

Industrial Maintenance Technology: Fundamentals of Machine Tools - A (For Maintenance)

Practice and perform
safe shop procedures at
all times. **FMTA1**

1 Practice and perform safe shop procedures at all times. **FMTA1**

Apply the technical
math required for
employment
opportunities in
maintenance. **FMTA2**

2 Apply the technical math required for employment opportunities in
maintenance. **FMTA2**

Perform all duties with
emphasis on **FMTA3**

a integrity **FMTA3A**

b responsibility **FMTA3B**

c quality **FMTA3C**

d discipline **FMTA3D**

e teamwork **FMTA3E**

Demonstrate and
practice safe work
habits in the lab area as
outlined in NIMS
Framework for
Machining Skills. **FMTA4**

4 Demonstrate and practice safe work habits in the lab area as outlined in NIMS
Framework for Machining Skills. **FMTA4**

Perform bench work
processes, hacksaw,
files, layout, drill, tap
and other activities to
meet industry
standards. **FMTA5**

5 Perform bench work processes, hacksaw, files, layout, drill, tap and other
activities to meet industry standards. **FMTA5**

Perform safe and functional activities on the following machines: horizontal band saw, vertical band saw, drill press, arbor press, lathes, and mills. [FMTA6](#)

6 Perform safe and functional activities on the following machines: horizontal band saw, vertical band saw, drill press, arbor press, lathes, and mills. [FMTA6](#)

Perform tasks with cutting hand tools and non-cutting hand tools. [FMTA7](#)

7 Perform tasks with cutting hand tools and non-cutting hand tools. [FMTA7](#)

Identify and explain the handling procedure for hazardous material and the content of MSDS (Material Safety Data Sheet). [FMTA8](#)

8 Identify and explain the handling procedure for hazardous material and the content of MSDS (Material Safety Data Sheet). [FMTA8](#)

Identify safety needs and regulations in a machine shop. [FMTA9](#)

9 Identify safety needs and regulations in a machine shop. [FMTA9](#)

Identify non-cutting hand tools and the proper use of them. [FMTA10](#)

10 Identify non-cutting hand tools and the proper use of them. [FMTA10](#)

Prepare for a bench work process. [FMTA11](#)

11 Prepare for a bench work process. [FMTA11](#)

Hand saw with a hacksaw. [FMTA12](#)

12 Hand saw with a hacksaw. [FMTA12](#)

Bench file the workpiece. [FMTA13](#)

13 Bench file the workpiece. [FMTA13](#)

Dress and true grinding wheels on bench and pedestal grinders. [FMTA14](#)

14 Dress and true grinding wheels on bench and pedestal grinders. [FMTA14](#)

Demonstrate knowledge of power saws, parts, and applications. [FMTA15](#)

15 Demonstrate knowledge of power saws, parts, and applications. [FMTA15](#)

Demonstrate the care and safe use of the power saw. [FMTA16](#)

16 Demonstrate the care and safe use of the power saw. [FMTA16](#)

Cut and weld band saw blades [FMTA17](#)

17 Cut and weld band saw blades [FMTA17](#)

Perform operations on the cut-off saw [FMTA18](#)

18 Perform operations on the cut-off saw [FMTA18](#)

Perform operations on the vertical band saw. [FMTA19](#)

19 Perform operations on the vertical band saw. [FMTA19](#)

Demonstrate knowledge of drill press, parts, and applications. [FMTA20](#)

20 Demonstrate knowledge of drill press, parts, and applications. [FMTA20](#)

Demonstrate the care and safe use of the drill press. [FMTA21](#)

21 Demonstrate the care and safe use of the drill press. [FMTA21](#)

Calculate and set the cutting speed and feed on the drill press. [FMTA22](#)

22 Calculate and set the cutting speed and feed on the drill press. [FMTA22](#)

Sharpen drills. [FMTA23](#)

23 Sharpen drills. [FMTA23](#)

Set up a drill press and drill holes. [FMTA24](#)

24 Set up a drill press and drill holes. [FMTA24](#)

Shape and finish holes on a drill press. [FMTA25](#)

25 Shape and finish holes on a drill press. [FMTA25](#)

Tap holes by hand and machine on a drill press. [FMTA26](#)

26 Tap holes by hand and machine on a drill press. [FMTA26](#)

Thread by hand with taps and dies. [FMTA27](#)

27 Thread by hand with taps and dies. [FMTA27](#)

Operate an arbor press. [FMTA28](#)

28 Operate an arbor press. [FMTA28](#)

Use chisels and punches. [FMTA29](#)

29 Use chisels and punches. [FMTA29](#)

Demonstrate knowledge of hazardous materials handling. [FMTA30](#)

30 Demonstrate knowledge of hazardous materials handling. [FMTA30](#)

Demonstrate knowledge of hazardous materials storage. [FMTA31](#)

31 Demonstrate knowledge of hazardous materials storage. [FMTA31](#)

Demonstrate lock-out/tag-out procedures. [FMTA32](#)

32 Demonstrate lock-out/tag-out procedures. [FMTA32](#)

Demonstrate use of MSDS (Material Safety Data Sheet). [FMTA33](#)

33 Demonstrate use of MSDS (Material Safety Data Sheet). [FMTA33](#)

Measure with basic hand-held measuring instruments. [FMTA34](#)

34 Measure with basic hand-held measuring instruments. [FMTA34](#)