![Big Bend Community College logo]

MASTER COURSE OUTLINE

Prepared By: J Ayers/S Matern   Date: September 2017

COURSE TITLE
Applied Mathematics (IST)

GENERAL COURSE INFORMATION

Dept.: MAP	Course Num: 101	(Formerly:)
CIP Code: 27.9998	Intent Code: 21	Program Code: 892
Credits: 5		
Total Contact Hrs Per Qtr.: 55		
Lecture Hrs: 55	Lab Hrs:	Other Hrs:
Distribution Designation: General Elective (GE)		

COURSE DESCRIPTION (as it will appear in the catalog)
This class provides review and instruction in whole numbers, decimals, fractions, measurement, ratio, proportion, percent, introduction to algebra, and introduction to geometry. This basic instruction and review is followed by vocational program specific mathematics instruction. Students will study mathematics for welding or automotive repair. The emphasis is on providing practice in related job specific skills.

PREREQUISITES
DVS 080 or placement into MATH 094 or above or instructor permission

TEXTBOOK GUIDELINES
Appropriate textbook as chosen by IST faculty (Example: *Math for Electricity and Electronics* by W.L. Bartkiw*)*
Teacher generated handouts and worksheets will be used extensively.

COURSE LEARNING OUTCOMES
Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills.

1. Perform normal arithmetic functions – add, subtract, multiply and divide
2. Find perimeters, surfaces and volumes
3. Work successfully with decimal values.
4. Perform mathematical operations with fractions - including standard to decimal fraction conversion.
5. Use formulas to solve percentage, and ratio/proportion problems.
6. Solve basic algebra problems, including simultaneous equations with multiple unknowns.
7. Solve algebraic problems by applying order of operation techniques, transposing, and factoring concepts.
8. Solve basic right angle problems using trigonometric ratios and 'vector' concepts.
9. Solve basic form mechanical and/or electrical problems using standard formulas.
10. Find logarithmic values related to power ratios using scientific calculators.
11. Convert numeric values between standard systems - binary, decimal, octal, and hexadecimal.

INSTITUTIONAL OUTCOMES
IO2   **Quantitative Reasoning**: Students will be able to reason mathematically using methods appropriate to the profession

COURSE CONTENT OUTLINE
- Whole Numbers and Decimals
- Fractions
- Integers
- Powers and Roots
- Powers of 10
- The SI Metric System
- Algebra
- Equations
- Ration and Proportion
- Trigonometry
- Vectors and RLC Applications
- Computer Mathematics (Binary and Hexadecimal numbers)
- Logarithms

DEPARTMENTAL GUIDELINES *(optional)*

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DIVISION CHAIR APPROVAL   **DATE**