

# IED 190 Credit By Exam Study Guide

Based on Fall 2019 Course Outline

- 1) Basic Math Operations as Related to Specific Areas of Industrial/Trade Technology.  
Addition, Subtraction, Multiplication and Division of:
  - a) Decimals
  - b) Fractions
  - c) Graphs and charts
- 2) Measurement Systems and Conversions, as Related to Machine and Auto Vocations
  - a) Decimal and fractional conversions
  - b) Metric system
    - i) Metric prefixes
    - ii) Metric Conversion
  - c) English to Metric Conversions
    - i) Linear measurements- inches to millimeters
    - ii) Pressure- pounds per square inch (PSI) to bar
    - iii) Torque -foot pounds to newton meters
    - iv) Volume- cubic inches to cubic centimeters
    - v) Temperature- Fahrenheit to Celsius
- 3) Algebraic Equations
  - a) Ohms law- voltage, resistance, and amperage calculations
  - b) Gear ratios- single and multiple gear sets
  - c) Hydraulic pressure and force calculations
  - d) Percentages
- 4) Geometry, as Related to Engines and Hydraulics
  - a) Area of squares and circles
  - b) Volume of cylinders
  - c) Angles