Lakeshore Technical College

31442384 Welding Math 2

Course Outcome Summary

Course Information

Description	Welding Math 2 prepares the learner with the necessary skills to use scientific calculators for the application of solving problems of ratio and proportion, precision, and accuracy in measurements, unit conversions, direct-length measurements, pre-algebra, and simple and complex equations using algebra concepts. The class is designed for individualized student needs. This is credit two of the two-credits needed for the Welding program.
Total Credits	1
Total Hours	36

Pre/Corequisites

Prerequisite   Welding Math 1 (31-442-382)

Course Competencies

1.   Solve angular measurement problems

Linked Core Abilities
Apply learning
Communicate effectively
Demonstrate critical thinking
Demonstrate responsible and professional workplace behaviors
Respect and appreciate diversity
Use mathematics effectively
Work cooperatively

Assessment Strategies
1.1.   by completing the unit test
1.2.   on written text assignments

Criteria

You will know you are successful when:

1.1.   with or without the use of a calculator.
1.2.   you receive a passing score of at least 70 percent on the written test.
1.3.   you must have a grade of 100% on text assignments.

Learning Objectives
1.a.   Express angular measurements in correct units.
1.b.   Add and Subtract angular measurements.
1.c.   Multiply and divide angular measurements.

1.d.   Construct angles using a protractor.

2.   Solve simple geometric shapes for area and perimeter

Linked Core Abilities
Apply learning
Communicate effectively
Demonstrate critical thinking
Demonstrate responsible and professional workplace behaviors
Respect and appreciate diversity
Use mathematics effectively
Work cooperatively

Assessment Strategies
2.1.   by completing the unit test
2.2.   on written text assignments

Criteria

You will know you are successful when:
2.1.   with or without the use of a calculator.
2.2.   you receive a passing score of at least 70 percent on the written test.
2.3.   you must have a grade of 100% on text assignments.

Learning Objectives
2.a.   Solve perimeter of four sided shapes.
2.b.   Solve area of four side shapes.
2.c.   Solve perimeter of triangles.
2.d.   Solve area of triangles.
2.e.   Solve perimeter, "circumference", of circular shapes.
2.f.   Solve area of circular shapes.

3.   Solve simple geometric shapes for volume, weight and bend allowances

Linked Core Abilities
Apply learning
Communicate effectively
Demonstrate critical thinking
Demonstrate responsible and professional workplace behaviors
Respect and appreciate diversity
Use mathematics effectively
Work cooperatively

Assessment Strategies
3.1.   by completing the unit test
3.2.   on written text assignments

Criteria

You will know you are successful when:
3.1.   with or without the use of a calculator.
3.2.   you receive a passing score of at least 70 percent on the written test.
3.3.   you must have a grade of 100% on text assignments.

Learning Objectives
3.a.   Solve volume measurements for solid figures including: rectangles, parallelograms, trapazoids, triangles, cylinders, half circles, and semi circular shapes.
3.b.   Solve weight measurements for standard structural shapes.
3.c.   Calculate flat stock length for parts with inside and outside corner bends.
3.d.   Calculate flat stock requirements for bending: full circles, and semi circles.

4.   Solve percent problems and convert standard and metric units

Linked Core Abilities
Apply learning

Communicate effectively
Demonstrate critical thinking
Demonstrate responsible and professional workplace behaviors
Respect and appreciate diversity
Use mathematics effectively
Work cooperatively

Assessment Strategies

4.1.   by completing the unit test
4.2.   on written text assignments

Criteria

You will know you are successful when:

4.1.   with or without the use of a calculator.
4.2.   you receive a passing score of at least 70 percent on the written test.
4.3.   you must have a grade of 100% on text assignments.

Learning Objectives

4.a.   Convert percent to a fraction.
4.b.   Change percent to a decimal.
4.c.   Change a fraction to a percent.
4.d.   Change a decimal to a percent.
4.e.   Calculate a percent of a number.
4.f.   Estimate metric lengths.
4.g.   Convert metric and customary units.
4.h.   Convert one unit of measure to another.
4.i.   Convert metric and customary units.
4.j.   Convert one unit of measure to another.