COURSE INFORMATION FORM

DISCIPLINE Mathematics

COURSE TITLE Technical and Business Math

CR.HR 3 LECT HR 3 LAB HR _______ CLIN/INTERN HR. _______ CLOCK HR. _______

CATALOG DESCRIPTION
Applications of unit conversions, ratios, percents, algebra, geometry to basic electricity, mixture ratios, pressure, hydraulics, compression, comparing specifications. Applications of percents in consumer credit and personal finance.

PREREQUISITES
MATH 20 or MATH 20L or equivalent placement criteria

EXPECTED STUDENT OUTCOMES IN THE COURSE
Upon completion of this course, the student will be able to:
1. Compare precision measurements in both metric and US systems.
2. Interpret and apply calculations from a series ratios and unit conversions.
3. Calculate percent increase and percent decrease in the context of specific applications.
4. Define terms and distinguish between terms related to circles, cylinders, pressure, and Ohm’s law.
5. Recognize the decimal equivalents in thousandths of the eights fractions.
6. Convert between the various pressure measurements such as PSI, KPA, bar, and others
7. Interpret x y plots involving in context of applications with various units.
8. Apply equation solving to Ohm’s Law, formulas for volume and surface area.
9. Calculate finance charges on the cost of using credit cards and borrowing money.
10. Compute simple interest, compound interest, and installment payments.
CLASS-LEVEL ASSESSMENT MEASURES

Student accomplishment of expected student outcomes will be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

- Notebook of definitions and formulas (4)
- Homework (1-8)
- Quizzes (1-8)
- Unit Tests (1-8)
- Comprehensive Final Exam (1-8)

PROGRAM-LEVEL OUTCOMES ADDRESSED

General Education Outcomes
Specify which general education outcomes, if any, are substantially addressed by the course by completing the “Course/Program Assessment Matrix” to show the relationship between course and program outcomes and assessment measures.

Occupational Program Outcomes
Specify which occupational program outcomes, if any, are substantially addressed by the course by completing the “Course/Program Assessment Matrix” to show the relationship between course and program outcomes to assessment measures.
Individual instructors may order this outline as fits the needs of their individual courses. In addition, they may place more emphasis on some areas than on others. What is assured is that this particular list is covered in the course. Other topics may be added to a course as the instructor sees fit, and as time and interest allow. An *asterisk can be used to mark an item as optional.

I. Technical Math
   A. Measurement
      1. Fraction/decimal equivalents
      2. Metric prefixes: Milli, Micro, Mega, Kilo
      3. Comparing measurements to specifications
      4. Comparing specifications in different units
      5. Converting measurements and specifications between US and Metric systems
      6. Converting pressure measurements: PSI, InM, InH2O, KPA, bar
   B. Geometry Calculations and Definitions
      1. Circle
         a. Radius
         b. Diameter
         c. Circumference
         d. Area
      2. Cylinder
         a. Volume
         b. Surface Area
   C. Algebra
      1. Applications of Ratios
         a. Distance/rotation calculations
         b. Hydraulics
         c. Fuel/air ratios
      2. Calculate percent increase and percent decrease
      3. Ohm’s Law

II. Business Math
   A. Finance charges
      1. Credit cards
      2. Consumer loans
   B. Interest
      1. Simple and compound interest calculations
      2. Installment Payments