



Advanced Technology and Manufacturing Institute

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ATAMI Client Training Standard: Machine Shop Tools



WARNING

*The operation of machinery and tools carries the inherent risk of maiming, disfigurement, and death. Thoughtful attention to all posted warnings, safety instructions, the condition of equipment, and the precepts of this standard is **required** for operation of machinery and tools at ATAMI. Failure to comply with safety standards will result in revocation of machine tool privileges.*



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1. Introduction

The purpose of this document is to convey requirements and provide guidance for the use of ATAMI hand tools, powered hand tools, and machine tools. This document also contains the training requirements for shop access, who is authorized to use the machine shop and machine tools and how to obtain that authorization.

1. Safety Requirements

The most important safety interlock of any tool is the operator. Prior to using any ATAMI-owned tools or equipment, ATAMI tenants and OSU researchers must complete the ATAMI introductory shop safety course or the ME 250 (Introduction to Manufacturing Processes) course. Machine tools such as the lathe, mill, CNC mill, grinders, and sanders require additional training on the particular tool. The following safety requirements must be observed when using any machine tools:

- a. Full mental alertness is required for safe operation of machinery. Never operate under the influence of drugs, when tired, while distracted, or while ignorant.
- b. The operator shall be correctly attired, including close-toed shoes, safety glasses, and a lab coat.
- c. All tools shall be operated in accordance with this publication, ATAMI manuals, and the manufacturer's manual where applicable.
- d. For ATAMI tenants and OSU researchers, the time and purpose of the use shall be logged in the ATAMI resource tracker.
- e. Secure the machine upon any indication of damage or abnormal operation, and immediately inform an ATAMI staff member.

Failure to adhere to these requirements will result in loss of machine tool privileges until the operator safety course can be re-taken.

2. Training Program

ATAMI offers a basic machine shop training program for all tenants who wish to use ATAMI shop facilities and equipment. This system is tiered to permit access to the shop space and hand tools with relatively little training. Using powered hand tools or machine tools requires additional training. This section details the breakdown of training tiers and requirements.

Tier	Training Requirements	Point of Contact	Authorizations
1: Tool Operator Safety Course	Review training material, safety tour, oral interview	Will Putnam	Access to machine shop spaces and the use of unpowered hand tools
2: Powered Tool Safety Course	Complete tier 1, review training material, oral interview	Will Putnam	Use of powered hand tools
3: Machine Tool Operator Courses	Complete tier 2, review training material, oral interview, practical demonstration	Mills, Lathe, Bandsaw: Will Putnam LPKF mill: Evan Clow	Use of the specific machine tool covered by the applicable course

Training is available from the manufacturing team technical assistants. To participate in training, review all available training information and request an interview from the technical assistants. Bring an ATAMI Oral Interview Form, safety glasses, and a writing implement to your interview. The Oral Interview Form is located in Appendix A of this document.



3. Tool Use Requirements

Tools shall not be used by anyone who has not completed the training requirements of this document. Personnel who have completed ME-250 at Oregon State University, or an industrial education program of similar scope at another institution, may apply to have the hand tool, powered hand tool, knee mill and gear head lathe training waived by written assent of the technical assistants. Tools must be used in accordance with all available guidance. Failure to follow guidance while using tools will result in immediate loss of access to ATAMI tools and the machine shop.

2. Training Requirements

This section covers the scope of each course, required topics, and review material for each tier of training.

1. Tool Operator Safety Course

This course is intended to familiarize the student with essential precepts of shop and industrial safety, the correct use of hand tools, and provide familiarization with the hand tools available at ATAMI.

Required reading for this course is OSHA Publication 3080, "Hand and Power Tools" and the ATAMI Client Training Standard: Machine Shop Tools (this document).

Applicants must complete a safety tour and oral interview. The interview shall involve a discussion of PPE requirements, where PPE is stored, first aid stations and procedures, shop emergency procedures, basic industrial safety, posted warnings, incident reporting, and the requirements of this document.

Completion of this course authorizes the tenant to enter the machine shop unescorted and use unpowered hand tools. Removal of tools from the machine shop requires permission from ATAMI staff.

2. Powered Tool Safety Course

This course is intended to familiarize the student with the safety requirements of powered hand tools, the correct use of powered hand tools, and provide familiarization with the powered hand tools available at ATAMI. The basic tool operator safety course is a prerequisite.

Required reading for this course is OSHA Publication 3080, "Hand and Power Tools" and the ATAMI Client Training Standard (this document).

Applicants must complete an oral interview. The interview shall involve a discussion of PPE requirements, where PPE is stored, electrical safety, the unique safety requirements of power tools due to their inherent instability, power tool work area safety, and what power tools are appropriate for what type of work.

Completion of this course authorizes the tenant to use powered hand tools. Removal of tools from the machine shop requires permission from ATAMI staff.

3. Grizzly Gear Head Lathe

This course is intended to provide the student with the training required to operate the lathe. Additional training requirements are contained in the ATAMI Lathe Manual and Operating Procedures. Machine tool training courses will become available in fall 2018.

4. Birmingham Knee Mill

This course is intended to provide the student with the training required to operate the knee mill. Additional requirements are contained in the ATAMI Mill Manual and Operating Procedures. Machine tool training courses will become available in fall 2018



5. Haas CNC Vertical Mill

This course is intended to provide the student with the training required to operate the Haas VF CNC mill. The Haas CNC Vertical Mill course will become available winter 2018.

6. Grinder, Sandblaster, and Belt Sander

This course is intended to provide the student with the training required to operate the grinder, sandblaster, and belt sander. The Grinder, Sandblaster, and Belt Sander course will become available fall 2018.



Appendix A

ATAMI oral interview form

Machine Shop Training

Date:

Name: _____
Training: _____
Group: _____

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Subject	Specifics	Result
Shop Safety		
Capabilities		
Training Program Requirements		

Approved: