

Assessment: Mt. Hood Metals Assessment

Standard Set: Metals

Filters:

Assessment Date (2014-05-05:2014-05-23)

All Standards

Number tested: 101

1) Metals 2

- 1) The student will demonstrate knowledge of and apply personal protective safety equipment appropriate to the process.
 - 2) 100% can demonstrate knowledge of and apply appropriate clothing protection appropriate to the task.
 - 3) 84.16% can locate and properly use protective equipment.
 - 4) 92.08% can identify hazardous and non-hazardous materials.
 - 5) 95.05% can demonstrate knowledge of and apply appropriate handling, lifting and transport of materials (hazardous and non-hazardous).

- 2) The student will demonstrate proper industrial safety practices and procedures in a manufacturing facility.
 - 1) 94.06% can maintain and use appropriate protective guards and equipment on machinery
 - 2) 98.02% can select appropriate tool for the task.
 - 3) 93.07% can conduct pre-use inspection and set-up of tools.
 - 4) 89.11% can use the tool properly (hand placement, min. and max. material sizes, feed rates).
 - 5) 89.11% will be able to distinguish between a properly and improperly functioning tools.
 - 6) 60.40% can demonstrate maintenance of the tool (cleaning, lubrication, sharpening).

- 3) The student will demonstrate proper use of emergency equipment and procedures.
 - 1) 97.03% can demonstrate knowledge of proper use of fire extinguisher.
 - 2) 97.03% can demonstrate knowledge of and apply evacuation procedures.
 - 3) 93.07% can demonstrate knowledge of basic first aid to cuts and burns, eye wash, and blood-borne pathogens.

- 4) The student will use basic math and measuring skills.
 - 1) 90.10% can demonstrate proper use of measuring devices.
 - 2) 76.24% can identify and apply appropriate unit of measurement.
 - 3) 68.32% are able to measure to a specified tolerance.
 - 4) 77.23% can convert fractions/decimals/metric.
 - 5) 50.50% can apply appropriate calculation to the task (add, subtract, multiply, divide).

- 5) The student will demonstrate knowledge and skills specific to the pathway.
 - 1) 72.28% of student demonstrates a knowledge of the different career paths and opportunities within a pathway.

- 6) Perform safety, health, inspection, and repair processes related to welding and thermal cutting.
 - 1) 85.15% understand precautionary labeling.

- 7) Perform operations related to shop equipment used in welding, layout, and part preparation.

- 8) Perform entry level welding processes using a variety of welding technologies including shielded metal arc welding (SMAW), gas metal arc welding (GMAW), and gas tungsten welding (GTAW).
- 9) The student will identify welding tools and equipment.
- 1) 95.05% can identify basic hand tools (chipping hammers, brushes, files, strikers).
 - 2) 72.28% can identify basic power tools (grinders, drills).
- 10) The student will demonstrate knowledge of welding processes.
- 1) 66.34% can identify and describe different welding processes (SMAW, GMAW, GTAW, OXYFUEL welding).
 - 2) 91.09% can identify welding positions according to AWS standards (flat, vertical, horizontal, overhead, IG-4G, and 1G/F).
 - 3) 58.42% can identify joint types (butt, lap, T, corner, edge).
- 11) The student will be able to interpret drawings, plans and control documents.
- 1) 81.19% can interpret welding prints to determine tolerance dimensions in decimal, fractions, and degrees.
 - 3) 62.38% can identify and interpret basic welding symbols.
- 12) The student will be able to identify generally used welding materials.
- 1) 93.07% can identify key welding materials include ferrous and non-ferrous materials (steel, aluminum, stainless steel, high-carbon steel, low-carbon steel, cast iron).
 - 2) 91.09% can identify structural steel shapes (channel, angle, tubing, I-beam, H-beam, sheeting, plate) 5 Graphic Questions
 - 3) 76.24% can select the material for the appropriate application.
- 13) The student will demonstrate ability to plan and complete core welding processes.
- 1) 89.11% can select appropriate welding process for the specified thickness/gauge of material being used.
 - 2) 75.25% can identify appropriate electrodes and filler materials for the specific process.
 - 3) 79.21% can perform safety inspections of equipment and accessories used in the welding process.
- 14) The student will demonstrate proper use of the equipment used to conduct shielded metal arc welding processes in the flat and horizontal positions, at minimum.
- 1) 84.16% can demonstrate proper set-up procedures for shielded metal arc welding operations on plain carbon steel.
 - 2) 88.12% can start and restart an arc, maintain a stable arc while running a bead, backfill the crater at the restart and at the end of the bead, while running a bead on mild steel plate.
- 15) The student will demonstrate proper use of the equipment used to perform manual oxyfuel gas cutting processes.
- 1) 93.07% can perform straight cutting operations on plain carbon steel (within 1/8 tolerance).
 - 2) 64.85% can conduct set up for manual oxyfuel gas cutting equipment for procedure on plain carbon steel.
- 16) The student will demonstrate proper use of the equipment used to perform gas metal arc welding processes.
- 1) 65.35% can conduct set up for gas metal arc welding equipment for procedures on plain carbon steel.

- 17) The student will demonstrate knowledge of testing and inspection methods.
 - 1) 72.28% can demonstrate knowledge of destructive testing and procedure.
 - 2) 82.18% can identify common welding flaws and defects (undercutting, porosity, cracks, etc.).
- 18) The student will demonstrate proper use of the tool to conduct plasma arc cutting processes.
- 19) The student will demonstrate proper use of the equipment used to conduct plasma arc cutting processes.
- 20) Perform skills necessary to operate metalforming equipment.
 - 1) 73.27% can make routine adjustments on metalforming machine tools.
 - 2) 86.14% can identify and explain the usage of machine guarding and safety equipment such as light curtains, etc.
- 21) Perform bench operations related to machining.
 - 1) 75.25% can hand tap holes.
 - 2) 88.12 can deburr parts.
 - 3) 75.25% can use press to perform press fits.
 - 4) 87.13% can layout the location of hole centers and surfaces within an accuracy of $\pm .015$.
- 22) Perform metal cutting operations on a lathe.
 - 1) 61.39% can setup and carry out chucking operations for turning.
- 23) Perform metal cutting operations on a mill.
 - 2) 74.26% can set up and operate vertical milling machines.
 - 3) 40.59% can perform routine milling and location of hole centers.
- 24) Perform metal cutting operations using a drill press.
 - 1) 91.09% can setup and operate drill presses.
 - 2) 90.10% can perform routine drill press operations.
- 25) Perform inspection and quality assurance procedures in machining.
 - 1) 75.25% can set up and perform the inspection of parts.
- 26) Understand properties of materials and their relationship to machining processes.
 - 1) 64.36% can recognize common materials and their principal properties relevant to machining tasks.
 - 2) 72.28% can understand the changes which heat-treating impart to materials.
- 27) The student will use basic math and measuring skills specific to Precision Machining.
 - 1) 63.31% can perform basic trigonometric functions.
 - 3) 65.35% can calculate bolt hole patterns.
- 28) The student will be able to interpret engineering drawings, plans and control documents.
 - 2) 55.94% can identify the types of dimensions.
 - 4) 75.25% can determine tolerances associated with dimensions on a drawing.
- 29) The student will identify basic types of drawings.

30) The student will apply and select proper measurement techniques and tools as they best relate to part characteristics and specified accuracy.

- 1) 59.90% can identify basic semi-precision measuring tools and describe their major applications.
- 2) 43.07% can identify precision measuring tools and describing their major applications.
- 3) 60.89% can demonstrate proper reading of tools to their finest precision.
- 4) 77.72% can demonstrate proper manipulation and care of precision measuring tools.

31) The student will be able to demonstrate knowledge of, plan and complete core processes in Precision Machining.

- 1) 61.39% can perform basic semi-precision and precision layout as necessary.
- 2) 69.31% can plan machining operations and write a plan of procedures.
- 3) 53.96% can calculate proper speeds, feeds, depth of roughing, and finish cuts for specific applications.
- 4) 82.18% can describe machine-ability and chip formation and make adjustments to calculate speeds, feeds, and depths of roughing and finish cuts for common machining applications (performance application).

32) The student will demonstrate proper use of the hand tools in completing a specific process.

- 1) 52.48% can identify common hand tools and describe their basic applications.
- 2) 82.18% can demonstrate the proper care and use of arbor and shop presses.
- 2) 67.33% can select necessary work holding devices and hand tools as dictated by the size and shape of the part plus the machining to be done.
- 3) 74.26% can select the most appropriate hand file and properly demonstrate its use.
- 4) 63.86% can correctly identify and use: hand taps; thread cutting dies; and thread gauges.
- 5) 70.30% can demonstrate the proper use and care of bench and pedestal grinders.