

www.CTEcreditMn.com

The Welding profession requires a good working knowledge of blueprint and math concepts using whole numbers, fractions, decimals, and the metric system in conjunction with blueprints. To accurately layout and fabricate parts the welder will need basic knowledge of blueprint lines, dimensions, notes, and welding symbols. In many instances, the welder will be required to calculate the weight and cost of material to fabricate a tank and then calculate the capacity, which may be needed in cubic feet, gallons, or liters. Written and Fundamental tests will be done in accordance with the American Welding Society (AWS) SENSE curriculum and code books.

Curriculum Learning Outcomes

100% of the curriculum learning outcomes will be covered in the high school course(s) by qualified CTE high school instructor(s).

Upon completion of this course, students will be able to:

- Interprets basic elements of a drawing or sketch.
- Interprets welding symbol information.
- Prepares an applicable bill of materials.
- Performs conversions of standard inch and metric measurements.
- Solve the common welding/fabrication workplace problems involving perimeter, area, surface area, and volume
- Calculate the weight and cost of welding consumables and materials

Curriculum Topics

- Weld Prints
- Construction Object Representation
- Print Reviews
- Welding Symbols
- Joint Design
- Fasteners and Structural Steel
- Computing Geometric Measurements and Shapes
- Fillet Welds
- Angular Development and Measurement Groove Welds
- Bends, Stretch outs
- Economical Layout
- Understanding Mathematics with Blue Prints

Students will demonstrate safe working habits and exhibit classroom and lab work habits consistent with occupational standards.

Assessments

A written test is available at www.ctecreditmn.com tests with **80% or better** accuracy.

Textbooks

- Title: Printreading for Welders^[L]_[SEP] Edition: 4th edition, American Technical Publishers, Inc
- Title: Practical Problems in Mathematics for Welders Edition: 5th edition, Delmar, Cengage Learning