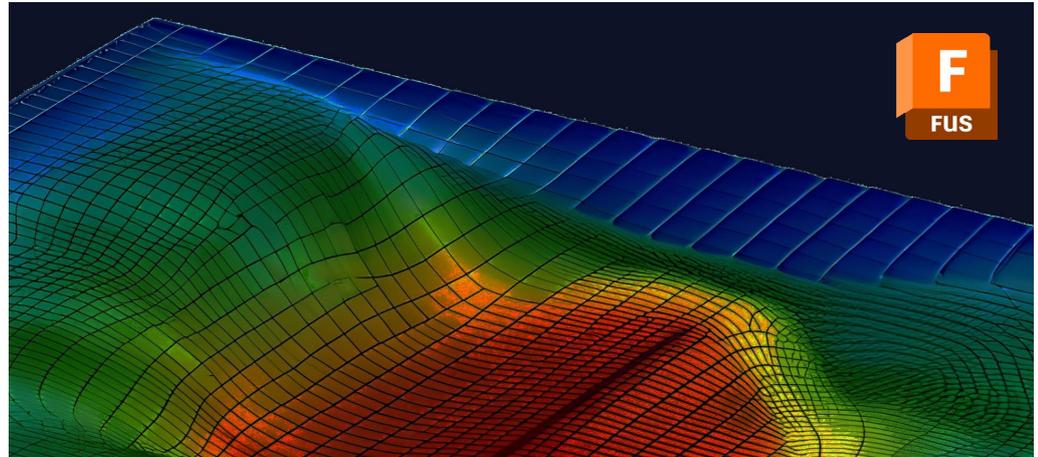


Fusion Simulation and FEA Stress Analysis



Training course outline

Autodesk Fusion provides functionality to analyse part performance, manufacturability and generative design capabilities.



Course summary

Covers all aspects of simulation and stress analysis, including part-level and assembly FEA. You'll learn to use one or more simulation types of your choice from the 11 available. The simulation types you can choose from are:

- Static stress
- Modal frequencies
- Thermal
- Thermal stress
- Structural buckling
- Nonlinear static stress
- Electronics cooling
- Quasi-static event simulation
- Dynamic event simulation
- Shape optimisation
- Injection moulding

This course can be hosted over 1-3 days, depending on the number of simulation types you want to cover:

- 1-day course: a single simulation type.
- 2-day course: up to 6 simulation types.
- 3-day course: all 11 simulation types.

Sessions include:

- Overview of simulation
- Simplification
- Materials management
- Creating load cases
- Assembly simulations
- Simulation settings
- Results

If you choose a 1-day course focusing on the Static stress simulation type, no additional extensions are required. If you choose any other simulation types, you'll require the Fusion Simulation extension. If you don't have access to this extension, we can provide it for the training.

Prerequisites

You should have a good working knowledge of Fusion, i.e. be familiar with the topics taught in our [Fusion Essentials course syllabus](#).

General information

Armada is a long-standing Autodesk authorised Training Centre (ATC), and our *Fusion Simulation and FEA Stress Analysis* courses are accredited by Autodesk.

Courses are hosted by Autodesk Certified Instructors (ACIs) with vast experience of using Fusion professionally.

You can use a Windows computer or a Mac. You can attend in-person at our centres, or participate live online.

Course materials and certificate

You'll receive:

- Training materials and video content recommendations.
- An e-certificate confirming successful completion of an accredited *Fusion Simulation and FEA Stress Analysis* course.

After course support

Following training, you're entitled to 30 days' email support from your trainer.

Further information

See: armada.co.uk/course/fusionsimulation or scan the QR code above.

Course syllabus

See over.

Other Fusion courses

- [Fusion Essentials](#) (2 days).
- [Fusion Intermediate](#) (2 days).
- [Fusion Advanced](#) (2 days).
- [Fusion CAM and CNC Essentials](#) (2 days).
- [Fusion CAM and CNC Advanced](#) (2 days).
- [Fusion Sheet Metal Design](#) (1 day).
- [Fusion Technical Drawings](#) (1 day).
- [Fusion Additive Manufacturing](#) (2 days).
- [Fusion Generative Design](#) (2 days).

Course syllabus

Session	Topics
Overview of Simulation	Introduction to the Simulation workspace Goals of a simulation Types of Simulation in Fusion
Simplification	Purpose of simplification Key simplification tools Use of Simulation models Removing components from assemblies
Materials Management	Applying materials to your study Understanding valid materials Creating custom materials
Creating Load Cases	Understanding the purpose of constraints Applying fixed constraints Understanding alternative constraint types Applying loads Understanding different load types Use of gravity in simulations

Session	Topics
Assembly Simulations	Automatic contacts Understanding contact types Adjusting contact settings Assembly vs part simulation
Simulation Settings	Understanding meshes Adjusting mesh settings Adaptive mesh refinement Viewing degrees of freedom
Results	How to check and solve a study Viewing study results Guided results Specific results Animating results Comparing multiple studies, models and load cases Surface probes, point probes and cutting planes Generating a result report