

# Introduction to FEA with MSC Apex and MSC Nastran



## Objective:

MSC Apex is a contemporary FEA platform, which supports the MSC Nastran FEA solver. The MSC Apex and MSC Nastran workflow is used in the aerospace, space, and related industries around the world to develop the most advanced products of the future.

The powerful functionality offers new thinking in how to define a strategy for understanding structural response, from simple components through to complex assemblies with many parts.

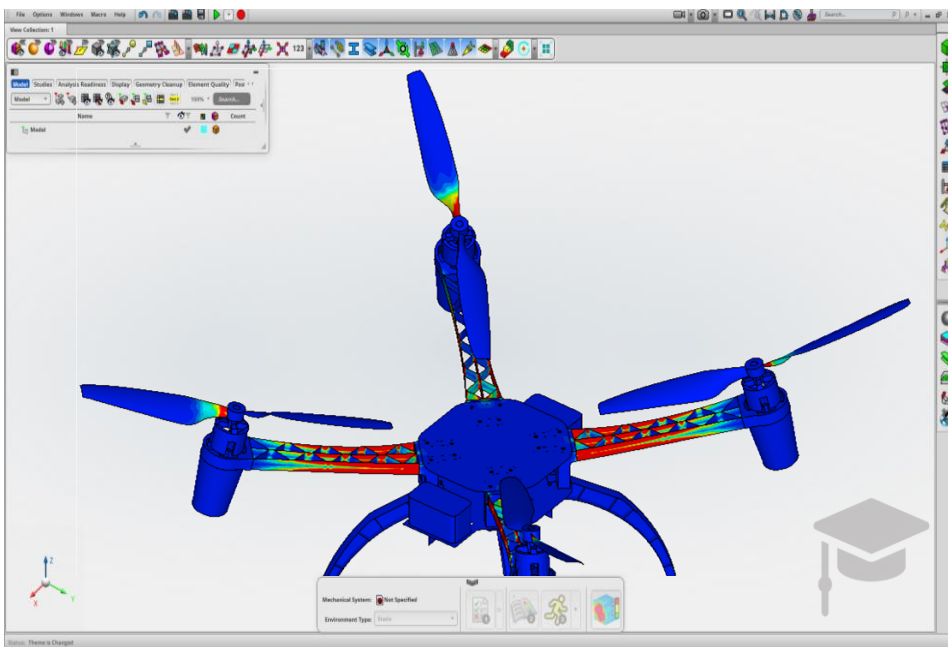
- Kick start your professional learning by mastering FEA strategy and development with these incredible tools.
- The online course develops your understanding of the toolsets and the many concepts they support, allowing you to become productive with Apex and Nastran's functionality very quickly.
- You'll become familiar with key workflows, improved modeling strategy and the analysis benefits achievable with this new paradigm that Apex and Nastran offers.
- Through the course, you will advance your understanding from simple modeling tasks, through to looking at complex assemblies, all around a real-world CAD representation of a UAV/drone air vehicle.
- A free version of the MSC Apex Student Edition is available from Hexagon.
- All the tutorial examples shown during the course are configured for the MSC Apex Student Edition.

## Content:

The online learning experience is underpinned with a combination of instructor-led explanation and demonstration, in parallel with interactive user tutorials, which develop in involvement through the course.

The course is taught through eight discrete lessons, each around 90 minutes long.

These include;



- 01.Introduction
- 02.Model Build (1D/2D)
- 03.Model Build (3D)
- 04.Model Attribution
- 05.Model Connections
- 06.Assembly Modeling
- 07.Analysis
- 08.External FEA Workflow

**Lesson Format:** Each lesson follows a consistent teaching format, which includes;

### 1. Overview

- How does this topic relate to your modeling and analysis process?

### 2. Topic Detail

- What are the key features that enable this?

### 3. Tutorial Overview

- We show you this in action through a worked tutorial.

### 4. Worked Tutorial

- Your turn to put these concepts into practice.

### 5. Tutorial Review

- We review your tutorial and further work.

## Evotech Background :

This course is developed and delivered by Evotech CAE Ltd, a Hexagon business partner. As Director and Lead FEA Engineer of UK-based Evotech CAE Ltd, Dr Steffan Evans has over 25 years' experience of the practical usage of advanced FEA techniques in diverse industrial settings.

This has included the development and delivery of many training courses and programs covering FEA fundamentals, industry application of the technology, alongside direct teaching in how to get the most from your commercial FEA software.



“Evotech’s online FEA training courses deliver a great learning experience. The presentation is excellent, guiding the user through a series of well thought out, realistic workshops with subassemblies building to a complete model. Highly recommended for both new and existing users.”

**Senior Technical Consultant, Hexagon**

“I just completed the online course and I’ve been impressed by the quality of the course. It is very well structured and very well presented. Very easy to understand and it permits to take the control of MSC Apex and MSC Nastran in just a few hours.”

**FEA Analyst/Trainer/Author, FEA Academy**

“Just completed the Evotech ‘Introduction to FEA with MSC Apex and MSC Nastran’ course. I think this is an excellent introduction to model build, and to solution with the inbuilt solver, or externally in Nastran. Excellent tuition from Dr Steffan Evans.”

**Principal Stress Engineer, Aerospace Industry**



**Pre-Requisites:** A basic knowledge of strength of materials and CAD modeling is highly recommended.

Duration: 12hrs

Pricing: See [evotechcae.com/learn](http://evotechcae.com/learn)

No previous knowledge of FEA is required.

