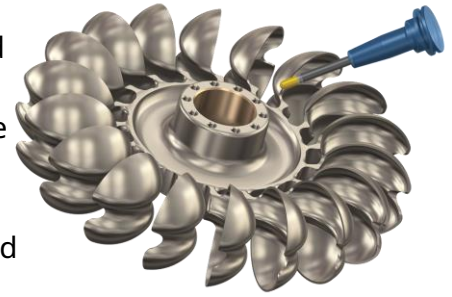


# Mastercam Multi-axis

## Course Description

This course will focus on delivering you a foundation for choosing and utilizing multi-axis toolpaths instead of Mastercam for simple and complex models that may require multi-axis control. You will learn the critical steps needed to utilize the control these paths offer, as well as enhancing your current 3-axis processes.

The class will also cover programming for a variety of solid models and surfaces along with how to position and process them for utilizing multiple planes to create simultaneous motion.



## Method of Instruction

This course is a classroom setting experience with personal handout instructions to be completed by the student.

















After completion of the class the students can guide themselves back through each module and refresh their skills by completing the part at their own pace.

## Objectives

After completing this course, you will be able to:

- Explain and demonstrate the differences between 3+2 and simultaneous multi-axis toolpaths
- Understand and explain multi-axis terminology such as DWO, TCP, and functions like G68
- Apply new techniques for processing complex parts utilizing multi-axis toolpaths
- Create and manipulate geometry and planes to correctly form simultaneous motion toolpaths
- Demonstrate advanced proficiency with the Mastercam Multiaxis product

## Course Topics

-  Introduction to Mastercam Multiaxis
-  Understanding terms associated with multi-axis toolpaths, such as DWO, TCP, vector definitions, and G68 functions
-  Positioning 3+2 and 4+1 machining
-  3+2 Auto Roughing toolpath
-  Roughing in Multiaxis
-  Finishing in Multiaxis
-  WCS and plane creations
-  Avoidance and checks for collision against models, fixtures, vices, and clamps
-  Machine Simulation
-  Deburring parts
-  Swarf Milling
-  Unified Toolpath
-  Pocketing
-  Curve
-  Triangular
-  Flow

## **Course Requirements**

- Completion of Advanced Surfacing and 3D Mill, and/or optional Mastercam Skills Assessment
- Mastercam Mill 3D with Mastercam Multiaxis
- Internet Connection for Mastercam University online courses and classes

## **Grading**

Grades will be available from the Instructor Dashboard for assessment questions. Challenge assignments will not be graded in the system and must be reviewed manually or peer reviewed.

## **Course Completion Time**

**Course is a combined minimum of 16 hours in person and/or online meetings.**

Each online course lesson contains video guides, step-by-step documents, challenges, and assessments. Completion time will vary from student to student.

## **Next Steps**

After completion of this course students are encouraged to continue their growth and exploration of the software through custom courses/classes for their specific parts and machines.

**Make sure to sign up for our Home Learning Edition on our website to get started on using Mastercam today!**

**[Home Learning Edition Sign-up](#)**

**Or check out our website directly at: [www.fastechinc.net](http://www.fastechinc.net) for additional learning content and information on everything Mastercam related.**