

# **Mathcad Prime 3.1**

## **Curriculum Guide**



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## **Live Classroom Curriculum Guide**

- Advanced Functionality using Mathcad Prime 3.0



# Advanced Functionality Using Mathcad Prime 3.0

## Overview

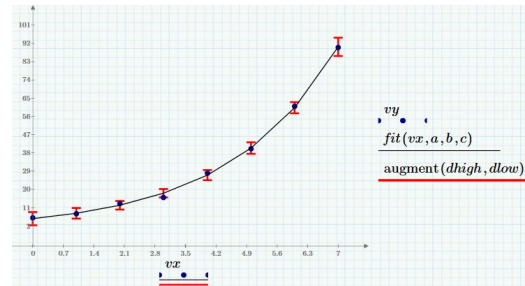
Course Code TRN-4020-T

Course Length 1 Day

In this course, you will learn advanced functionality using Mathcad Prime 3.0. You will learn about Mathcad Prime 3.0 advanced functionality in data exchange and analysis, programming, symbolics, and differential equations.

At the end of each module, you will find a set of review questions to reinforce critical topics from that module. At the end of the course, you will find a course assessment in Pro/FICIENCY intended to evaluate your understanding of the course as a whole.

This course is also applicable to Mathcad Prime 3.1.



## Course Objectives

- Use an Excel component as a function
- Use the built in function genfit to fit a model function to a set of data
- Determine the quality of fit of a predicted model to a set of data points by calculating the sum of the squares of the residuals and the confidence intervals of the data points
- Use the built-in functions polyfit and polyfitc to model data
- Explain the use of two Mathcad custom functions written for interfacing with an HDF5 file format
- Create a PTC Mathcad program
- Use conditional statements
- Use looping constructs
- Use symbolic calculation features
- Use symbolic keywords
- Solve an ordinary differential equation
- Solve a partial differential equation
- Solve a nonlinear differential equation

$$m \cdot x''(t) = -c \cdot x'(t) - k \cdot x(t)$$

## Prerequisites

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- Mathcad Prime 3.0 Essentials or equivalent Mathcad Prime experience

## Audience

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- This class is intended for those who are intermediate or advanced users of Mathcad. People in related roles will also benefit from taking this course.
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## Agenda

### Day 1

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Module	1	Data Exchange and Analysis
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Module	2	Programming
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Module	3	Symbolics
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Module	4	Differential Equations
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## **Web Based Curriculum Guide**

- Mathcad Prime 3.1 Integration with Creo Parametric 3.0 (M030)



# Mathcad Prime 3.1 Integration with Creo Parametric 3.0 (M030)

## Overview

Course Code WBT-4023-0

Course Length 2 Hours

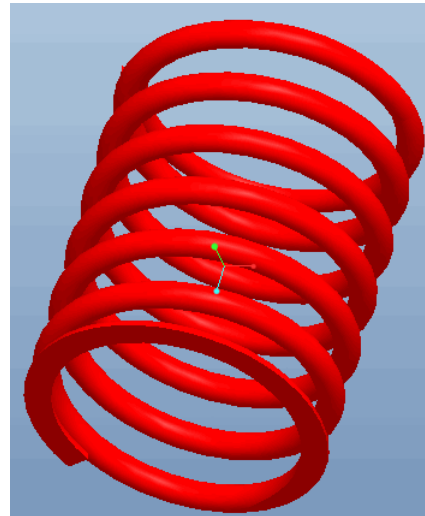
In this course, you will learn how to use Mathcad Prime and Creo Parametric in conjunction with one another. This course is designed for users who are already familiar with both Mathcad Prime and Creo Parametric.

You will complete Pro/FICIENCY skills assessment questions for each topic. These questions are used to help reinforce your understanding of the course topics.

Number of Active Coils:	$N_c := 1$
Diameter of the wire:	$d_w := 1 \cdot \text{mm} = 0.039 \text{ in}$
Force on the spring:	$F := 1 \cdot N = 0.225 \text{ lbf}$
Coil diameter:	$D_c := 10 \cdot \text{mm}$
Shear modulus:	$G := 77.2 \cdot \text{GPa} = (1.12 \cdot 10^7) \text{ psi}$

## Course Objectives

- Understand license and software requirements
- Designate variables in Mathcad Prime to receive information from Creo Parametric
- Designate variables in Mathcad Prime to return information to Creo Parametric
- Insert a Mathcad Prime worksheet in Creo Parametric



## Prerequisites

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- Mathcad Prime 3.1 Essentials or equivalent experience
- Introduction to Creo Parametric 3.0 or equivalent experience

## Audience

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- This course is intended for design engineers and mechanical designers. People in related roles will also benefit from taking this course.
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## Table of Contents

Module	1	Mathcad Prime Integration with Creo Parametric
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