Big Bend
COMMUNITY COLLEGE

MASTER COURSE OUTLINE
Prepared By: Daneen Berry-Guerin   Date: October 2020

COURSE TITLE
Applied Math for Workforce Programs II

GENERAL COURSE INFORMATION

Dept.: MAP	Course Num: 119	(Formerly:)
CIP Code: 27.9998	Intent Code:	Program Code: 892
Credits: 1-5		
Total Contact Hrs Per Qtr.: 11-55		
Lecture Hrs: 11-55	Lab Hrs:	Other Hrs:
Distribution Designation:		

COURSE DESCRIPTION (as it will appear in the catalog)
This course includes the study of intermediate algebraic operations/concepts and the structure/use of algebra. This includes solving, graphing, and solving applications of linear equations and systems of equations; simplifying, factoring, and solving quadratic functions, introduction to functions and models; and exponential and logarithmic functions. Students will complete exercises and problems providing practice in workforce program-specific applications. Students cannot earn credit for both MAP 119 and Math 098.

PREREQUISITES
MAP 117 or MATH 094 or placement into MATH 098

TEXTBOOK GUIDELINES
Appropriate text chosen by math faculty.

COURSE LEARNING OUTCOMES
Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills.
1. Uses order of operations to simplify expressions and solve algebraic equations
2. Uses given points or a graph to find the slope of a line and write its equation
3. Applies various techniques to factor algebraic expressions
4. Converts word problems to algebraic sentences when solving application problems
5. Uses factoring techniques, the square root method, and the quadratic formula to solve problems with quadratics.
6. Solves systems of linear equations using substitution and elimination methods.
7. Evaluates an expression given in function notation.
8. Uses properties of exponents and logarithms to solve simple exponential equations and simplify expressions.

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

COURSE CONTENT OUTLINE
MODULE/CREDIT 1: Linear Equations and Applications

- Order of Operations
- Evaluate and Simplify Algebraic Expressions
- Solve Linear Equations
- Formulas
- Word Problems
- Age Problems
- Distance, Rate, Time Problems

MODULE/CREDIT 2: Graphing Linear Equations and Solving Systems of Equations
- Slope
- Equations of Lines
- Parallel and Perpendicular Lines
- Systems by Graphing
- Systems by Substitution
- Systems by Elimination

MODULE/CREDIT 3: Polynomials
- Exponents
- Scientific Notation
- Add, Subtract, Multiply Polynomials
- Polynomial Long Division

MODULE/CREDIT 4: Factoring
- Factor Common Factors and Grouping
- Factor Trinomials
- Factoring Tricks
- Factoring Strategies
- Reduce Rational Expressions
- Solving Equations by Factoring
- Quadratic Formula

MODULE/CREDIT 5: Functions
- Evaluate Functions
- Exponential Equations
- Logarithms
- Compound Interest
- Dimensional Analysis

DEPARTMENTAL GUIDELINES *(optional)*
This course has been designed as an application-based Intermediate Algebra I (MATH 098) course.
By completing this course, students will have met the computation general education requirement for a workforce program certificate/degree OR students may continue to MATH099, MATH107, MATH146 or PHIL&120 depending on planned transfer major requirements.

_____   _____

DIVISION CHAIR APPROVAL   **DATE**