BUSINESS TRAINING CENTER
OUTLINE

COURSE TITLE: Shop and Construction Math

SCHEDULE: 20 HOURS (2.5 HOURS PER DAY, 2 DAYS PER WEEK, 4 WEEKS)

REQUIRED TEXT/MATERIALS:

Title: *Technical Mathematics*, Scott Chase, (Open Education Resources)

COURSE DESCRIPTION:
This course will cover mathematic concepts frequently used in manufacturing and construction, including some review of fractions, decimals, algebra, ratios, plane and solid geometry and applications, Cartesian coordinate system, and right triangle trigonometry with applications including vectors, mean, median and mode.

COURSE OBJECTIVES:
After successfully completing this course, student will be able to:

- Use calculators to solve problems involving signed numbers fractions, decimals, ratios and proportions
- Convert between fractions, decimals and percentages
- Solve problems relating to ratios and proportions
- Understand precision, accuracy and tolerances weight and volume
- Understand the difference between fundamental and derived units
- Convert between standard and metric units
- Solve basic algebraic equations
- Plot points using the Cartesian plane
- Measure angles using a protractor
- Add and subtract angles
- Understand properties of geometric figures such as triangles, circles and polygons
- Calculate areas and volumes of common shapes and solids
- Given a small sample, calculate the mean, range and standard deviation
- Understand the geometric relationships between the Hypotenuse, Sine and Cosine in a right triangle
- Given a right triangle, a side length and an additional side length or angle measurment, calculate the lengths of the remaining sides and angles
- Convert a point on the Cartesian plane to polar coordinates and back
- Define a vector and list basic vector quantities used in manufacturing
- Understand different units of measurement in Standard and SI systems including length, mass,

ATTENDANCE POLICY:
You are expected to attend **all** classes.
3 days of unexcused absence is grounds for dismissal from the class.

TEACHING METHODOLOGY: Classroom lectures, student participation, homework exercises, reinforced with quizzes and exams.

METHOD OF EVALUATION/HOW GRADES ARE CALCULATED:

Quizzes (Week 1 and 3)	**35%**
Homework	**30%**
Exams (Midterm and Final)	**35%**
Grade Total	**100%**

Student will earn full credential with a grade of 75% or above.

11-4-19