

Academic/Research Shop Tool Safety Program



Shop / Shop Tool Safety Program

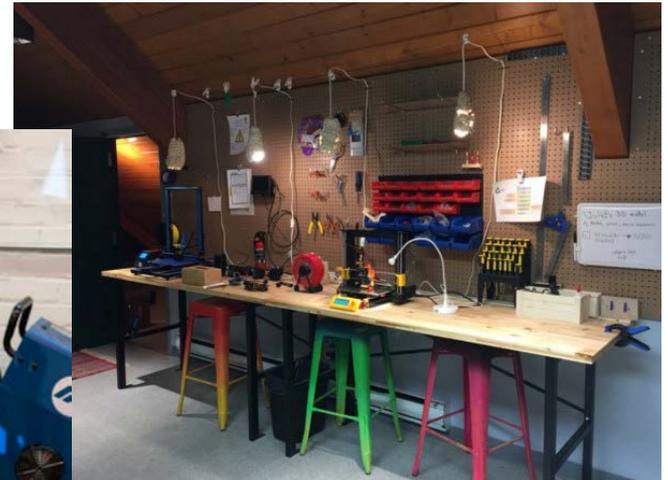
Shop and fabrication activities have always played an important role in education and research activities in sciences, engineering and the arts



Shop / Shop Tool Safety Program

- No longer only traditional shop or laboratory spaces.
- Number and variety of “maker-spaces” is expanding
- Needed a flexible set of guidelines for management (use and oversight) of these spaces

[NMSU Academic / Research Shop Safety Program](#)



Tool Classification Matrix

Device Class	1	2	3	4
	General Hand Tools	Small Powered Hand Tools	Mounted and Free Standing Tools	Large Industrial Tools and Specialized High Risk Equipment
Examples of Tool Types	<ul style="list-style-type: none"> • Screwdrivers • Pliers / Wire cutters • Wrenches • Sockets • Hammers • Hand Saws • Hand Files / Rasps • Awls / Punches/ Chisels • Hand Planes 	<ul style="list-style-type: none"> • Drill guns / Drivers • Jig Saws / Sabre Saws • Circular Saws • Sanders / Grinders • Dremel-style Rotary Tools • Routers • Small Pneumatic Tools • Soldering irons and guns • Heat guns 	<ul style="list-style-type: none"> • Table Saws • Drill Presses • Horizontal Band Saws • Bench Sanders / Grinders • Miter Saws • Sheet Metal Brakes • Sheet Metal Notchers • Sheet Metal Shears (manual) • Tubing Benders • Tubing Notchers • Planers / Jointers • Enclosed Laser Cutters • 3-D Printers 	<ul style="list-style-type: none"> • Large Lathes • Milling Machines • Plasma Cutters • Welding Equipment • Large Vertical Band Saws • Radial Arm Saws • CNC Machines • Iron Workers • Power Shears • Large Jointers / Planers • Water Jet Cutters
Tool Use Oversight	<ul style="list-style-type: none"> • Permission of Shop Supervisor or Monitor 	<ul style="list-style-type: none"> • Permission of Shop Supervisor or Monitor • Shop Supervisor or Shop Monitor will verify tool proficiency prior to allowing unmonitored use. 	<ul style="list-style-type: none"> • Shop monitor or Shop Supervisor supervision required 	<ul style="list-style-type: none"> • Shop Supervisor supervision required.
User Training / Use Requirements	<ul style="list-style-type: none"> • Basic Shop Safety Orientation by Shop Supervisor / Shop Monitor • Signed Shop Code of Conduct 	<ul style="list-style-type: none"> • Basic Shop Safety Orientation by Shop Supervisor / Monitors • Individual Tool Instruction by Shop Monitor / Shop Supervisor • Demonstrate Proficiency • Tool Card showing list of tools approved for use. 	<ul style="list-style-type: none"> • Basic Shop Safety Orientation by Shop Supervisor / Monitors • Individual Tool Instruction by Shop Monitor / Shop Supervisor • Demonstrate Proficiency • Tool Card showing list of tools approved for use. 	<ul style="list-style-type: none"> • Basic Shop Safety Orientation by Shop Supervisor / Monitors • Extensive Individual Tool Instruction by Shop Supervisor • Demonstrate Proficiency • Tool Card showing list of tools approved for use.

Tool Class and Type

Device Class	1	2	3	4
	General Hand Tools	Small Powered Hand Tools	Mounted and Free Standing Tools	Large Industrial Tools and Specialized High Risk Equipment
Examples of Tool Types	<ul style="list-style-type: none"> • Screwdrivers • Pliers / Wire cutters • Wrenches • Sockets • Hammers • Hand Saws • Hand Files / Rasps • Awls / Punches/ Chisels • Hand Planes 	<ul style="list-style-type: none"> • Drill guns / Drivers • Jig Saws / Sabre Saws • Circular Saws • Sanders / Grinders • Dremel-style Rotary Tools • Routers • Small Pneumatic Tools • Soldering irons and guns • Heat guns 	<ul style="list-style-type: none"> • Table Saws • Drill Presses • Horizontal Band Saws • Bench Sanders / Grinders • Miter Saws • Sheet Metal Brakes • Sheet Metal Notchers • Sheet Metal Shears (manual) • Tubing Benders • Tubing Notchers • Planers / Jointers • Enclosed Laser Cutters • 3-D Printers 	<ul style="list-style-type: none"> • Large Lathes • Milling Machines • Plasma Cutters • Welding Equipment • Large Vertical Band Saws • Radial Arm Saws • CNC Machines • Iron Workers • Power Shears • Large Jointers / Planers • Water Jet Cutters

Tool Oversight Requirements

Device Class	1	2	3	4
	General Hand Tools	Small Powered Hand Tools	Mounted and Free Standing Tools	Large Industrial Tools and Specialized High Risk Equipment
Tool Use Oversight	<ul style="list-style-type: none"> • Permission of Shop Supervisor or Monitor 	<ul style="list-style-type: none"> • Permission of Shop Supervisor or Monitor • Shop Supervisor or Shop Monitor will verify tool proficiency prior to allowing unmonitored use. 	<ul style="list-style-type: none"> • Shop monitor or Shop Supervisor supervision required 	<ul style="list-style-type: none"> • Shop Supervisor supervision required.

User Training Requirements

Device Class	1	2	3	4
	General Hand Tools	Small Powered Hand Tools	Mounted and Free Standing Tools	Large Industrial Tools and Specialized High Risk Equipment
User Training / Use Requirements	<ul style="list-style-type: none"> Basic Shop Safety Orientation by Shop Supervisor / Shop Monitor Signed Shop Code of Conduct 	<ul style="list-style-type: none"> Basic Shop Safety Orientation by Shop Supervisor / Monitors Individual Tool Instruction by Shop Monitor / Shop Supervisor Demonstrate Proficiency Tool Card showing list of tools approved for use. Signed Code of Conduct 	<ul style="list-style-type: none"> Basic Shop Safety Orientation by Shop Supervisor / Monitors Individual Tool Instruction by Shop Monitor / Shop Supervisor Demonstrate Proficiency Tool Card showing list of tools approved for use. Signed Code of Conduct 	<ul style="list-style-type: none"> Basic Shop Safety Orientation by Shop Supervisor / Monitors Extensive Individual Tool Instruction by Shop Supervisor Demonstrate Proficiency Tool Card showing list of tools approved for use. Signed Code of Conduct

Supervisor / Monitor Training

- Faculty, staff, students and outside volunteers
- Basic elements of the new program
- Supervisor roles and responsibilities
- Guidance on using the tool matrix
- Other resources and tools
- Individuals are “certified” by EHSRM



For More Information...

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