

People  
Knowledge  
Innovation



## Professional Development Courses with Quadra Solutions

# Autodesk Inventor Professional Simulation

Ensure you get the most from your software with our Personal Development Courses. We're an accredited Autodesk training provider and all of our courses are delivered by experienced, specialist trainers. Our courses are designed to support your training needs and get results.

### Course Description

This course covers Stress Analysis and recommended work-flows for understanding creating dynamic simulations of mechanisms using Autodesk Inventor Professional. Delegates will learn how to validate mechanical designs by simulating the operation of mechanisms and motorised assemblies. Delegates will also learn how to share load information within the stress analysis environment. Hands on exercises representing real world, industry specific design scenarios are included.

### Who is this course for?

This course is designed for experienced Autodesk Inventor users.

### Objectives

The primary objectives of this course are to introduce delegates to the user interface and tools in the dynamic simulation and stress analysis environment; and teach delegates how to validate mechanical designs by creating dynamic simulations and stress analysis reports of mechanisms using joints and environmental constraints, eliminate redundancies in a design, interpret dynamic simulation results, and share important load information with the stress analysis environment.

### Pre-requisites

Delegates should have completed the Autodesk Inventor Essentials course and have a working knowledge of complex assembly design using Autodesk Inventor. Mechanical engineering or engineering analysis experience is a plus. It is also recommended that the delegate have a working knowledge of Microsoft Windows.

### Duration

Two days

Quadra Solutions Limited  
Ewbank House  
Cannon Street  
Accrington  
Lancashire  
BB5 1NJ

Tel: 01254 301888  
Fax: 01254 301323  
Email: [info@quadrasol.co.uk](mailto:info@quadrasol.co.uk)  
[www.quadrasol.co.uk](http://www.quadrasol.co.uk)



► People  
Knowledge  
Innovation



# Professional Development Courses with Quadra Solutions

## Training Course Outline

### Day 1

#### Introduction to Engineering Analysis

- Perform a Basic Stress Analysis
- Review a Cam Valve Simulation
- 

#### Stress Analysis

- Create Loads and Constraints
- View Analysis Results
- Determine Stress in an Assembly
- Perform a Parametric Study
- Determine if Results are Converged
- Perform a Modal Analysis

### Day 2

#### Dynamic Simulation

- Create Joints
- Define Loads and Joint Properties
- Calculate the Driving Torque of the Wiper Assembly
- Create a Non-redundant Model
- Simulate and Analyse a Glass Level Mechanism

#### Engineering Problems and Solutions

- Calculate the Maximum Acceleration of a Cross Sub-assembly
- Create a Cam Part from Motion Outputs
- Size a Spring for a Bike Suspension
- Size an Actuator
- Optimisation of a Link Arm

## Training Services

Ensure you get the most from your software with our training & technical support services. We're accredited to provide Autodesk training and our experienced technical team are able to tailor training to the needs of delegates. Training can be delivered at both our Accredited Training Centre in Lancashire or at a venue of your choice.

## Booking your Professional Development Course

For more details on booking your Autodesk Professional Development Course contact us now on 01254 301 888 or email [training@quadrasol.co.uk](mailto:training@quadrasol.co.uk). For the full list of training courses, services and products we provide please go to [www.quadrasol.co.uk](http://www.quadrasol.co.uk) for more information.

Quadra Solutions Limited  
Ewbank House  
Cannon Street  
Accrington  
Lancashire  
BB5 1NJ

Tel: 01254 301 888  
Fax: 01254 301 323  
Email: [info@quadrasol.co.uk](mailto:info@quadrasol.co.uk)  
[www.quadrasol.co.uk](http://www.quadrasol.co.uk)

