Progressive Learning Course Catalog

National Training and Learning Center

Revision 09/2015

Index

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Vision

In competitive manufacturing, issues such as uptime, maximum utilization and workforce development are more critical than ever for the sustainability of business. At Mazak, we believe that when a customer purchases a machine, it is our responsibility to provide the support that ensures they receive the maximum return on their investment. Our new Optimum Plus North American customer support program provides the full range of services you need to make the most of your Mazak equipment. Whether focusing on profitability, productivity or competitive positioning, knowledge is power. Even with the latest user-friendly machine technologies, success correlates directly to the expertise of the programmers and operators working with the equipment. That's why Mazak has constantly made substantial investments in developing and refining our Progressing Learning program.

Mazak Progressive Learning represents a unique, phased approach to education and training, combining hands-on training, web-based instruction and real world examples to empower customers with the skills needed to get the most out of their investment. Our program offers tiers of offerings, ranging from self-paced coursework to high advanced Multi-Tasking User Groups. This ensures an appropriate entry point for any individual, regardless of their current level of skill and expertise.

Additionally, customers can receive training at a variety of locations. Classes are routinely offered at our Learning Center and Center for Multi-Tasking and Manufacturing Excellence in Florence, Kentucky. Each of our Regional Technology Centers also integrates our Progressive Learning approach and provides a host of training alternatives. We also make available customized, on-site training programs that can be held at your own facilities. By offering such a range of options, we ensure that every customer can be armed with the knowledge to optimize their production processes.

- Each new machine includes three years of programming training at no charge
- Classes held at the Learning Center and Center for Multi-Tasking and Manufacturing Excellence in Florence, Kentucky
- On-site training at our Regional Technology Centers located across North America
- Training staff with unmatched expertise and real-world experience

Introduction to Mazak Training

The National Technology Center and Optimum Support Headquarters in Florence, Kentucky are the home of the National Training and Learning Centers. Annually, over 3,000 customers receive training in our state of the art facility. To ensure that we accommodate as many customers as possible with the highest quality, our facilities contain several generations of Mazatrol CNC simulators, numerous dedicated sub-assemblies, and test stands for a hands-on learning experience. Operator development and advanced programming classes are held in the Center for Multi-Tasking and Manufacturing Excellence in Florence, KY. In addition, seven Regional Technology Centers in the US, Canada, and Mexico provide programming courses for new machine installations. Specific requests can be made to train groups of maintenance personnel at the customer's facility. Additional classes are posted through-out the year. For up-to-date information, please visit our website at: www.mazakusa.com/learning/.

Maintenance classes are prepared especially for Electro-Mechanical specialists and are taught by machine and control type. A strong technical curriculum offers the best opportunity to improve the knowledge and ability of your maintenance specialists and maximizes the productivity of your Mazak machines. The Advanced Electrical Troubleshooting classes on the Mazatrol controls go deeper into the Mazak troubleshooting. This class utilizes control ladder diagrams and diagnostic features; therefore, a Mechanical and Electrical Class is a prerequisite-site.

Classes run daily from 8:30 a.m. to 4:30 p.m. ending at 3:00 p.m. on the last day (unless indicated otherwise). The tuition fee covers professional instruction, class materials, manuals and daily lunches. Expenses for hotel, meals, entertainment, transportation, etc. are the student's responsibility. Preferred rates for car rental and hotel accommodations are available and details are provided upon registration inquiry. Hotels provide transportation to and from Mazak classes as well as airport shuttle service.

EXPERIENCE Matters

Nothing fosters a true understanding of machine tools and the latest advancements in metal cutting like hands-on experience. By participating in Hands on Training (HOT) operator development courses at the Center for Multi-Tasking and Manufacturing Excellence, your workforce will gain invaluable expertise.

Get CONNECTed

Though the completion of hands-on training will provide you with the expertise to ensure increased productivity and profitability in your shop, success will not be long lasting if steps are not taken to continue developing those skills. Through Mazak's online training program with ToolingU, you will not only learn the basics of machining technology, but also develop skills in areas such as shop math and CNC basic milling and turning, while increasing knowledge on topics like quality, materials and processes.

CHART a Course

Our commitment to ensuring optimum equipment productivity extends to programming and maintenance training as well. Each year, thousands of Mazak customers receive training at the National Training Department in the Optimum Customer Service and Support Headquarters in Florence, Kentucky. To guarantee that we accommodate as many customers as possible, our facilities contain several generations of Mazatrol CNC simulators, numerous dedicated sub-assemblies and test stands for a hands-on learning experience.

EXPAND Industry Knowledge

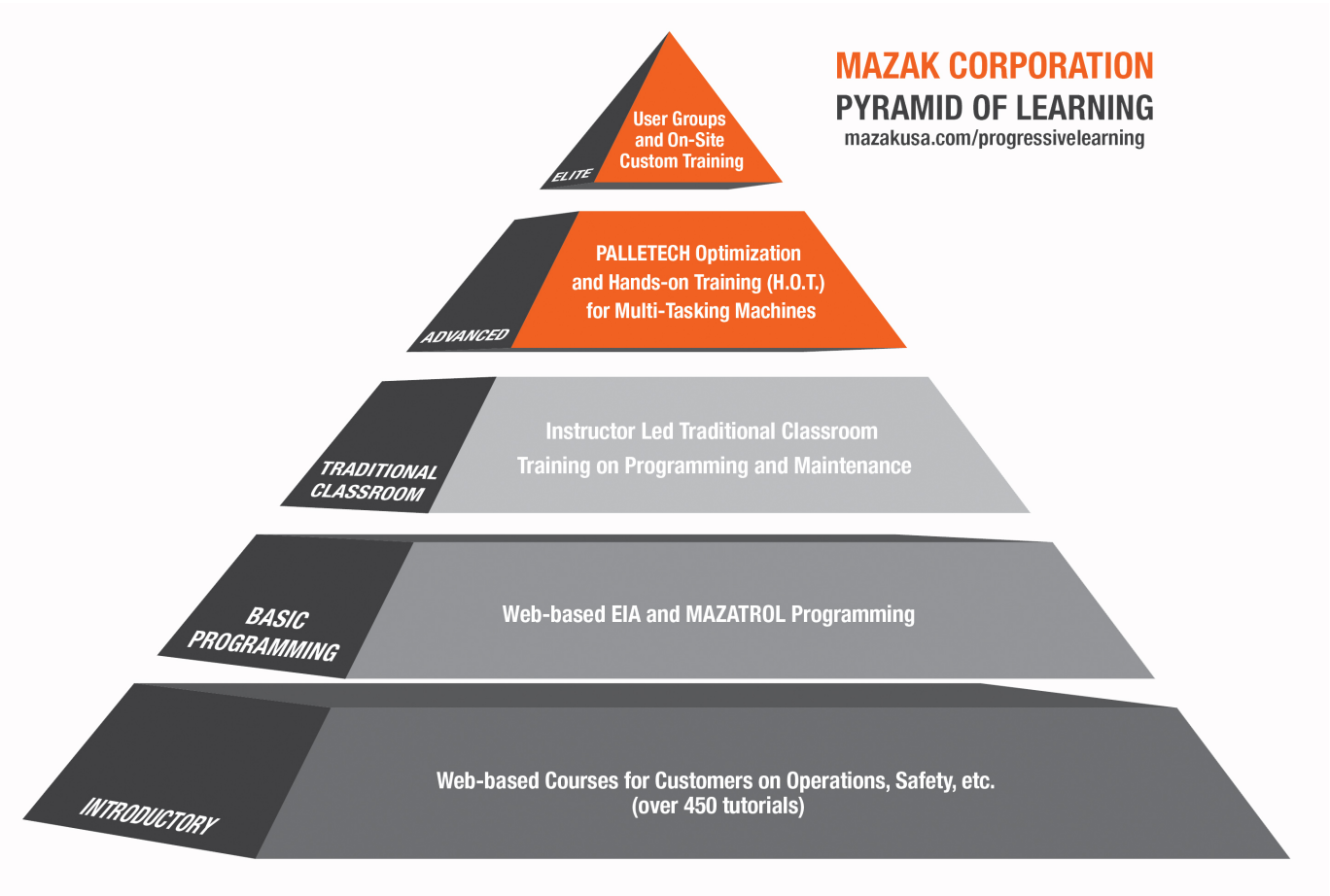
Having a strong grasp on best practices for multi-tasking machining is imperative for the success of your business, and the best source of this valuable information is your fellow multi-tasking users. Mazak created Multi-Tasking User Groups to provide an open forum to discuss the manufacturing strengths, opportunities and problems that many companies are facing in today's economic landscape. Meeting at least once per quarter at Mazak's Multi-Tasking and Manufacturing Learning Center in Florence, Kentucky, the group is comprised of Mazak customers who wish to expand and share their knowledge of multi-tasking, while also exploring individual initiatives and solutions for a wide variety of technical, educational and workforce issues.

Partnerships for SUCCESS

Mazak frequently hosts seminars that focus on the various trends and challenges in the manufacturing industry. By partnering with industry-leading tooling companies and suppliers, we are able to provide customers with a comprehensive learning experience that generate new ideas designed to fill the technology gap.

Mazak National Learning Center in KY

The Learning Center is used for customer training, user group training and large meetings.



Simple
Self-Paced & Web-Based Training Programs

Introduction
Introduction to Conversational Programming and CNC Overview

Traditional
Hands-On Operation Development (Attendees Setup and Run Parts)
Courses include classroom training

Advanced
Tooling Technologies Seminars
Palletech PMC Web Optimization
EIA/ISO, Renishaw Macro and Applied Conversational Programming
Special Processes (eg: gear cutting, 5 Axis)

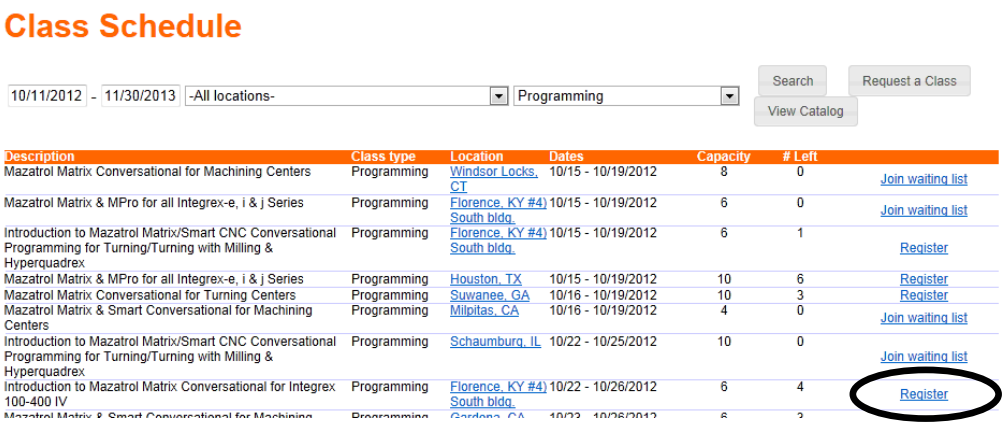
Elite
Customized Training Programs
Machine User Groups / Special Technology Seminars

Registration

Class reservations are on a first come-first serve basis and must be made in advance and confirmed with a purchase order.

To register via the internet, please visit us at: http://www.mazakusa.com/learning. From here you can click on the 'All Scheduled Classes' at the bottom right hand corner. Or you can select the 'POD Product Training' from the tool bar and select 'Classes' from the drop down.

Under 'Class Schedule' you can filter by date, location and training type. Select the 'Register' link to begin the registration process.



Description	Class type	Location	Dates	Capacity	# Left	
Mazatrol Matrix Conversational for Machining Centers	Programming	Windsor Locks, CT	10/15 - 10/19/2012	8	0	Join waiting list
Mazatrol Matrix & MPro for all Integrex-e, i & j Series	Programming	Florence, KY #4 South bldg.	10/15 - 10/19/2012	6	0	Join waiting list
Introduction to Mazatrol Matrix/Smart CNC Conversational Programming for Turning/Turning with Milling & Hyperquadrex	Programming	Florence, KY #4 South bldg.	10/15 - 10/19/2012	6	1	Register
Mazatrol Matrix & MPro for all Integrex-e, i & j Series	Programming	Houston, TX	10/15 - 10/19/2012	10	6	Register
Mazatrol Matrix Conversational for Turning Centers	Programming	Suwanee, GA	10/16 - 10/19/2012	10	3	Register
Mazatrol Matrix & Smart Conversational for Machining Centers	Programming	Milpitas, CA	10/16 - 10/19/2012	4	0	Join waiting list
Introduction to Mazatrol Matrix/Smart CNC Conversational Programming for Turning/Turning with Milling & Hyperquadrex	Programming	Schaumburg, IL	10/22 - 10/25/2012	10	0	Join waiting list
Introduction to Mazatrol Matrix Conversational for Integrex 100-400 IV	Programming	Florence, KY #4 South bldg.	10/22 - 10/26/2012	6	4	Register

To submit a registration request via fax, send it to the National Learning and Training Center at 859-342-1520.

Course Description

Color Code Definitions:

Programming

- The header for all Programming courses will be the color orange

Maintenance

- The header for all Maintenance courses will be the color blue

HOT Class

- The header for all HOT (Hands on Training) will be the color red

KY Technology Center Maintenance

Mazak Technology Centers Classrooms

KY Technology Center Hands On Training

Programming | Maintenance | HOT Class

Course Title: Mazatrol Fusion 640M, M-Plus, M-32 Conversational Programming for Machining
(Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
The purpose of this class is to provide part programming information to experienced milling machinist using the Mazatrol programming language on Mazak machining centers.

The classroom uses Fusion 640M Control Simulators.

The class hours are 8:30AM–4:30PM daily (3days) ending an approximately 3:00PM the 4th day.

Requirements:
Machining and tooling experience on machining centers.

Category:
Milling

Tuition: $500.00
After purchase of new machine customer will have 3 years of no charge on programming courses.

Note:
This class covers 640M,
M-Plus and M32 Controls.

Lunch will be provided.

Abbreviated Syllabus:
Day 1
Machine coordinate and programming coordinate systems; Familiarization with Mazatrol functions and program creation; Common Unit and basic WPC; Explanation of the Face Milling Unit and Point Machining Units

Day 2
Explanations of the following: Mazatrol Program edit features, Priority Function for the Same Tool; Multi Mode Programming; Line Machining; Tool Data; Virtual Machining

Day 3
Explanations of the following: End Unit, Step Unit, Arbitrary shapes with unknowns, Arbitrary shapes using shape rotates and shape shift features

Day 4
MMS Unit; Tornado Milling Unit and Planet Tapping Unit: User Parameters and TPC function; Restart, VFC, TPS functions; Factory Tour and National Technology Center Tour

Course Title: Mazatrol Matrix & M-Pro Programming for Integrex-e, i & j Series (Training is 5 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
This class provides part programming information using the Mazatrol programming language on Mazak Integrex.

The class room uses the Matrix CAM.

The class hours for Integrex Turning section are 8:30AM - 4:30PM daily (2days) ending at approximately noon the 3rd day. Secondary spindle and then the Milling sections continue onto the 4th day for C-axis and Y-axis. The 5th day includes Y-axis and B-axis Milling.

Requirements:
Machining and tooling experience on lathes and/or machining centers.

Category:
Integrex e, i & j Series

Tuition: $500.00
After purchase of new machine customer will have 3 years of no charge on programming courses.

Note:
Lunch will be provided.

Abbreviated Syllabus:
Day 1
Machine coordinate and programming coordinate systems; Familiarization with Mazatrol functions and program creation; Topics on Turning: Facing, Bar Out, Unknowns Calculating, Tool Data, Drilling, Bar

Day 2
Continue with topics on Turning: Threading, Tapping, Grooving, Bar Out, Copy, Material Shape, Unknowns Calculating (continued), Bar Face and Bar Back, Tool Data

Day 3
MMS; Manual Programming for Turning; User Parameters and TPC function; Student Review; Secondary Spindle Programming; C-axis topics

Day 4
Topics on Milling: C-axis Coordinate, Point Machining, Line Machining, Parameters and TPC function, Arbitrary Shapes, Manual Programming for Milling, Y-axis Coordinate, Facing

Day 5
Topics on Milling (continued): Y-axis Coordinate, Line Machining, Point Machining, Pocket, Manual Programming with Y-axis, Shape Rotate and Shape Shift Features, Tornado Milling and Planet Tapping; B-axis topics

Course Title: Mazatrol Fusion 640MT/MT-Pro Conversational Programming for Integrex 100 – 400
(Training is 5 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
This class provides part programming information using the Mazatrol programming language on Mazak Integrex.

The classroom uses the Mazatrol 640MT/MT Pro Simulators.

The class hours for Integrex Turning section are 8:30AM – 4:30PM daily (2days) ending at approximately noon the 3rd day. Secondary spindles and the Milling sections for C-axis end at 4:30PM on the 4th day. Y-axis and B-axis start at 8:30 AM - 4:30PM on the 5th day.

Requirements:
Machining and tooling experience on lathes and/or machining centers.

Category:
Multi-Tasking (Integrex)

Tuition: $500.00
After purchase of new machine customer will have 3 years of no charge on programming courses.

Note:
Lunch will be provided.

Abbreviated Syllabus:
Day 1
Machine coordinate and programming coordinate systems; Familiarization with Mazatrol functions and program creation; Topics on Turning: Facing, Bar Out, Explanation of Unknowns, Tool Data, Drilling, Bar

Day 2
Topics on Turning (continued): Threading, Tapping, Grooving, Bar Out, Copy, Material Shape, Continuation of Unknown Calculations, Bar Face and Bar Back, Continuation of Tool Data

Day 3
MMS; Manual Programming; User Parameters and TPC function; Factory Tour; Secondary Spindle Programming

Day 4
C-axis coordinate; Point Machining; C-axis Slot Machining; Milling User Parameters; Line machining; Arbitrary Shapes; Manual Programming with C-axis

Day 5
Y-axis; Face Milling; Line Machining; Point Machining; Pocket; Arbitrary Shapes; Manual Programming with Y-axis; Shape Rotate and Shape Shift; Tornado Milling, B-axis information

Course Title: Mazatrol Fusion 640T, T-Plus, T-32 Turning & Turning with Milling Conversational Programming (Training is 5 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
This class provides part programming information on Mazak Lathes and Mill center Lathes using the Mazatrol programming language.

The class room uses Fusion 640T Control Simulators.

The class hours on the Turning section for Lathes and Millcenter Lathes are 8:30AM - 4:30PM daily (2days) ending at approximately 2:30PM the 3rd day. Secondary spindle continues to 4:30PM. The Milling section for Mill center Lathes starts 4th day for C-axis to 3:00PM. The Y-axis then starts and continues to the 5th day.

Requirements:
Machining and tooling experience on lathes and/or machining centers.

Category:
Turning with Milling

Tuition: $500.00
After purchase of new machine customer will have 3 years of no charge on programming courses.

Note:
This class covers Fusion 640T, T-Plus, and T32 controls.

Lunch will be provided.

Abbreviated Syllabus:
Day 1
Machine coordinate and programming coordinate systems; Familiarization with Mazatrol functions and program creation; Topics on Turning: Edge, Bar Out, Explanation of Unknowns, Tool Data, Edit Features, Drilling, Bar In

Day 2
Topics on Turning (continued): Threading, Tapping, Program Layout Functions, Groove, Copy, Material Shape, Unknowns Calculation, Bar Face and Bar Back, Tool Data

Day 3
MMS; User Parameters and TPC function; Factory Tour; Secondary Spindle Programming

Day 4
Topics on Milling: Mill center Lathes, Tool Data, C-axis coordinate, C-Axis Drilling and Tapping, C-axis Bore, C-axis Mill Groove, User Parameters, C-axis Line Machining, Manual Programming, Y-axis Coordinate, Y-axis Drilling and Tapping

Day 5
Topics on Milling (continued): Y-axis Line Machining, Y-axis Circle Milling and Tornado Milling, Y-axis Mill Groove, Manual Programming

Course Title: Mazatrol Matrix / Fusion 640M Conversational Programming for Machining Centers
(Training is 5 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
This class provides part programming information on Mazak Lathes and Mill center Lathes using the Mazatrol programming language.

The class room uses Fusion 640T Control Simulators.

The class hours on the Turning section for Lathes and Millcenter Lathes are 8:30AM - 4:30PM daily (2days) ending at approximately 2:30PM the 3rd day. Secondary spindle continues to 4:30PM. The Milling section for Mill center Lathes starts 4th day for C-axis to 3:00PM. The Y-axis then starts and continues to the 5th day.

Requirements:
Machining and tooling experience on lathes and/or machining centers.

Category:
Machining Center

Tuition: $500.00
After purchase of new machine customer will have 3 years of no charge on programming courses.

Note:
This class covers Fusion 640T, T-Plus, and T32 controls.

Lunch will be provided.

Abbreviated Syllabus:
Day 1
Machine coordinate and programming coordinate systems; Familiarization with Mazatrol functions and program creation; Topics on Turning: Edge, Bar Out, Explanation of Unknowns, Tool Data, Edit Features, Drilling, Bar In

Day 2
Topics on Turning (continued): Threading, Tapping, Program Layout Functions, Groove, Copy, Material Shape, Unknowns Calculation, Bar Face and Bar Back, Tool Data

Day 3
MMS; User Parameters and TPC function; Factory Tour; Secondary Spindle Programming

Day 4
Topics on Milling: Mill center Lathes, Tool Data, C-axis coordinate, C-Axis Drilling and Tapping, C-axis Bore, C-axis Mill Groove, User Parameters, C-axis Line Machining, Manual Programming, Y-axis Coordinate, Y-axis Drilling and Tapping

Day 5
Topics on Milling (continued): Y-axis Line Machining, Y-axis Circle Milling and Tornado Milling, Y-axis Mill Groove, Manual Programming

Course Title: Mazatrol Matrix & Smart Conversational Programming for Machining Centers (Trianing is 4 days)	**Location: National Training Center, Florence, KY – East Building Lobby 3** ***(ALL TECHN. CENTERS; go to MazakUSA.com to find location near you)***

Brief Overview:
The purpose of this class is to provide part programming information using the Mazatrol programming language on Mazak Machining Centers.

The class room uses the Matrix Cam.

The class hours are 8:30AM - 4:30PM daily (3days) ending at approximately 3:00PM the 4th day.

Requirements:
Machining and tooling experience on machining centers.

Category:
Milling

Tuition: $500.00
After purchase of new machine customer will have 3 years of no charge on programming courses.

Note:
Lunch will be provided.

Abbreviated Syllabus:
Day 1
Machine coordinate and programming coordinate systems; Familiarization with Mazatrol functions and program creation; Face Milling; Point Machining

Day 2
Program Edit Features; Priority Function for the Same Tool; Multi Mode Programming Function; Topics on Machining: Line Machining, Tool Data, WPC, Pocket, Slot

Day 3
Topics on Machining (continued): M Codes, Sub programs, Pallet Change, Index, Pocket Mountain, Pocket Valley, Unknowns Calculating, Shape Rotate and Shape Shift

Day 4
MMS; Tornado Milling and Planet Tapping; Parameters and TPC Functions; Factory Tour

Course Title: VC Smart Conversational Programming for Machining Centers (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3 ***(ALL TECHN. CENTERS; go to MazakUSA.com to find location near you)***

Brief Overview:
The purpose of this class is to provide part programming information using the Mazatrol programming language on Mazak Machining Centers.

The class room uses the Matrix Cam.

The class hours are 8:30AM - 4:30PM daily (3days) ending at approximately 3:00PM the 4th day.

Requirements:
Machining and tooling experience on machining centers.

Category:
Milling

Tuition: $500.00
After purchase of new machine customer will have 3 years of no charge on programming courses.

Note:
Lunch will be provided.

Abbreviated Syllabus:
Day 1
Machine coordinate and programming coordinate systems; Familiarization with Mazatrol functions and program creation; Face Milling; Point Machining

Day 2
Program Edit Features; Priority Function for the Same Tool; Multi Mode Programming Function; Topics on Machining: Line Machining, Tool Data, WPC, Pocket, Slot

Day 3
Topics on Machining (continued): M Codes, Sub programs, Pallet Change, Index, Pocket Mountain, Pocket Valley, Unknowns Calculating, Shape Rotate and Shape Shift

Day 4
MMS; Tornado Milling and Planet Tapping; Parameters and TPC Functions; Factory Tour

Course Title: Mazatrol Matrix Conversational Programming for Machining Centers (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3 ***(ALL TECHN. CENTERS; go to MazakUSA.com to find location near you)***

Brief Overview:
The purpose of this class is to provide part programming information using the Mazatrol programming language on Mazak Machining Centers.

The class room uses the Matrix Cam.

The class hours are 8:30AM - 4:30PM daily (3days) ending at approximately 3:00PM the 4th day.

Requirements:
Machining and tooling experience on machining centers.

Category:
Milling

Tuition: $500.00
After purchase of new machine customer will have 3 years of no charge on programming courses.

Note:
Lunch will be provided.

Abbreviated Syllabus:
Day 1
Machine coordinate and programming coordinate systems; Familiarization with Mazatrol functions and program creation; Face Milling; Point Machining

Day 2
Program Edit Features; Priority Function for the Same Tool; Multi Mode Programming Function; Topics on Machining: Line Machining, Tool Data, WPC, Pocket, Slot

Day 3
Topics on Machining (continued): M Codes, Sub programs, Pallet Change, Index, Pocket Mountain, Pocket Valley, Unknowns Calculating, Shape Rotate and Shape Shift

Day 4
MMS; Tornado Milling and Planet Tapping; Parameters and TPC Functions; Factory Tour

Course Title: Mazatrol Matrix & MPro Programming for Integrex e-Series (Training is 5 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
This class provides part programming information using the Mazatrol programming language on Mazak Integrex.

The class room uses the Matrix CAM.

The class hours for Integrex Turning section are 8:30AM - 4:30PM daily (2days) ending at approximately noon the 3rd day. Secondary spindle and then the Milling sections continue on to the 4th day for C-axis and Y-axis. The 5th day includes Y-axis and B-axis Milling.

Requirements:
Machining and tooling experience on lathes and/or machining centers.

Category:
Integrex e Series

Tuition: $500.00
After purchase of new machine customer will have 3 years of no charge on programming courses.

Note:
Lunch will be provided.

Abbreviated Syllabus:
Day 1
Machine coordinate and programming coordinate systems; Familiarization with Mazatrol functions and program creation; Topics on Turning: Facing, Bar Out, Unknowns Calculating, Tool Data, Drilling, Bar

Day 2
Continue with topics on Turning: Threading, Tapping, Grooving, Bar Out, Copy, Material Shape, Unknowns Calculating (continued), Bar Face and Bar Back, Tool Data

Day 3
MMS; Manual Programming for Turning; User Parameters and TPC function; Student Review; Secondary Spindle Programming; C-axis topics

Day 4
Topics on Milling: C-axis Coordinate, Point Machining, Line Machining, Parameters and TPC function, Arbitrary Shapes, Manual Programming for Milling, Y-axis Coordinate, Facing

Day 5
Topics on Milling (continued): Y-axis Coordinate, Line Machining, Point Machining, Pocket, Manual Programming with Y-axis, Shape Rotate and Shape Shift Features, Tornado Milling and Planet Tapping; B-axis topics

Course Title: Matrix Conversational Programming for Integrex 100 – 400 Mk IV (Training is 5 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
This class provides part programming information using the Mazatrol programming language on Mazak Integrex IV.

The class room uses the Matrix CAM.

The class hours for Integrex Turning sections are 8:30AM - 4:30PM daily. Turning sections are covered on the first three days. Secondary spindle begins on the third day as does Milling. Milling continues on covering C-axis and Y-axis. The class ends on Day 5 covering the B-axis.

Requirements:
Machining and tooling experience on lathes and/or machining centers.

Category:
Multi-tasking (Integrex)

Tuition: $500.00
After purchase of new machine customer will have 3 years of no charge on programming courses.

Note:
Lunch will be provided.

Abbreviated Syllabus:
Day 1
Machine coordinate and programming coordinate systems; Familiarization with Mazatrol functions and program creation; Topics on Turning: Facing, Bar Out, Unknowns Calculating, Tool Data, Drilling, Bar

Day 2
Topics on Turning (continued): Threading, Tapping, Grooving, Bar Out, Copy, Material Shape, Unknowns Calculating (continued), Bar Face and Bar Back, Tool Data (continued)

Day 3
MMS; Manual Programming for Turning; User Parameters and TPC function; Restart VFC, TPS functions; Student Review; Secondary Spindle Programming

Day 4
Topics on Milling: Tool Data, C-axis Coordinate, Point Machining, Line Machining, Parameters and TPC function, Arbitrary Shapes, Manual Programming for Milling

Day 5
Topics on Milling (continued): Y-axis Coordinate, Facing, Line Machining, Point Machining, Pocket, Manual Programming with Y-axis, Shape Rotate and Shape Shift Features, Tornado Milling and Planet Tapping, B-axis topics

Course Title: Matrix Programming for Integrex (Training is 5 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
This class provides part programming information using the Mazatrol programming language on Mazak Integrex.

The class room uses the Matrix CAM.

The class hours for Integrex Turning section are 8:30AM – 4:30PM daily (2days) ending at approximately noon on the 3rd day. Secondary spindles and the Milling sections for C-axis end at 4:30 PM on the 4th day. Y-axis and B-axis run 8:30 AM - 4:30PM on the 5th day.

Requirements:
Machining and tooling experience on lathes and/or machining centers.

Category:
Multi-tasking (Integrex)

Tuition: $500.00
After purchase of new machine customer will have 3 years of no charge on programming courses.

Note:
Lunch will be provided.

Abbreviated Syllabus:
Day 1
Machine coordinate and programming coordinate systems; Familiarization with Mazatrol functions and program creation; Topics on Turning: Facing, Bar Out, Explanation of Unknowns, Tool Data, Drilling, Bar

Day 2
Topics on Turning (continued): Threading, Tapping, Grooving, Bar Out, Copy, Material Shape, Continuation of Unknown Calculations, Bar Face and Bar Back, Continuation of Tool Data

Day 3
MMS; Manual Programming; User Parameters and TPC function; Factory Tour; Secondary Spindle Programming

Day 4
C-axis coordinate; Point Machining; C-axis Slot Machining; Milling User Parameters; Line machining; Arbitrary Shapes; Manual Programming with C-axis

Day 5
Y-axis; Face Milling; Line Machining; Point Machining; Pocket; Arbitrary Shapes; Manual Programming with Y-axis; Shape Rotate and Shape Shift; Tornado Milling, B-axis information

Course Title: QT Smart Conversational Programming for Turning with Milling (Training is 5 days)

Location: National Training Center, Florence, KY – East Building Lobby 3 *(ALL TECHN. CENTERS; go to MazakUSA.com to find location near you)*

Brief Overview:
The purpose of this class is to provide part programming information using the Mazatrol programming language on Mazak Lathes and Mill center Lathes.

The class room uses the Matrix Cam.

The class hours for the Turning section for all Lathes and Mill center Lathes are 8:30AM - 4:30PM daily (2days) ending at approximately 2:30PM the 3rd day secondary spindle continues to 4:30PM. The Milling section for Mill center Lathes continues a 4th day for C-axis and a 5th day for Y-axis the hours both days are 8:30AM - 4:30PM.

Requirements:
Machining and tooling experience on lathes and/or machining centers.

Category:
Turning

Tuition: $500.00
After purchase of new machine customer will have 3 years of no charge on programming courses.

Note:
Lunch will be provided.

Abbreviated Syllabus:
Day 1
Machine coordinate and programming coordinate systems; Familiarization with Mazatrol functions and program creation; Topics on Turning: Facing, Bar Out, Unknowns Calculating, Tool Data, Drilling, Bar In

Day 2
Topics on Turning (continued): Threading, Tapping, Groove, Bar Out, Copy, Material Shape, Unknowns Calculating (continued), Bar Face, Bar Back, Tool Data (continued)

Day 3
MMS; Manual Programming; Parameters and TPC Functions; Factory Tour; Secondary Spindle Programming

Day 4
Topics on Milling: Tool Data, C-Axis Coordinate, Point Machining, Line Machining, Parameters and TPC Functions, Arbitrary Shapes, Manual Programming

Day 5
Topics on Milling (continued): Y-Axis Coordinate, Face Milling, Line Machining, Point Machining, Pocket, Manual Programming, Tornado Milling and Planet Tapping

Course Title: Smart Conversational Programming for Turning (Training is 3 days)

Location: National Training Center, Florence, KY – East Building Lobby 3 *(ALL TECHN. CENTERS; go to MazakUSA.com to find location near you)*

Brief Overview:
The purpose of this class is to provide part programming information using the Mazatrol programming language on Mazak Lathes and Mill center Lathes.

The class room uses the Smart Cam.

The class hours for the Turning section for all Lathes and Mill center Lathes are 8:30AM - 4:30PM daily (2days) ending at approximately 2:30PM the 3rd day secondary spindle continues to 4:30PM.

Requirements:
Machining and tooling experience on lathes and/or machining centers.

Category:
Turning

Tuition: $500.00
After purchase of new machine customer will have 3 years of no charge on programming courses.

Note:
Lunch will be provided.

Abbreviated Syllabus:
Day 1
Machine coordinate and programming coordinate systems; Familiarization with Mazatrol functions and program creation; Topics on Turning: Facing, Bar Out, Unknowns Calculating, Tool Data, Drilling, Bar In

Day 2
Topics on Turning (continued): Threading, Tapping, Groove, Bar Out, Copy, Material Shape, Unknowns Calculating (continued), Bar Face, Bar Back, Tool Data (continued)

Day 3
MMS; Manual Programming; Parameters and TPC Functions; Factory Tour; Secondary Spindle Programming

Course Title: Mazatrol Matrix & Smart Conversational Programming for Turning, Turning with Milling, and Hyperquadrex (Training is 5 days)

Location: National Training Center, Florence, KY – East Building Lobby 3 ***(ALL TECHN. CENTERS; go to MazakUSA.com to find location near you)***

Brief Overview:
The purpose of this class is to provide part programming information using the Mazatrol programming language on Mazak Lathes and Mill center Lathes.

The class room uses the Matrix Cam.

The class hours for the Turning section for all Lathes and Mill center Lathes are 8:30AM - 4:30PM daily (2days) ending at approximately 2:30PM the 3rd day secondary spindle continues to 4:30PM. The Milling section for Mill center Lathes continues a 4th day for C-axis and a 5th day for Y-axis the hours both days are 8:30AM - 4:30PM.

Requirements:
Machining and tooling experience on lathes and/or machining centers.

Category:
Turning

Tuition: $500.00
After purchase of new machine customer will have 3 years of no charge on programming courses.

Note:
Lunch will be provided.

Abbreviated Syllabus:
Day 1
Machine coordinate and programming coordinate systems; Familiarization with Mazatrol functions and program creation; Topics on Turning: Facing, Bar Out, Unknowns Calculating, Tool Data, Drilling, Bar In

Day 2
Topics on Turning (continued): Threading, Tapping, Groove, Bar Out, Copy, Material Shape, Unknowns Calculating (continued), Bar Face, Bar Back, Tool Data (continued)

Day 3
MMS; Manual Programming; Parameters and TPC Functions; Factory Tour; Secondary Spindle Programming

Day 4
Topics on Milling: Tool Data, C-Axis Coordinate, Point Machining, Line Machining, Parameters and TPC Functions, Arbitrary Shapes, Manual Programming

Day 5
Topics on Milling (continued): Y-Axis Coordinate, Face Milling, Line Machining, Point Machining, Pocket, Manual Programming, Tornado Milling and Planet Tapping

Course Title: Mazatrol Matrix Conversational Programming for Turning, Turning with Milling, and Hyperquadrex (Training is 5 days)

Location: National Training Center, Florence, KY – East Building Lobby 3 ***(ALL TECHN. CENTERS; go to MazakUSA.com to find location near you)***

Brief Overview:
The purpose of this class is to provide part programming information using the Mazatrol programming language on Mazak Lathes and Mill center Lathes.

The class room uses the Matrix Cam.

The class hours for the Turning section for all Lathes and Mill center Lathes are 8:30AM - 4:30PM daily (2days) ending at approximately 2:30PM the 3rd day secondary spindle continues to 4:30PM. The Milling section for Mill center Lathes continues a 4th day for C-axis and a 5th day for Y-axis the hours both days are 8:30AM - 4:30PM.

Requirements:
Machining and tooling experience on lathes and/or machining centers.

Category:
Turning

Tuition: $500.00
After purchase of new machine customer will have 3 years of no charge on programming courses.

Note:
Lunch will be provided.

Abbreviated Syllabus:
Day 1
Machine coordinate and programming coordinate systems; Familiarization with Mazatrol functions and program creation; Topics on Turning: Facing, Bar Out, Unknowns Calculating, Tool Data, Drilling, Bar In

Day 2
Topics on Turning (continued): Threading, Tapping, Groove, Bar Out, Copy, Material Shape, Unknowns Calculating (continued), Bar Face, Bar Back, Tool Data (continued)

Day 3
MMS; Manual Programming; Parameters and TPC Functions; Factory Tour; Secondary Spindle Programming

Day 4
Topics on Milling: Tool Data, C-Axis Coordinate, Point Machining, Line Machining, Parameters and TPC Functions, Arbitrary Shapes, Manual Programming

Day 5
Topics on Milling (continued): Y-Axis Coordinate, Face Milling, Line Machining, Point Machining, Pocket, Manual Programming, Tornado Milling and Planet Tapping

Course Title: Palletech PMC Web Maintenance (Training is 2 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
This class is designed to provide both new and current users of a Mazak PMC Web Cell with a working knowledge of the Manufacturing cell operation and maintenance for a horizontal machining center.

The class hours are 8:30AM–4:30PM daily.

Requirements:
Basic knowledge of CNC operation and basic mechanical and electrical skills

Category:
Milling

Tuition: $500.00

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Safety; Overview of PMC Web Cell operation; PMC Web screens for operation and maintenance; Starting and stopping system operation; Backing up and restoring system data

Day 2
System parameters and alarms; Overview of electrical and parts manuals; Recovery procedure for the cell; Robot alignments and preventive maintenance.

Course Title: Palletech PMC Web Scheduling (Training is 3 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
This hands on class provides training in Palletech PMC Web manufacturing cell operation and scheduling on a horizontal machining center

The class hours are 8:30AM–4:30PM daily.

Requirements:
Basic knowledge of CNC operation

Category:
Milling

Tuition: No Charge

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Safety; Introduction to System Configuration; Overview of PMC Web Cell operation; PMC Web screens for operation and scheduling

Day 2
Creating a part schedule; Starting and stopping system operation; Manual pallet transport; Creating Utilization Result Report

Day 3
Modifying part schedule; Practice

Course Title: Applied Mazatrol Matrix Conversational Programming Turning/Turning with Milling (Advanced) (Training is 3 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
The purpose of this course is to prepare experienced machinists for applied / applications oriented Mazatrol conversational programming with tooling technologies, machine setup and operation considerations.

Class size is limited to 7 attendees.

The class duration is 3 days (8:30 – 4:30).

Requirements:
Thorough knowledge of Mazatrol conversational programming (eg: Mazatrol Matrix, M640T,T-Plus, etc.); CNC Turning and Simple Milling skills (preferred); Ability to read programs (for restarts and setting offsets); Familiarity with coordinate systems; Knowledge of rotating & stationary tools; Experience with machine tools having 3 or more axes; Machinist skills

Category:
Milling & Turning

Tuition: No Charge

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Introduction and class overview; Course objectives and attendee requirements; Machine component layout and axis configuration; New features of the Mazatrol Matrix CNC; Basic machinability of metals overview; Tooling technologies

Day 2
Tooling /Tool Data Setup ; Tool files; Tool data (ref. EIA/ISO & Mazatrol programming); Tool data setup; Tool measurement (tool eye)

Day 3
Intermediate to Advanced Mazatrol Nexus Conversational Programming; Programming techniques and examples; Program instruction followed by customer part processing

Course Title: Applied Mazatrol Matrix Conversational Programming Integrex i & j Series (Advanced)
(Training is 3 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
The purpose of this course is to prepare experienced machinists for advanced Mazatrol conversational programming with tooling technologies, machine setup and operation considerations.

Class size is limited to 7 attendees.

The class duration is 3 days (8:30 – 4:30).

Requirements:
Thorough knowledge of Mazatrol conversational programming (eg: Mazatrol Matrix, M640T, T-Plus, etc.); CNC Turning and Simple Milling skills (preferred); Ability to read programs (for restarts and setting offsets); Familiarity with coordinate systems; Knowledge of rotating & stationary tools; Experience with machine tools having 3 or more axes; Machinist skills

Category:
Integrex

Tuition: No Charge

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Introduction and class overview; Course objectives and attendee requirements; Machine component layout and axis configuration; New features of the Mazatrol Matrix CNC; Machinability of metals; Tooling technologies

Day 2
Tooling / Tool Data Setup and Virtual Machining (3D Solid Model Setup); Parameter considerations; Tool call format; Auto Set Parameters; Centerline deviation compensation parameters; Tool files; Tool data (ref. EIA/ISO & Mazatrol programming); Tool data setup Tool measurement (tool eye); Virtual Machining and 3D Solid Model Setup; Importing CAD data to determine tool path

Day 3
Advanced Mazatrol Conversational Programming; Programming techniques and examples

Course Title: Applied Mazatrol Matrix Conversational Programming Integrex 100 – 400 Series MK IV (Advanced) (Training is 3 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
The purpose of this course is to prepare experienced machinists for advanced Mazatrol conversational programming with tooling technologies, machine setup and operation considerations.

Class size is limited to 7 attendees.

The class duration is 3 days (8:30 – 4:30).

Requirements:
Thorough knowledge of Mazatrol conversational programming (eg: Mazatrol Matrix, M640T, T-Plus, etc.); CNC Turning and Simple Milling skills (preferred); Ability to read programs (for restarts and setting offsets); Familiarity with coordinate systems; Knowledge of rotating & stationary tools; Experience with machine tools having 3 or more axes; Machinist skills

Category:
Multitasking (Integrex)

Tuition: No Charge

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Introduction and class overview; Course objectives and attendee requirements; Machine component layout and axis configuration; New features of the Mazatrol Matrix CNC; Machinability of metals; Tooling technologies

Day 2
Tooling / Tool Data Setup and Virtual Machining (3D Solid Model Setup); Parameter considerations; Tool call format; Auto Set Parameters; Centerline deviation compensation parameters; Tool files; Tool data (ref. EIA/ISO & Mazatrol programming); Tool data setup Tool measurement (tool eye); Virtual Machining and 3D Solid Model Setup; Importing CAD data to determine tool path

Day 3
Advanced Mazatrol Conversational Programming; Programming techniques and examples

Course Title: Renishaw Probe Applications Development and Macro Programming (Training is 5 days)

Location: National Learning Center, Florence, KY – East Building Lobby 2

Brief Overview:
This is an advanced hands on macro programming course for experienced EIA/ISO programmers.

The class hours are 8:30AM - 4:30PM daily (4 days) ending at approximately 3:00PM the 5th day.

Requirements:
Thorough knowledge of EIA/ISO programming

Category:
Multitasking (Integrex)

Tuition: No Charge

Note:
Targeted Applications Learning & Development Course (Offered Quarterly)

Lunch will be provided

Abbreviated Syllabus:

Day 1
Hardware; Probe; What is a Probe? A SWITCH; Probe Settings; OMME / MI12E; High Power vs. Standard Power Transmission

Day 2
Software setup; Preparatory information; B axis clamping; Mill Mode; Probe turn on/off; . Settings program 9724; Tool Offset Type (parameters F94.7 and F93.3); Diameter or Radius programming; Centerline find programs O9600 and O9800

Day 3
Software; What is a Macro?; Calling a macro G65; Macro vs sub-program; Macro Inputs; Macro Outputs; Horizontal vs Vertical; Calibration cycles; Basic measuring cycles; Vector measuring cycles; Additional Cycles

Day 4
Calibration; Sweep in stylus within .005” YES .005”, tighten holding screws; Obtain artifact, mount in m/c and locate; Edit and Run calibration program; Optional sphere calibration; Macro variables

Day 5
Software Applications; Sample programs; Basic cycles; Vector cycles; Additional cycles; Sub-spindle probing / Multiple Probes; Non-normal B axis probing

Course Title: **Multitasking User Conference** **Location:** **National Learning Center, Florence, KY – East Building Lobby 2**

Brief Overview:
The Multi-Tasking User Groups are designed to provide an open forum to discuss views of manufacturing strengths, opportunities and problems companies are facing today. The group is comprised of Mazak customers wishing to expand and share their knowledge of Multi-Tasking. (Course is offered quarterly)

Category:
Multitasking (Integrex)

Tuition: No Charge

Note:
Targeted Applications Learning & Development Course (Offered Quarterly)

FAQ:

Q: Who is attending?
A: Pre-selected users of Mazak multi-tasking machine tools who have extensive knowledge in the aspects of multi-tasking manufacturing others can benefit from.

Q: What is the mission of the user group?
A: For users to learn from one another with the express purpose of optimizing your machine's utilization.
Examples of user group topics:

- Workforce Development: Finding and Training Operators and Programmers.
- Understanding & using Mazatrol CNC built-in features.
- Titanium and Hard Metals Machining.
- Tooling and Workholding Technologies.
- Probing Essentials.
- CAD and Post Processors.
- Modern Materials and Processes.
- Scheduling

Q: Will the group be moderated?
A: Yes, Mazak will provide a moderator who's express purpose is to maintain a schedule, provide documentation and to ensure that confidential information which users do not want publicized is kept that way. It will be the moderator's responsibility to work with members to draft a mutually agreed upon "Rules of The Road" or "Code of Conduct" for the users group. The primary benefit of things learned will be for the members.

Q: Will there be non-user members or presenters?
A: If the group decides so, yes. For example, if third party expertise is needed in the areas of probing, programming, tooling or materials, Mazak will have experts available. Mazak is committed to the premise that there will be no "selling" or commercialism associated with these presenters.

Course Title: Post Processors and CAD-CAM De-Mystified.

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
This training addresses the manufacturing management level, demystifying what is a manufacturing postprocessor and how can people improve their manufacturing process by using appropriate post-processor and machine simulation tools between their CAD-CAM-PLM systems and various CNC machine tools.

Requirements:
Thorough knowledge of EIA/ISO programming structure

Category:
Multitasking (Integrex)

Tuition: No Charge

Note:
Targeted Applications Learning & Development Course (Offered Quarterly)

Lunch will be provided.

Abbreviated Syllabus:

Module 1
What is post-processing? How can I efficiently and rapidly link my new CNC machine into my manufacturing process? Do I need to use Machine simulation?

Course Title: **Post Processor Development** **Location:** **National Training Center, Florence, KY – East Building Lobby 3**

Brief Overview:
This course provides the fundamentals on how to write a multi-axis post-processor Mazak/ICAM post-processing (introductory training). This condensed training addresses CNC programmers as well as CAM programmers. It will show them the key elements to take care of when developing a post-processor.

Requirements:
Thorough knowledge of EIA/ISO programming structure

Category:
Multitasking (Integrex)

Tuition: No Charge

Note:
Targeted Applications Learning & Development Course (Offered Quarterly)

Lunch will be provided.

Abbreviated Syllabus:

Module 1

- CL-File and APT
- Use a post-processor ICAM GENER program
- Create post-processor using ICAM QUEST program
- ICAM macro programming
- Interactive post-processor debugging tools
- ICAN Wizard

Programming | Maintenance | HOT Class

Course Title: Hands On Training (HOT) for Integrex-e 410 – e 800 MK II (Matrix) (Trianing is 5 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
The purpose of this course is to prepare experienced machinists for machine setup and operation. Class size is limited to 6 attendees so that each person is assured maximum time on the machine.

The class duration is typically 5 days (8:30-5:00).

Requirements:
CNC Milling AND Turning skills (preferred); Ability to read programs (for restarts and setting offsets); Familiarity with coordinate systems; Knowledge of rotating & stationary tools; Experience with machine tools having 3 or more axes; Basic machinist skills (e.g.: boring chuck jaws); Basic Mazatrol CNC operation experience

Category:
Integrex- e Series

Tuition: No Charge

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Introduction and class overview; Machine component layout & coordinate systems; How the Auto Set function works; Install, qualify & describe tools / load tool data; Show the Auto Set function; Teach tools

Day 2
Review; Establish work offsets; Setup the 1st spindle operation; Data Input/Output; Machine a part using the 1st spindle (first operation)

Day 3
Review; Setup the workpiece transfer to the 2nd spindle; Machine a part using the 2nd spindle (second operation); Establish & modify part size (offsets); Tool changer &ATC recovery

Day 4
Review; Tool changer operation & recovery; Student demonstration (setup machine & cut part); Coordinate system relationships; Establish machine barriers; Tool eye / laser calibration & qualification; Setting machine operation parameters; Overload detection (option)

Day 5
Review; (Note: These items are generally discussed & applied through the entire class.)Verify machine alignments – pivot distance; e-Tower operation (Integrex e-Series); Answer any remaining questions

Course Title: Hands On Training (HOT) for Integrex-i Series Matrix II (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
The purpose of this course is to prepare experienced machinists for machine setup and operation. Class size is limited to 7 attendees so that each person is assured maximum time on the machine.

The class duration is typically 4 days (8:30-5:00).

Requirements:
CNC Milling AND Turning skills (preferred); Ability to read programs (for restarts and setting offsets); Familiarity with coordinate systems; Knowledge of rotating & stationary tools; Experience with machine tools having 3 or more axes; Basic machinist skills (e.g.: boring chuck jaws); Basic Mazatrol CNC operation experience

Category:
Integrex- i Series

Tuition: No Charge

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Introduction and class overview; Machine component layout and axis configuration; Machine coordinate layout; Part planning considerations; Basic machine operation; Power On/Off; C & B axis operation; Turret operation; Work handling station operation

Day 2
Installing, describing and qualifying tool information; Tool files; Tool data; Tooling setup; Tool data setup; Tool measurement (tool eye); Establish machine coordinate system; Establish work offsets, initial Z offset (Setup page)

Day 3
Machine 1st operation procedures; Set work handling station; 2 – Jaw chuck setup; Making jaws; Tailstock operation; Command display; Tool path check; Single block Dry run; Rapid reduce; Feed hold; Spindle override; Feed override

Day 4
Preparation for automatic operation; Workpiece transfer processes for the work handling station; Probe calibration & qualification; EIA/ISO and macro programming considerations; Sub program uses; Data I/O; Overload detection

Course Title: Hands On Training (HOT) for Integrex-i 200 - 400 (Matrix) (Training is 5 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
The purpose of this course is to prepare experienced machinists for machine setup and operation. Class size is limited to 6 attendees so that each person is assured maximum time on the machine.

The class duration is typically 5 days (8:30~5:00).

Requirements:
CNC Milling AND Turning skills (preferred); Ability to read programs (for restarts and setting offsets); Familiarity with coordinate systems; Knowledge of rotating & stationary tools; Experience with machine tools having 3 or more axes; Basic machinist skills (e.g.: boring chuck jaws); Basic Mazatrol CNC operation experience

Category:
Integrex- i Series

Tuition: No Charge

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Introduction and class overview; Machine component layout and axis configuration; Machine coordinate layout; Part planning considerations; Basic machine operation Power On/Off; C & B axis operation; Upper & lower turret operation; Secondary spindle

Day 2
Installing, describing and qualifying tool information; Tool files; Tool data (ref. EIA/ISO & Mazatrol programming); Tooling setup; Tool data setup; Tool measurement (tool eye)Establish machine coordinate system; Establish work offsets, initial Z offset (Setup page)

Day 3
Machine 1st operation procedures; Set lower turret escape position parameters (Select properTR1/TR2 parameter page); Set parameters; Command display; Tool path check; Single block; Dry run; Rapid reduce; Feed hold; Spindle override; Feed override

Day 4
Preparation for automatic operation; Workpiece transfer processes for 2nd spindle operations; Sizing the workpiece (tool eye & wear compensation); Setup the barrier protection (Setup page)

Day 5
Simultaneous versus Balanced Machining (upper & lower turrets); Probe calibration & qualification; EIA/ISO and macro programming considerations; Sub program uses Data I/O; Overload detection; Interface automation

Programming | Maintenance | HOT Class

Course Title: Integrex 100 – 400 Mechanical & Electrical Maintenance with 640MT or MT-Pro
(Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
Students will receive an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, PLC troubleshooting, mechanical functions, and mechanical alignment procedures.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Multitasking

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Overview, Control Functions, Control Hardware, Data Save and Restore

Day 2
Electrical Schematics, Diagnostic Features, MRJ2 Drives, PLC Alarms

Day 3
Machine Alignments, Bearing Replacement, ATC

Day 4
B-Axis Replacement, Preventative Maintenance, Factory Tour

Course Title: **Integrex 100 – 400 Mechanical & Electrical Maintenance with Matrix (MK IV ONLY) (Training is 4 days)**

Location: **National Training Center, Florence, KY – East Building Lobby 3**

Brief Overview:
Students will receive an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, PLC troubleshooting, mechanical functions, and mechanical alignment procedures.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Multitasking

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Overview, Control Functions, Control Hardware, Data Save and Restore

Day 2
Electrical Schematics, Diagnostic Features, MRJ2 Drives, PLC Alarms

Day 3
Machine Alignments, Bearing Replacement, ATC

Day 4
B-Axis Replacement, Preventative Maintenance, Factory Tour

Course Title: **Integrex e-410 / 420H-HS / 500 / 650 / 670 / 800 Mechanical & Electrical Maintenance with Matrix (Training is 4 days)**

Location: **National Training Center, Florence, KY – East Building Lobby 3**

Brief Overview:
Students will receive an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, PLC troubleshooting, mechanical functions, and mechanical alignment procedures.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Integrex-e

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Overview, Control Functions, Control Hardware, Data Save and Restore

Day 2
Electrical Schematics, Diagnostic Features, MRJ2 Drives, PLC Alarms

Day 3
Machine Alignments, Bearing Replacement, ATC

Day 4
B-Axis Replacement, Preventative Maintenance, Factory Tour

Course Title: **Integrex e-410 / 500 / 650 Mechanical & Electrical Maintenance with 640M Pro**
(Training is 4 days)

Location: **National Training Center, Florence, KY – East Building Lobby 3**

Brief Overview:
Students will receive an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, PLC troubleshooting, mechanical functions, and mechanical alignment procedures.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Integrex-e

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Overview, Control Functions, Control Hardware, Data Save and Restore

Day 2
Electrical Schematics, Diagnostic Features, MRJ2 Drives, PLC Alarms

Day 3
Machine Alignments, Bearing Replacement, ATC

Day 4
B-Axis Replacement, Preventative Maintenance, Factory Tour

Course Title: **Integrex e-1060 / 1550 / 1850 Mechanical & Electrical Maintenance with 640 M Pro**
(Training is 4 days)

Location: **National Training Center, Florence, KY – East Building Lobby 3**

Brief Overview:
This class is designed to provide both new and current users of Mazak Machining Centers with a working knowledge of the many assemblies of the machine. By providing an in depth knowledge, it will allow students to diagnose, troubleshoot, and repair in a more efficient manner.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Integrex-e

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Overview, Mechanical Parts, Electrical Schematics, Data Save and Restore

Day 2
Machine Diagnostics, MDS and MRJ2 Troubleshooting

Day 3
Axis Construction and Alignment, ATC, Pallet Changer

Day 4
Spindle Construction and Alignment, Preventative Maintenance, Factory Tour

Course Title: Integrex e-1060 / 1550 / 1850 Mechanical & Electrical Maintenance with Matrix (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
This class is designed to provide both new and current users of Mazak Machining Centers with a working knowledge of the many assemblies of the machine. By providing an in depth knowledge, it will allow students to diagnose, trouble shoot, and repair in a more efficient manner.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Integrex-e

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Overview, Mechanical Parts, Electrical Schematics, Data Save and Restore

Day 2
Machine Diagnostics, MDS and MRJ2 Troubleshooting

Day 3
Axis Construction and Alignment, ATC, Pallet Changer

Day 4
Spindle Construction and Alignment, Preventative Maintenance, Factory Tour

Course Title: Integrex e-800 Mechanical & Electrical Maintenance with Matrix (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
This class is designed to provide both new and current users of Mazak Machining Centers with a working knowledge of the many assemblies of the machine. By providing an in depth knowledge, it will allow students to diagnose, trouble shoot, and repair in a more efficient manner.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Integrex-e

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Overview, Mechanical Parts, Electrical Schematics, Data Save and Restore

Day 2
Machine Diagnostics, MDS and MRJ2 Troubleshooting

Day 3
Axis Construction and Alignment, ATC, Pallet Changer

Day 4
Spindle Construction and Alignment, Preventative Maintenance, Factory Tour

Course Title: Integrex e-800 Mechanical & Electrical Maintenance with 640M Pro (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
This class is designed to provide both new and current users of Mazak Machining Centers with a working knowledge of the many assemblies of the machine. By providing an in depth knowledge, it will allow students to diagnose, trouble shoot, and repair in a more efficient manner.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Integrex-e

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Overview, Mechanical Parts, Electrical Schematics, Data Save and Restore

Day 2
Machine Diagnostics, MDS and MRJ2 Troubleshooting

Day 3
Axis Construction and Alignment, ATC, Pallet Changer

Day 4
Spindle Construction and Alignment, Preventative Maintenance, Factory Tour

Course Title: Integrex i 200 – i 400 Mechanical & Electrical Maintenance with Matrix II (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
This class is designed to provide both new and current users of Mazak Machining Centers with a working knowledge of the many assemblies of the machine. By providing an in depth knowledge, it will allow students to diagnose, trouble shoot, and repair in a more efficient manner.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Integrex-i

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Overview, Mechanical Parts, Electrical Schematics, Data Save and Restore

Day 2
Machine Diagnostics, MDS and MRJ2 Troubleshooting

Day 3
Axis Construction and Alignment, ATC, Pallet Changer

Day 4
Spindle Construction and Alignment, Preventative Maintenance, Factory Tour

Course Title: Integrex i 500 & i 630 Mechanical & Electrical Maintenance (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
This class is designed to provide both new and current users of Mazak Machining Centers with a working knowledge of the many assemblies of the machine. By providing an in depth knowledge, it will allow students to diagnose, trouble shoot, and repair in a more efficient manner.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Integrex-i

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Overview, Mechanical Parts, Electrical Schematics, Data Save and Restore

Day 2
Machine Diagnostics, MDS and MRJ2 Troubleshooting

Day 3
Axis Construction and Alignment, ATC, Pallet Changer

Day 4
Spindle Construction and Alignment, Preventative Maintenance, Factory Tour

Course Title: Integrex i 150 Mechanical & Electrical Maintenance (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
This class is designed to provide both new and current users of Mazak Machining Centers with a working knowledge of the many assemblies of the machine. By providing an in depth knowledge, it will allow students to diagnose, trouble shoot, and repair in a more efficient manner.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Integrex-i

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Overview, Mechanical Parts, Electrical Schematics, Data Save and Restore

Day 2
Machine Diagnostics, MDS and MRJ2 Troubleshooting

Day 3
Axis Construction and Alignment, ATC, Pallet Changer

Day 4
Spindle Construction and Alignment, Preventative Maintenance, Factory Tour

Course Title: Integrex j 200 – 400 Series Mechanical & Electrical Maintenance Matrix CNC
(Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
This class is designed to provide both new and current users of Mazak Machining Centers with a working knowledge of the many assemblies of the machine. By providing an in depth knowledge, it will allow students to diagnose, trouble shoot, and repair in a more efficient manner.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Integrex-j

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Overview, Mechanical Parts, Electrical Schematics, Data Save and Restore

Day 2
Machine Diagnostics, MDS and MRJ2 Troubleshooting

Day 3
Axis Construction and Alignment, ATC, Pallet Changer

Day 4
Spindle Construction and Alignment, Preventative Maintenance, Factory Tour

Course Title: **Hyperquadrex-100 – 250 MSY Mechanical & Electrical Maintenance with Matrix (Training is 4 days)**

Location: **National Training Center, Florence, KY – East Building Lobby 3**

Brief Overview:
This class is designed to provide both new and current users of Mazak Machining Centers with a working knowledge of the many assemblies of the machine. By providing an in depth knowledge, it will allow students to diagnose, trouble shoot, and repair in a more efficient manner.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Hyperquadrex

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Overview, Control Functions, Control Hardware, Data Save and Restore

Day 2
Electrical Schematics, Control Diagnostics, Remote I/O, MRJ2 Troubleshooting, PLC

Day 3
Axis Construction, ATC, Headstock, Lubrication

Day 4
Machine Alignments, Factory Tour

Course Title: IVS Series Mechanical & Electrical Maintenance (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
This class is designed to provide both new and current users of Mazak Machining Centers with a working knowledge of the many assemblies of the machine. By providing an in depth knowledge, it will allow students to diagnose, trouble shoot, and repair in a more efficient manner.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Machining Center

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Overview, Control Functions, Control Hardware, Data Save and Restore

Day 2
Electrical Schematics, Control Diagnostics, Remote I/O, MRJ2 Troubleshooting, PLC

Day 3
Axis Construction, ATC, Headstock, Lubrication

Day 4
Machine Alignments, Factory Tour

Course Title: Versatech V-100N / V-140N Mechanical & Electrical Maintenance (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
This class is designed to provide both new and current users of Mazak Machining Centers with a working knowledge of the many assemblies of the machine. By providing an in depth knowledge, it will allow students to diagnose, trouble shoot, and repair in a more efficient manner.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Machining Center

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Overview, Control Functions, Control Hardware, Data Save and Restore

Day 2
Electrical Schematics, Control Diagnostics, Remote I/O, MRJ2 Troubleshooting, PLC

Day 3
Axis Construction, ATC, Headstock, Lubrication

Day 4
Machine Alignments, Factory Tour

Course Title: Variaxis Mechanical & Electrical Maintenance with 640M (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
Students will receive an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, PLC troubleshooting procedures, mechanical functions, and mechanical alignment procedures.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Machining Center

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Alignments, Axis Construction, Spindle Construction

Day 2
Rotary Joint Replacement, Collet Replacement, ATC

Day 3
MRJ2 Troubleshooting, Data Save and Restore Procedures, Electrical Circuits Overview

Day 4
Servo Troubleshooting, PLC Troubleshooting, Factory Tour

Course Title: Variaxis 500, 630, & 730 Mechanical & Electrical Maintenance with Matrix (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
Students will receive an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, PLC troubleshooting procedures, mechanical functions, and mechanical alignment procedures.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Machining Center

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Alignments, Axis Construction, Spindle Construction

Day 2
Rotary Joint Replacement, Collet Replacement, ATC

Day 3
MRJ2 Troubleshooting, Data Save and Restore Procedures, Electrical Circuits Overview

Day 4
Servo Troubleshooting, PLC Troubleshooting, Factory Tour

Course Title: Variaxis i 600 / i 700 / i 800 Mechanical & Electrical Maintenance with Matrix II (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
Students will receive an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, PLC troubleshooting procedures, mechanical functions, and mechanical alignment procedures.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Machining Center

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Alignments, Axis Construction, Spindle Construction

Day 2
Rotary Joint Replacement, Collet Replacement, ATC

Day 3
MRJ2 Troubleshooting, Data Save and Restore Procedures, Electrical Circuits Overview

Day 4
Servo Troubleshooting, PLC Troubleshooting, Factory Tour

Course Title: VTC Mechanical & Electrical Maintenance with Fusion 640M (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
Students will receive an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, PLC troubleshooting, mechanical functions, and mechanical alignment procedures.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Machining Center

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Overview, Control Functions, Control Hardware, Data Save and Restore

Day 2
Electrical Schematics, Control Diagnostics, Remote I/O, MRJ2 Troubleshooting, PLC

Day 3
Axis Construction, ATC, Headstock, Lubrication

Day 4
Machine Alignments, Factory Tour

Course Title: VTC 800 / 30SR Mechanical & Electrical Maintenance with Matrix (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
Students an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, PLC troubleshooting, mechanical functions, and mechanical alignment procedures.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Machining Center

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Overview, Control Functions, Control Hardware, Data Save and Restore

Day 2
Electrical Schematics, Control Diagnostics, Remote I/O, MRJ2 Troubleshooting, PLC

Day 3
Axis Construction, ATC, Headstock, Lubrication

Day 4
Machine Alignments, Factory Tour

Course Title: VCN Mechanical & Electrical Maintenance with Fusion 640M (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
Students an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, mechanical functions, and mechanical alignment procedures of the VCN machines.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should have knowledge of the basic functions of the Windows Operating System.

Category:
Machining Center

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Control Functions, Control Hardware, Data Save and Restore Procedures

Day 2
Hexadecimal Conversions, Electrical Schematics, Remote I/O and MRJ2 Troubleshooting

Day 3
Machine Alignment Procedures, ATC, Lubrication Overview

Day 4
Finish Machine Alignment Procedures, Factory Tour

Course Title: VCN II Mechanical & Electrical Maintenance with Matrix (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
Students an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, mechanical functions, and mechanical alignment procedures of the VCN machines.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should have knowledge of the basic functions of the Windows Operating System.

Category:
Machining Center

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Control Functions, Control Hardware, Data Save and Restore Procedures

Day 2
Hexadecimal Conversions, Electrical Schematics, Remote I/O and MRJ2 Troubleshooting

Day 3
Machine Alignment Procedures, ATC, Lubrication Overview

Day 4
Finish Machine Alignment Procedures, Factory Tour

Course Title: VC Smart Series Mechanical & Electrical Maintenance (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
Students will receive an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, mechanical functions, and mechanical alignment procedures.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should have knowledge of the basic functions of the Windows Operating System.

Category:
Machining Center

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Control Functions, Control Hardware, Data Save and Restore Procedures

Day 2
Hexadecimal Conversions, Electrical Schematics, Remote I/O and MRJ2 Troubleshooting

Day 3
Machine Alignment Procedures, ATC, Lubrication Overview

Day 4
Finish Machine Alignment Procedures, Factory Tour

Course Title: Quick Turn Nexus Mechanical & Electrical Maintenance with Fusion 640T (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
Students will receive an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, PLC Troubleshooting, mechanical functions, and mechanical alignment procedures of the Quick Turn Nexus Machine.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should have knowledge of the basic functions of the Windows Operating System.

Category:
Turning

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Data Save and Restore Procedures, Diagnostic Features of the Control

Day 2
Home Position Adjustment, Hands-on Mechanical Exercises

Day 3
Machine Construction, Machine Alignments, Machine Setup

Day 4
PLC Troubleshooting, Electrical Schematics, Factory Tour

Course Title: Quick Turn Nexus Mechanical & Electrical Maintenance with Matrix (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
Students an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, PLC Troubleshooting, mechanical functions, and mechanical alignment procedures of the Quick Turn Nexus Machine.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should have knowledge of the basic functions of the Windows Operating System.

Category:
Turning

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Data Save and Restore Procedures, Diagnostic Features of the Control

Day 2
Home Position Adjustment, Hands-on Mechanical Exercises

Day 3
Machine Construction, Machine Alignments, Machine Setup

Day 4
PLC Troubleshooting, Electrical Schematics, Factory Tour

Course Title: QT Smart Series Mechanical & Electrical Maintenance (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
Students will receive an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, PLC Troubleshooting, mechanical functions, and mechanical alignment procedures.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should have knowledge of the basic functions of the Windows Operating System.

Category:
Turning

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Data Save and Restore Procedures, Diagnostic Features of the Control

Day 2
Home Position Adjustment, Hands-on Mechanical Exercises

Day 3
Machine Construction, Machine Alignments, Machine Setup

Day 4
PLC Troubleshooting, Electrical Schematics, Factory Tour

Course Title: **Orbitec Mechanical & Electrical Maintenance**

Location: **National Training Center, Florence, KY – East Building Lobby 3**

Brief Overview:
Students will receive an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, PLC Troubleshooting, mechanical functions, and mechanical alignment procedures.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should have knowledge of the basic functions of the Windows Operating System.

Category:
Turning

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

I. Mitsubishi Control Maintenance Functions and Screens

II. Electrical Schematic Analysis

III. Feed Axis Overview

IV. Linear Guide Overview

V. Machine Leveling and Axes Alignments

VI. Automatic Tool Changer (ATC) and Magazine Overview

VII. Sankyo Orbiting Head Overview

VIII. Preventative Maintenance Procedures and Intervals

IX. Different orientations of the control panel

Course Title: Megaturn MTN-900 Mechanical & Electrical Maintenance (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
Students will receive an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, PLC Troubleshooting, mechanical functions, and mechanical alignment procedures.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should have knowledge of the basic functions of the Windows Operating System.

Category:
Turning

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Data Save and Restore Procedures, Diagnostic Features of the Control

Day 2
Home Position Adjustment, Hands-on Mechanical Exercises

Day 3
Machine Construction, Machine Alignments, Machine Setup

Day 4
PLC Troubleshooting, Electrical Schematics, Factory Tour

Course Title: MTV-655 Mechanical & Electrical Maintenance with Fusion 640M (Training is 4 days)

Location: National Training Center, Florence, KY – East Building Lobby 3

Brief Overview:
Students will receive an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, PLC Troubleshooting, mechanical functions, and mechanical alignment procedures.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should have knowledge of the basic functions of the Windows Operating System.

Category:
Turning

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Data Save and Restore Procedures, Diagnostic Features of the Control

Day 2
Home Position Adjustment, Hands-on Mechanical Exercises

Day 3
Machine Construction, Machine Alignments, Machine Setup

Day 4
PLC Troubleshooting, Electrical Schematics, Factory Tour

Course Title: **Cybertech Turn 4500/5500 Mechanical & Electrical Maintenance with Matrix (Training is 4 days)**

Location: **National Training Center, Florence, KY – East Building Lobby 3**

Brief Overview:
Students will receive an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, PLC Troubleshooting, mechanical functions, and mechanical alignment procedures of the Cybertech Turn Machine.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should have knowledge of the basic functions of the Windows Operating System.

Category:
Turning

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Data Save and Restore Procedures, Diagnostic Features of the Control

Day 2
Home Position Adjustment, Hands-on Mechanical Exercises

Day 3
Machine Construction, Machine Alignments, Machine Setup

Day 4
PLC Troubleshooting, Electrical Schematics, Factory Tour

Course Title: **FH/PFH 4800/5800/6800 Mechanical & Electrical Maintenance with 640M (Training is 4 days)**

Location: **National Training Center, Florence, KY – East Building Lobby 3**

Brief Overview:
This class is designed to provide both new and current users of Mazak Machining Centers with a working knowledge of the many assemblies of the machine. By providing an in-depth knowledge, it will allow you to diagnose, troubleshoot, and repair in a more efficient manner.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should have knowledge of the basic functions of the Windows Operating System.

Category:
Machining Center

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Control Overview, Mechanical Parts and Electrical Diagrams, Data Save and Restore

Day 2
Machine Diagnostics, MDS and MRJ2 Drive Troubleshooting

Day 3
Axis Assembly and Alignment, ATC, Pallet Changer

Day 4
Spindle Construction, Preventative Maintenance, Factory Tour

Course Title: **FH 8800/10800 Mechanical & Electrical Maintenance with 640M (Training is 4 days)**

Location: **National Training Center, Florence, KY – East Building Lobby 3**

Brief Overview:
This class is designed to provide both new and current users of Mazak Machining Centers with a working knowledge of the many assemblies of the machine. By providing an in-depth knowledge, it will allow you to diagnose, troubleshoot, and repair in a more efficient manner.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should have knowledge of the basic functions of the Windows Operating System.

Category:
Machining Center

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Control Overview, Mechanical Parts and Electrical Diagrams, Data Save and Restore

Day 2
Machine Diagnostics, MDS and MRJ2 Drive Troubleshooting

Day 3
Axis Assembly and Alignment, ATC, Pallet Changer

Day 4
Spindle Construction, Preventative Maintenance, Factory Tour

Course Title: **Slant Turn 450 / 50 / 60 / 80 Mechanical & Electrical Maintenance for Fusion 640T (Training is 4 days)**

Location: **National Training Center, Florence, KY – East Building Lobby 3**

Brief Overview:
This class is designed to provide both new and current users of Mazak Machining Centers with a working knowledge of the many assemblies of the machine. By providing an in-depth knowledge, it will allow students to diagnose, troubleshoot, and repair in a more efficient manner.

The class hours are 8:30AM - 4:30PM daily (4 days) ending at approximately noon the 5th day.

Requirements:
Students should have knowledge of the basic functions of the Windows Operating System.

Category:
Turning

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Data Backup Procedures; SRAM to FLROM; Data I/O (Machine & User Parameters, Tool Data, Offsets); Create Maintenance Backup Data File (MNT_BKUP.DAT); PLC Ladder; MR-J2 Parameters

Day 2
Diagnostic Features of the Control; How to use Privilege Mode; Key History; Diagnostic Monitor; Ladder Monitor

Day 3
Home Position; How to home each axis of the machine; How to use the stroke diagrams; Discussion of encoders; MR-J2 Absolute Position Initial Set Procedure; Backlash compensation

Day 4
Mechanical Hands-On Exercise's; Completely disassemble & reassemble a tool eye unit assembly; Discussion on how to properly set the tool eye parameters; Construction of the Machine; Discussion of ball screws; Discussion of ball screw support bearings

Day 5
Troubleshooting; How to read Mazak electrical schematics; How to use the PLC Element list; Hydraulic and Pneumatic issues; Facility Tours; Technology Center; Production Factory; Spindle Repair; Parts Department; Remanufacturing

Course Title: **HCN Mechanical & Electrical Maintenance for all models (Training is 4 days)**

Location: **National Training Center, Florence, KY – East Building Lobby 3**

Brief Overview:
Students will receive an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, PLC troubleshooting, mechanical functions, and mechanical alignment procedures.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should have knowledge of the basic functions of the Windows Operating System.

Category:
Machining Center

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Overview, Control Functions, Control Hardware, Data Save and Restore

Day 2
Electrical Schematic, Diagnosis Monitor, Remote I/O Troubleshooting, MRJ2 Drives

Day 3
Axis Construction, ATC, Headstock Construction, Collet Replacement

Day 4
Pallet Changer, Table Construction, Coned Disc Spring Replacement, Factory Tour

Course Title: **UN-600 Mechanical & Electrical Maintenance (Training is 4 days)**

Location: **National Training Center, Florence, KY – East Building Lobby 3**

Brief Overview:
Students will receive an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, PLC troubleshooting, mechanical functions, and mechanical alignment procedures.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should have knowledge of the basic functions of the Windows Operating System.

Category:
Machining Center

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Machine Overview, Control Functions, Control Hardware, Data Save and Restore

Day 2
Electrical Schematic, Diagnosis Monitor, Remote I/O Troubleshooting, MRJ2 Drives

Day 3
Axis Construction, ATC, Headstock Construction, Collet Replacement

Day 4
Pallet Changer, Table Construction, Coned Disc Spring Replacement, Factory Tour

Course Title: **Advanced CNC Control Maintenance and PLC Troubleshooting for Matrix**
(Training is 4 days)

Location: **National Training Center, Florence, KY – East Building Lobby 3**

Brief Overview:
This class is designed to familiarize the student with the functions of the CNC Control, the PLC Ladder, and the Servo Systems on the machine. Students will learn how to display needed screens for maintenance, use control diagnostics for troubleshooting, use the Ladder to trace and troubleshoot alarms, diagnose servo and spindle problems, and backup and restore vital data.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students must have basic knowledge of troubleshooting electrical circuits. Students need to attend a Mechanical/Electrical Maintenance Class before attending this class.

Category:
Matrix Controls

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Control Overview and Orientation

Day 2
Programmable Logic Controller Overview

Day 3
Servo Systems and Spindle Controller

Day 4
Numerical Control

Course Title: **Advanced Electrical/Software PLC Troubleshooting with 640 (Training is 4 days)**

Location: **National Training Center, Florence, KY – East Building Lobby 3**

Brief Overview:
This class is designed to familiarize the student with the functions of the CNC Control, the PLC Ladder, and the Servo Systems on the machine. Students will learn how to display needed screens for maintenance, use control diagnostics for troubleshooting, use the Ladder to trace and troubleshoot alarms, diagnose servo and spindle problems, and backup and restore vital data.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students must have basic knowledge of troubleshooting electrical circuits. Students need to attend a Mechanical/Electrical Maintenance Class before attending this class.

Category:
640 Controls

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Control Overview and Orientation

Day 2
Programmable Logic Controller Overview

Day 3
Servo Systems and Spindle Controller

Day 4
Numerical Control

Course Title: **Multiplex 4000/6000 Series Mechanical & Electrical Maintenance with Fusion 640**
(Training is 4 days)

Location: **National Training Center, Florence, KY – East Building Lobby 3**

Brief Overview:
Students will receive an overview of the control hardware and software, troubleshooting and diagnostic functions, electrical circuits, PLC Troubleshooting, mechanical functions, and mechanical alignment procedures of the Multiplex 4000/6000series Machine with the 640T Control.

The class hours are 8:30AM - 4:30PM daily (3days) with the 4th day ending approximately at noon.

Requirements:
Students should possess knowledge of the basic functions of the Windows Operating System.

Category:
Turning

Tuition: $500

Note:
Lunch will be provided.

Abbreviated Syllabus:

Day 1
Data Save and Restore Procedures, Diagnostic Features of the Control

Day 2
Home Position Adjustment, Hands-on Mechanical Exercises

Day 3
Machine Construction, Machine Alignments, Machine Setup

Day 4
PLC Troubleshooting, Electrical Schematics, Factory Tour

Technology Centers

Below is a list of Mazak Technology Centers in the USA. For additional information please go to https://support.mazakcorp.com/Anonymous/Locations.aspx

MAZAK CORPORATION

National Technology Center, Multi-Tasking & Manufacturing Excellence

8025 Production Drive, Florence KY 41042

Telephone: + (1) 859-342-1700

Fax: + (1) 859-342-1865

MAZAK NORTHEAST TECHNOLOGY CENTER

Northeast Technology Center (Medical Focus)

700 Old County Circle, Windsor Locks CT 06096

Telephone: + (1) 860-292-4400

Fax: + (1) 860-654-0752

MAZAK SOUTHEAST TECHNOLOGY CENTER

Southeast Technology Center

1075 Northbrook Parkway, Suwanee GA 30024-2931

Telephone: + (1) 678-985-4800

Fax: + (1) 678-985-4801

MAZAK MID-WEST TECHNOLOGY CENTER

Mid-West Technology Center

300 East Commerce Drive, Schaumburg IL 60173

Telephone: + (1) 847-885-8311

Fax: + (1) 847-885-9565

MAZAK SOUTHWEST TECHNOLOGY CENTER

Southwest Technology Center (Energy Focus)

10950 Greenbend Blvd., Houston TX 77067

Telephone: + (1) 281-931-7770

Fax: + (1) 281-931-6191

MAZAK WEST TECHNOLOGY CENTER

West Technology Center (Aerospace Focus)

1333 West 190th Street, Gardena CA 90248

Telephone: + (1) 310-327-7172

Fax: + (1) 310-538-4087

MAZAK OPTONICS CORPORATION

Chicago Optonics Technology Center

2725 Galvin Court, Elgin IL 60124

Telephone: + (1) 847-252-4500

Fax: + (1) 847-252-4599

MAZAK CANADA TECHNOLOGY CENTRE

Canada Technology Center

50 Commerce Ct., Cambridge, Ontario, Canada N3C 4P7

Telephone: + (1) 519-658-2021

Fax: + (1) 519-658-2023

MAZAK MEXICO, S.A. DE C.V.

Mexico Technology Center

AV. Spectrum No. 100 Parque Industrial Finsa Monterrey, Apodaca, N.L. Mexico

Telephone: + (52) 81-8221-0910/0914

Fax: + (52) 81-8221-0919

Instructors BIO

National Training Instructors

ROY GENTRY:

Prior to joining Mazak, Roy earned a BS in Industrial and Engineering Technology and an MS in Industrial Technology from Morehead State University. Roy began his career at Mazak as a field service engineer and large machine installer, and has performed countless installations of large INTEGREX e-Series machines. Roy joined the training department in 2007, and currently teaches a wide range of maintenance courses. In his free time, Roy officiates a variety of high school and college sports including baseball and basketball, and is licensed by the Kentucky High School Athletic Association, the Amateur Baseball Umpire Association, the Collegiate Baseball Umpire Alliance and the Southeast Independent Umpire Association. Roy also officiates in several NCAA conferences.

DAVE BRINSON:

Dave attended the University of Cincinnati, after which he began his career in manufacturing. Prior to his current position, Dave worked as an applications engineer for Mazak for nine years. Dave has been a trainer for Mazak for fifteen years, and currently teaches a wide range of programming classes. When he's not teaching, Dave enjoys traveling.

BILL BAKER:

Attended evening classes at both U.C. (Accounting) and Cincinnati State (Manufacturing Eng.) while working days as a CNC Programmer at Aerobraze Corp. Worked as the Production Manager at Jarman Products. Started my career at Cincinnati Milacron and attended the apprentice program. Have used many Cad-Cams including MasterCam, Pro/E, Unigraphics and SurfCam. Prior to his current position, Bill worked as a programmer Production and in Applications. When not working, he loves to play golf.

STEPHEN GRONECK:

Steve came to Mazak in 2015 after 40 years as a machinist. He has worked in such fields as aerospace, where he has created programs and processes for GE, Allison, Rolls Royce, and NASA, and in the weapons field. Creating Programs and supervising the daily operation of Mazak horizontal machines that created upper and lower receivers for AR rifles. He attended CTC for Blue Print drawing. As well as numerous training classes for a variety of controls and programming software. Steve has been using Mazatrol for the past 15 years. Before that he was proficient with EIA. Music and traveling with his wife are his favorite pass times now. As well as following college sports.

RICHARD ACKERMAN:

Richard holds a BSEET degree from the University of New York at Albany. During the course of his career, Richard spent sixteen years in the Navy as an electronic technician for various aircraft, followed by twenty years as a service technician and maintenance engineer. With the Mazak team for nearly six years, Richard teaches a wide range of maintenance classes, both at Mazak and on-site at customer locations, for a wide range of machines. Richard is an examiner for all levels of Certified Electronic Technician Rating, including Journeyman Certification, as well as the FCC exam. When he's not teaching at Mazak, Richard enjoys genealogy projects and spends time gardening.

DARYL DUTY:

Daryl attended both Thomas More and N.K.U studying Psychology and Industrial Electronics. Prior to joining Mazak, Daryl spent thirty three years with the former C.G. & E. as an Instrument and Controls Technician at the East Bend Power plant. Since leaving the Power Industry, Daryl trained and certified as a Telemetric Technician with St. Elizabeth hospital. Also Daryl has experience working as a Maintenance Technician in the Pharmaceutical Industry. Some of his interest are, traveling, golf, taking care of his pets which includes a seventy gallon aquarium.

Applications Engineers

MICHAEL FINN:

Mike is an instructor at the Center for Multitasking and Manufacturing Excellence, where he teaches a variety of classes on topics ranging from EIA/ISO programming for Multi-Tasking machines to Machine Tool User Groups. When Mike isn't teaching, he is developing new and improved machining processes for the aerospace and medical industries. In the last few months, Mike has also begun testing equipment and parts to find ways to improve multitask machining for the jet engine industry

DAVE JACKSON:

David graduated with honors from ITT Technical Institute with a bachelor of applied science as an electrical engineering technician. David has over twenty years' experience in a wide range of manufacturing applications including lasers, metal cutting and woodworking. As a Mazak applications engineer for the last ten years, David most enjoys interacting with customers, both in the classroom setting where he teaches advanced programming and hands on operation, as well as on location. His favorite machine is the Mazak INTEGREX. In his free time, David enjoys fly fishing and playing guitar, because no matter how much you practice both, there's always room to improve skills and technique.

Accommodations

Mazak Customer: When making reservations be sure to inform hotel or car rental you are attending a Mazak Training Class at the Florence, Ky., Mazak Training Center to receive the preferred rates.

Note: Mazak is NOT responsible for any car rental or hotel charges. Rates are subject to change without notice.

Hotels

Double Tree by Hilton
2826 Terminal Dr.
Hebron, KY 41048
859-371-6166
859-371-9863
Booking Link:
https://secure3.hilton.com/en_US/dt/reservation/book.htm?ctyhocn=CVGHBDT&corporateCode=0002750171&from=lnrlink

- $99 King
- Transportation To/From International Airport
- 24 hour Fitness Room
- Restaurant and Cocktail Lounge on site
- 24 hour business center
- Wi-Fi is available

Hampton Inn
7393 Turfway Rd.
Florence, KY 41042
859-283-1600
www.hamptoninn.com

- $80 Single/Double
- Transportation To/From International Airport
- Pool & restaurants in walking distance
- Free wireless high speed
- 3.92 miles from Mazak & 5.44 from airport

Microtel Inns & Suites
7490 Woodspoint Dr
Florence, KY 41042
859-746-8100
888-771-7171
www.hotels.microtelinn.com

- $49.99 Single/Double
- Transportation To/From International Airport
- Transportation To/From Mazak
- Complimentary use of World of Sports
- Internet Data Port
- 4.46 miles from Mazak & 6.46 from airport

Hilton-Greater Cincinnati
7373 Turfway Rd
Florence, KY 41042
859-371-4400
www.hiltoncincinnatiairport.com

- $99 Single/Double
- Transportation To/From International Airport
- Restaurant and Cocktail Lounge on site
- Free Internet
- 3.91 miles from Mazak & 5.44 from airport

Courtyard Marriott
46 Cavalier Blvd.
Florence, KY 41042
859-371-6464
800-321-2211
www.Marriott.com/cvgfl

- $75 Single/Double
- Transportation To/From International Airport
- Transportation To/From Mazak
- Indoor Pool, Whirlpool & Exercise Room
- Free wireless high speed
- 3.3 miles from Mazak & 4.5 from airport

Holiday Inn 1717 Airport Exchange Blvd. Erlanger, KY 41018 859-746-5608 800-HOLIDAY **www.holiday-inn.com**	- $109 Single - Transportation To/From International Airport - Restaurant and Cocktail Lounge on site - Internet Data Port - 8.1 miles from Mazak & 3.47 from airport
Radisson Hotel 668 W. Fifth St. Covington, KY 41011 859-491-1200 800-333-3333 **www.radisson.com/covingtonky**	- $129 / enter MAZZ into the promotional code box to receive the Mazak rate - Transportation To/From International Airport - Restaurant and Cocktail Lounge on site - Indoor/Outdoor Pool & a Fitness Center - At the Ohio River near area venues, restaurants, Covington Main Strasse Village & Shops - Internet Data Port -15 miles from Mazak & 12 from airport
Hyatt Place 300 Meijer Dr Florence, KY 41042 859-6471170 800-833-1516 **www.hyattplace.com**	- $89 per suite Single/Double - Transportation To/From International Airport - Indoor/Outdoor Pool, Fitness Room & Outdoor Running Trial - High speed internet - 4.6 miles from Mazak & 6 from airport
LaQuinta Inn & Suites 350 Meijer Dr Florence, KY 41042 859-282-8212 **www.lq.com**	- $69 Standard room / $79 Extended King or Suite - Transportation To/From International Airport *by appointment* - Transportation To/From Mazak - Indoor Pool & Hot Tub, Fitness Center, Guest Laundry - High speed wired & wireless internet - 4.6 miles from Mazak & 6 from airport
Spring Hill Suites/Marriott 7492 Turfway Rd. Florence, KY 41042 859-371-3388 **www.marriott.com/cvgsf**	- $85 Queen/Queen Suite or King/King Suite - Transportation To/From International Airport *by appointment* - Transportation To/From Mazak - Indoor Pool & Hot Tub, Fitness Center -Valet laundry/dry cleaning & Guest laundry facilities - High speed wired & wired internet - 3 miles from Mazak & 6 from airport

Holiday Inn
7905 Freedom Way
Florence, KY 41042
859-980-1700
www.holidayinn.com

- $89.99
- On site restaurant
- Indoor Pool, Fitness center
- Guest laundry facilities
- Free high speed wired & wireless internet
-2 miles from Mazak & 11 miles from airport

Car Rental

Mazak Customer: When making reservations be sure to inform hotel or car rental you are attending a Mazak Training Class at the Florence, Ky., Mazak Training Center to receive the preferred rates.

Note: Mazak is NOT responsible for any car rental or hotel charges

Enterprise Rent-A-Car
Burlington, KY
Airport CVG
859-689-6200
800-Rent-A-Car

- Free pick-up and Delivery of Vehicle at Mazak Training Center

Pricing:

- Compact: Daily for $29.99 / weekly for $159.99
- Intermediate: Daily for $32.99 / weekly for $179.99
- Standard: Daily for $37.99 / weekly for $209.99
- Full size: Daily for $39.99 / weekly for $239.99
- Premium: Daily for $47.99 / weekly for $279.99
- Mini Van: Daily for $59.99 / weekly for $359.99
- Luxury: Daily for $62.99 / weekly for $369.99

Mileage is based on 150 miles for day for OH, MI, KY, IL, IN, TN & WV

MAZAK BRAND ITEMS

Part Number	Description	Size	List Price	
Q01USA00000	Hat Black/Khaki		$6.30	
Q01USA00200	Hat Black/Grey Flame		$10.18	
Q01USA00300	Hat Dark Blue		$8.54	
Q01USA00400	Hat Tri Color		$8.51	

MAZAK BRAND ITEMS

Part Number	Description	Size	List Price
Q02USA0010S	2800 Black Golf Shirt S	S	$15.12
Q02USA0010M	2800 Black Golf Shirt M	M	$15.12
Q02USA0010L	2800 Black Golf Shirt L	L	$15.12
Q02USA0011L	2800 Black Golf Shirt XL	XL	$15.12
Q02USA0012L	2800 Black Golf Shirt XXL	XXL	$17.52

Q02USA0040S	5250 Orange T-Shirt S	S	$6.42
Q02USA0040M	5250 Orange T-Shirt M	M	$6.42
Q02USA0040L	5250 Orange T-Shirt L	L	$6.42
Q02USA0041L	5250 Orange T-Shirt XL	XL	$6.42
Q02USA0042L	5250 Orange T-Shirt XXL	XXL	$9.36
Q02USA0043L	5250 Orange T-Shirt XXXL	XXXL	$9.36

Q02USA0050S	5250 Grey T-Shirt S	S	$6.42
Q02USA0050M	5250 Grey T-Shirt M	M	$6.42
Q02USA0050L	5250 Grey T-Shirt L	L	$6.42
Q02USA0051L	5250 Grey T-Shirt XL	XL	$6.42
Q02USA0052L	5250 Grey T-Shirt XXL	XXL	$8.40
Q02USA0053L	5250 Grey T-Shirt XXXL	XXXL	$9.36

Q02USA0060S	5250 Black T-Shirt S	S	$7.26
Q02USA0060M	5250 Black T-Shirt M	M	$6.60
Q02USA0060L	5250 Black T-Shirt L	L	$6.60
Q02USA0061L	5250 Black T-Shirt XL	XL	$6.60
Q02USA0062L	5250 Black T-Shirt XXL	XXL	$8.70
Q02USA0063L	5250 Black T-Shirt XXXL	XXXL	$8.70

MAZAK BRAND ITEMS

Part Number	Description	Size	List Price	
Q02USA0080S	Graphite Golf Shirt S	S	$23.99	
Q02USA0080M	Graphite Golf Shirt M	M	$23.99	
Q02USA0080L	Graphite Golf Shirt L	L	$23.99	
Q02USA0081L	Graphite Golf Shirt XL	XL	$23.99	
Q02USA0082L	Graphite Golf Shirt XXL	XXL	$26.39	
Q03USA0000M	F259 Grey Zip Sweatshirt M	M	$28.80	
Q03USA0000L	F259 Grey Zip Sweatshirt L	L	$28.80	
Q03USA0001L	F259 Grey Zip Sweatshirt XL	XL	$28.80	
Q03USA0002L	F259 Grey Zip Sweatshirt XXL	XXL	$30.00	
Q03USA0010M	DT131 CH Crew Sweatshirt M	M	$27.60	
Q03USA0010L	DT131 CH Crew Sweatshirt L	L	$27.60	
Q03USA0011L	DT131 CH Crew Sweatshirt XL	XL	$27.60	
Q03USA0012L	DT131 CH Crew Sweatshirt XXL	XXL	$28.80	
Q04USA00000	Golf Balls DOZ	Dozen	$32.30	
Q04USA00010	Golf Balls SLEEVE	Sleeve	$8.08	

MAZAK BRAND ITEMS

Part Number	Description	Size	List Price	
Q04USA00020	Ipad Holder		$48.00	

7975 Foundation Drive
Florence, KY 41042
http://www.mazakusa.com/