EDUCATIONAL SUITE

The Mastercam Educational Suite puts the world’s #1 CAM software* at your students’ fingertips.

Why is Mastercam the Choice for Education?

For more than 30 years, CNC Software, Inc. has prided itself on meeting the demanding needs of its customers by providing excellent products at affordable prices. Mastercam has over 211,000 installations worldwide in aerospace, consumer products, energy, government/military, heavy industry, medical, mold making/tool and die, transportation, woodworking, and other industries. This means more employers are looking to hire skilled Mastercam experts than other CAM software products.

This comprehensive suite contains everything your students need to learn multiple machining methods in a single, easy-to-use program.

What makes Mastercam the most commonly chosen software the world over?

- A remarkably easy interface has students cutting parts quickly.
- The most robust 2- through 5-axis toolpath generation available.
- Fully associative toolpaths are linked with your geometry. Modify any element of the design, and immediately get updated toolpaths without starting over.
- Feature Based Machining delivers push-button 2D programming.
- Mastercam’s CAD File Change Recognition tracks files from Mastercam or any other CAD system and will show you what’s been changed for easy toolpath updating.
- Comprehensive insert libraries including ISCAR®, Sandvik®, Kennametal®, and Valenite®.
- See the part as it will come off the machine with solid-model toolpath verification.

The Mastercam Educational Suite combines our core products into one package for schools at a deeply discounted price.

Modeling

Mastercam Design

Model in wireframe, surfaces, and solids. Mastercam’s streamlined CAD engine makes design work easier than ever before. Each piece of geometry you create is live, letting you quickly modify it until it’s exactly what you want.

Mastercam Solids

Solid modeling is transforming the way parts are designed. Now you can bring that power right into your school. Mastercam Solids gives you the speed of solids, the power of surfaces, and the simplicity of wireframe. You choose the right tool for the right job.

Milling

Mastercam Mill

Our highest level of Mill allows students to machine everything from basic pockets and contours to complex 3D models with 4-axis control.

- High Speed Toolpaths (HST)
- Dynamic Constant Engagement Toolpaths
- Feature Based Machining (FBM)
- OptiRough
- Engrave toolpaths
- Rotary 4-axis

* Source: CIMdata, Inc.
Turning

Mastercam Lathe

Easy roughing, finishing, threading, grooving, boring, drilling, and cutoff ensures that you’re ready for any job. Includes variable and dynamic roughing, complete threading, and live tooling for B, C, and Y axes. Along with Mastercam Mill, allows for mill/turn applications.

Data Translators

IGES, Parasolid®, SAT (ACIS solids), AutoCAD® (DXF, DWG), Autodesk® Inventor® (IPT, IAM), SOLIDWORKS® (SLDprt, SLDasm, SLDdrw), Solid Edge®, STEP, EPS, CADL, STL, VDA, and ASCII translators all included. Also includes Mastercam Direct add-in that puts a Mastercam launcher directly in your AutoCAD, SOLIDWORKS, Solid Edge, or Autodesk Inventor toolbars. With one click you can launch your current part in Mastercam, ready for programming.

Wire EDM

Mastercam Wire

Fully associative EDM programming. Mastercam Wire has complete 2- and 4-axis wirepath creation, advanced synchronization capabilities, automatic corner filleting and skim cut definition, and easy tab creation and management.

Router

Mastercam Router

Our top-level Router software is the best possible foundation for fast and efficient routing. It includes full 3-axis machining and design including easy associative multisurface roughing and finishing, cleanup machining to reduce final hand work, onion skin, tab control, optimized nesting and block drilling, and highly specialized toolpaths like 5-axis trimming.

Mastercam® for SOLIDWORKS®

Now included with the Mastercam Educational Suite. See next page for details.
Mastercam® for SOLIDWORKS® Educational Combo (Standalone)

Mastercam for SOLIDWORKS combines the world’s leading modeling software with the world’s most widely-used CAM software. Program your parts directly in SOLIDWORKS, then apply the toolpaths you know and love from the Mastercam Educational Suite and machine your part – all without leaving SOLIDWORKS. SOLIDWORKS users will feel at ease with the Mastercam machining tree which delivers quick access to any point in the machining process.

The Mastercam for SOLIDWORKS Educational Combo includes the most sought-after cutting strategies for both milling and turning, including High Speed Toolpaths (HST). In addition, Mastercam for SOLIDWORKS delivers a powerful set of automated toolpaths that get parts off the machine faster, with little or no handwork.

Multiaxis is available as an add-on to the Mastercam for SOLIDWORKS Educational Combo. If you have 4- or 5-axis, this add-on is just what you need.

Multiaxis (Add-On)

For schools that go above and beyond 3-axis machining. Program your 5-axis CNC machine using one of the many multiaxis toolpaths found in Mastercam Multiaxis. Whether it’s a table-table trunion, tilt head, or a combination of both, Mastercam is the right choice.

Art (Add-On)

Add artistic flair to conventional CAD/CAM in a simple process. Your students can quickly bring their sketches, clip art, photos, and CAD files to life by crafting them on screen and cutting them with easy, specialized toolpaths. Students can visually adjust their model, delivering the exact 3D look they imagined.

Productivity+™ (Add-On)

This fully integrated version of Renishaw’s Productivity+ probing and inspection utility automates part setup including tool length offsetting, fixture alignment, and more. The in-process inspection process checks sizes and can adjust offsets and recut incorrect features. It can even check for tool breakage during unattended machining.

QuickPart (Standalone)

A motivational step-by-step approach that guides students through the CAD/CAM/CNC process. Students create their own designs and cut parts from day one, learning applicable terminology, principles, and processes while using industry leading software. This is the perfect software to whet the appetites of potential and beginning students. Can also be used in conjunction with 3D printers.

Other Solutions

A number of other Mastercam products such as Mill-Turn, Blade Expert, Port Expert, Swiss Expert, and the Demo/Home Learning Edition are available for education. Go to www.mastercam.com to learn more.
When students learn Mastercam, they’re learning the industry’s software of choice. This special section highlights some of the cutting-edge technology that makes Mastercam the top CAM software worldwide.

**Dynamic Motion Technology**

Cycle time and tool wear are shops’ constant concerns. Mastercam’s Dynamic Motion is designed to improve both of these with a single powerful technique.

Dynamic Motion creates a constantly adapting toolpath with consistent cutting conditions providing smoother, safer motion. This motion is easier on your machine and can effectively use the full flute length, greatly extending cutter life and often eliminating the need for multiple depth cuts. Optimized cut ordering, specialized motion to keep the tool down, and other elements combine to deliver parts faster than ever before.

**High Speed Machining**

High Speed Machining (HSM) is a powerful cutting method that combines high feed rates with high spindle speeds, specific tools, and specialized tool motions aimed at producing ultrasmooth movement and cutting action. HSM can deliver faster turnaround and a superior finish. Mastercam includes HSM toolpaths designed to help you make the most of this strategy. Best of all, you don’t need a dedicated high speed machine to use HSM—any machine can benefit from this powerful technique.

**Feed Rate Optimization**

Mastercam also delivers another powerful way to get the most out of your machines. As every shop owner knows, running an entire job at a single feed rate reduces efficiency. Running the same job at varying optimal feed rates can save time and money, and reduce tool wear. Our Feed Rate Optimization feature enhances any 2-axis or 3-axis toolpath based on the volume of material being removed and machine tool limitations; more material and the cutter moves slower, less material and the cutter moves faster. Feed Rate Optimization will also automatically ease the tool in and out of corners. The result is efficient, varied feed rates tailored to each job.

**Optimized Roughing**

Mastercam’s suite of innovative, fast roughing toolpaths—OptiCore, OptiArea, and OptiRest—are all designed to remove large amounts of material quickly using concepts from our popular dynamic milling motion.

Large, aggressive cuts are followed by fast, smaller up-cuts, safely delivering a fully roughed part in dramatically less time—as much as 60% faster or more. Like our dynamic milling toolpaths, these roughing techniques promote longer tool life.
TRAINING & CURRICULUM

We know that training and good curriculum are critical to the strength of your program so we work hard to provide you with the tools you need to make your program a success.

Mastercam University®

This video-based online training program gives students the ability to move through the curriculum at their own pace, spending extra time where they need more help, and moving quickly through sections they understand easily. Each course includes a pretest, posttest, and a comprehensive final. Students who work through all of the material and score 80% or better on each posttest, as well as the comprehensive final, earn Mastercam Associate Level Certification. Available in both classroom packages and single subscriptions. These tests and certification are the same ones used by industrial customers which means once your students are certified, they are even better prepared to enter the workforce.

Go to www.mastercamu.com for full information.

Certification

Mastercam offers certification for both students and instructors. Attaining Mastercam Certification gives students the edge in the job market, providing them with an easy way to prove their skills and helping them to make the cut when it comes to the jobs and promotions they seek.

For instructors, becoming Mastercam Certified is the first step towards offering certification as part of their program, increasing job placement rates, and building stronger ties to the local business community.

Instructor Training

In order to ensure that Mastercam instructors are prepared for the unique challenges of the classroom, we host annual instructor-specific training at our Educational Division offices in Gig Harbor, Washington. Classes cater to the educator, working through student-driven parts and working through the problems instructors often see in CAM classrooms. The Mastercam Summer Teacher Training program includes a wide variety of classes to fit your specific skill level, from absolute beginner to advanced. Contact your local Mastercam Educational Reseller for information on local training.

Go to www.mastercam.com/STT for full information.

Curriculum

One of the benefits of teaching the most widely taught CAD/CAM software is the abundance of available curriculum for nearly every level of instruction. With the widely varied curriculum packages produced both by CNC Software and by outside sources, there is sure to be a package that fits the needs of you and your program. There is no need for you to spend precious time creating materials from scratch.
MOTIVATIONAL TOOLS

Our Educational Division is dedicated to future generations of machinists. We are strong supporters of a number of motivational competitions for students.

Wildest Parts

Mastercam’s Wildest Parts Competition challenges students to design and machine something that is different from anything we have ever seen before. We’re looking for high-quality parts that either haven’t been done before or have never been done like that before. Our challenge is for students to break the mold, think outside the box, and cut outside the lines.

Students do not have to create a special item specifically for this competition. Instead, we invite them to simply send in parts they already made for class over the course of the school year. Each student that enters receives a Mastercam shirt and has the chance to win a cash prize of up to $1,000 to further their education. Instructors with winning students also win Mastercam logo materials.

For more information, visit www.mastercam.com/WildestParts.

National Competitions

In addition to our Mastercam-sponsored competitions, our Educational Division is deeply involved in numerous local, national, and worldwide competitions, where many schools compete using Mastercam. Participation in these competitions engage students’ competitive spirit, and get them excited about their projects. With the wide variety of competitions available, your students are certain to become enthused about CAD/CAM and the manufacturing process.

Our Educational Division is happy to help you find the competition that will best suit your needs.

Contact them at TeacherInfo@mastercam.com.

Edge Factor Partnership

Continuing through 2016, we’re proud to announce we’ll be continuing our strategic partnership with Edge Factor. Edge Factor produces inspiring, high impact media that tell the stories of innovators who design and build incredible products with Mastercam that impact lives and ultimately, the future of the world. All media produced by Edge Factor is the foundation for eduFACTOR.org, a membership based, online suite of media resources for educators and business leaders to inspire the next generation of advanced manufacturers.

Additionally, we’re joining forces for the best Manufacturing Day yet! A celebration of modern manufacturing meant to inspire the next generation of manufacturers; we’re producing a turnkey kit to help any business, school, organization, or shop in industry to host an event at their location. The event will be held on October 7, 2016.

Find out more at eduFACTOR.org.
WHY MASTERCAM?

When instructors choose the best CAM software for their students, they choose Mastercam.

The Software That Gets the Jobs
For the past 20 years, CIMdata, Inc. has reported that Mastercam is the most widely installed CAM software in industry worldwide. That means that when employers are looking for fresh prospects, they’re looking for Mastercam expertise. Why train students on any CAD/CAM software other than the one that puts students on the path to financially and personally rewarding careers?

Dedicated to Education
Our dedication to the next generation of advanced manufacturing professionals and the future of manufacturing is clear. With Mastercam used everywhere from middle schools through top universities, we understand the unique needs of schools and strive to provide instructors with the support they need to deliver outstanding programs.

Service and Support
Your Mastercam investment is backed by the most knowledgeable and dedicated support network in the industry. Our dedicated educational team understands the unique needs of educational users and strives to help your program succeed. Together with our network of experienced and dedicated Mastercam Educational Resellers, we are able to provide you with the support you deserve—from technical support to advice on how to make your program the best it can be. And this support comes in the form of local experts with the know-how to help you get the most out of Mastercam.

The Community
The Mastercam community includes your Mastercam Educational Division, your local educational Reseller, our global network of partners, and, of course, the numerous and widely varied users. Our software partners offer highly specialized add-on CAD/CAM functionality and numerous training resources. You also have access to an extensive online community that includes a Mastercam users’ forum for quick answers and tips, as well as a presence on popular social networking sites including Facebook, YouTube, and Twitter for news on the latest advancements. No matter where you are or what time of day you need help, there is often someone available in the #MastercamFamily to lend you a hand or offer valuable advice.

CNC Software, Inc.
671 Old Post Road
Tolland, CT 06084

www.mastercam.com

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