

Student Name _____ Instructor Name _____

High School or Vocational Center _____ Grade _____

COMPETENCY CHECKLIST FOR ADVANCED TECHNICAL PLACEMENT
Manufacturing Technologies

MT 101-B
MACHINE TECHNOLOGY
4 Credit Hours

To meet the standards for articulated credit, the student will demonstrate competency in the tasks listed below. Competency standards will be determined by the high school instructor.

Task	Satisfactory	Unsatisfactory
GENERAL TASKS		
Exhibit an understanding of safe operating procedures for each machine tool in the course		
Display a willingness to follow all safety procedures		
Use the proper terminology for each machine and tool used in the course		
Be able to calculate the correct speed for a given machine operation		
Be able to calculate the correct feed for a given machine operation		
Read and follow a process sheet		
HAND TOOLS		
Identify common hand tools		
Display the proper maintenance of hand tools		
Use hand tools properly		
Measure using a fractional ruler to 1/64 th of an inch		
MEASURING		
Measure using a decimal ruler to 1/50 th of an inch		
Measure outside dimensions using a three way dial caliper to .001 inches		
Measure inside dimensions using a three way dial caliper to .001 inches		
Measure a depth using three way calipers to .002 inches		
Read an outside micrometer to .0001 inches		
Measure using the Vernier height gauge to .001 inches		
Measure an angle using a bevel protractor to 1 degree		
Display the ability to use a square to inspect for squareness		

Task	Satisfactory	Unsatisfactory
Use the surface plate for inspection		
LAYOUT		
Display the proper use of layout bluing		
Scribe a line square to an edge		
Scribe a line parallel to an edge		
Scribe a line at a given angle		
Select a proper punch for marking a center		
DRILL PRESS		
Identify common drill types		
Set the machine to the proper speed		
Set the machine to the proper feed		
Drill a hole		
Tap a hole		
Spot face a hole		
Counterbore a hole		
Chamfer a hole		
Ream a hole		
Counter sink a hole		
LATHE		
Display a knowledge of the various types of cutting tools used on the lathe		
Understand the various materials commonly used to make lathe tooling		
Choose the proper tool holder for the work to be done		
Set the proper spindle speed		
Set the proper feed rate		
Prepare all of the lathe tooling required for the following operations		
• Perform straight turning on the O.D. of a part		
• Perform shouldering on the O.D. of a part		
• Face a part		
• Drill a hole using the tailstock		
• Cut O.D. and I.D. chamfers		
• Cut a groove		

Task	Satisfactory	Unsatisfactory
MILLING MACHINE		
Set the proper feed rate		
Identify cutters common to the milling machine		
Perform a fly cutting operation		
Perform side milling		
Perform face milling		
Perform pocket and/or slot milling		
Edge find to locate hole locations within .001”		
Demonstrate knowledge of Climb vs. Conventional Milling directions		
SURFACE GRINDER		
Use the magnetic chuck		
Dress the wheel		
Grind a surface flat		
Grind a surface parallel to a reference surface		
MATERIALS		
Identify common non-ferrous materials		
Identify common ferrous alloys		
Display a knowledge of the ferrous alloy numbering system		

Instructor's Signature _____ Date _____