



2008—2009 CLASS CATALOG



Summary of Industries Served

Machining

TOPIC	HIGHLIGHTS
Workholding	locating principles, fixture design
Manual Machining	benchwork and layout, mill/lathe operation, holmaking, threading on an engine lathe
Metal Cutting	speeds and feeds, tool grades, cutter geometry, optimizing tool life
Abrasives	surface grinding, centerless grinding, cylindrical grinding, wheel grades, dressing and truing
CNC	G code programming, offsets, toolpath calculations, canned cycles
CNC Controls: Haas	offset changes, program execution, proving out new setups
CNC Controls: GE Fanuc	offset changes, program execution, proving out new setups

Assembly

TOPIC	HIGHLIGHTS
Soldering	PCB soldering, lead-free soldering
Adhesives	dispensing equipment, joint preparation
Fasteners	thread specifications, fastener selection, proper torquing

Welding and Fabrication

TOPIC	HIGHLIGHTS
Stamping	die components, coil handling, die setting
Press Brake	bend types, press brake controls
Welding	stick welding (SMAW), MIG (GMAW), TIG (GTAW), flux core (FCAW)

Maintenance

TOPIC	HIGHLIGHTS
PLCs	ladder logic, inputs/outputs, hardware and installations
Motor Controls	ladder/line diagrams, control devices, motor theory
Electrical Systems	Ohm's Law, circuit calculations, electrical print reading, use of the NEC
Mechanical Systems	power variables, lubrication, gear applications, bearings, belt drives, clutches and brakes
Hydraulics/Pneumatics	power sources, control valves, actuators, fluid maintenance, system design

Foundational

TOPIC	HIGHLIGHTS
Inspection	linear measurement, GD&T, calibration, CMMs, optical comparators, hole & thread inspection
Materials	steel grades, heat treatment, plastic types
Shop Essentials	shop math, tolerances, print reading, geometry and trig
Safety	OSHA guidelines, PPE, lockout/tagout, MSDS, machine guarding, hand/power tool safety
Quality	lean, SPC, TPM, 5S, value stream mapping, kaizen teams, troubleshooting

2008–2009 Class Catalog

Feature Key

- 1 Available in both English and Spanish
- 2 Contains Simulator
- 3 Contains Lab



ABRASIVES DEPARTMENT

- Intro to Abrasives 100 1
- What Is Grinding? 110 1
- Grinding Processes 120 1
- Grinding Variables 200 1
- Grinding Wheel Materials 210 1
- Grinding Wheel Geometry 220
- Dressing and Truing 230
- Surface Grinder Operation 240
- Cylindrical Grinder Operation 250
- Centerless Grinder Operation 260



ADHESIVES DEPARTMENT

- Intro to Adhesive Bonding 110
- Basics of the Bonding Process 120
- Intro to Adhesive Properties 130
- Types of Adhesives 140
- Surface Preparation 210
- Steps for Adhesive Application 220



CNC DEPARTMENT

- History and Definition of CNC 100 1
- Mechanics of CNC 110 1
- Basics of the CNC Turning Center 120 1 3
- Basics of the CNC Machining Center 130 1 3
- Basics of the CNC Swiss-Type Lathe 135 1
- CNC Coordinates 140 1 3
- Part Program 150 1 3
- CAD/CAM Overview 160 1
- CNC Manual Operations 200 1 3
- CNC Offsets 210 1 3
- CNC Specs for the Mill 220 1
- CNC Specs for the Lathe 225 1
- Creating a Turning Program 280 1 3
- Turning Calculations 285 1
- Creating a Milling Program 290 1 3
- Milling Calculations 295 1
- Canned Cycles 310 1 3















CNC CONTROLS: GE FANUC DEPARTMENT

- GE Fanuc Mill: Control Panel Overview 250 1 2
- GE Fanuc Lathe: Control Panel Overview 255 1 2
- GE Fanuc Mill: Entering Offsets 260 1 2
- GE Fanuc Lathe: Entering Offsets 265 1 2
- GE Fanuc Mill: Locating Program Zero 270 1 2
- GE Fanuc Lathe: Locating Program Zero 275 1 2
- GE Fanuc Mill: Program Execution 280 1 2
- GE Fanuc Lathe: Program Execution 285 1 2
- GE Fanuc Mill: Program Storage 310 1 2
- GE Fanuc Lathe: Program Storage 315 1 2
- GE Fanuc Mill: First Part Runs 320 1 2
- GE Fanuc Lathe: First Part Runs 325 1 2



CNC CONTROLS: HAAS DEPARTMENT

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Haas Lathe: Control Panel Overview 255 
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Haas Mill: Locating Program Zero 270 
Haas Lathe: Locating Program Zero 275 

Haas Mill: Program Execution 280 
Haas Lathe: Program Execution 285 
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Haas Lathe: Program Storage 315 
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Intro to Magnetism 130
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DC Power Sources 230
AC Power Sources 235
Conductor Selection 240
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Overview of Non-Threaded Fasteners 125
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Intro to Pneumatic Components 125
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Hydraulic Power Sources 210

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For a full listing of all our new classes visit: toolingu.com/classes. If you have questions please call us at **1.866.706.8665** or email us at info@toolingu.com

In addition to the training areas listed in this catalog, Tooling U also anticipates adding in 2008 and 2009 robotics training as well as curriculum focused on supervisory training and employability skills.



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