



MASTER COURSE OUTLINE

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Date: December 4, 2017

COURSE TITLE

Introduction to Algebra

GENERAL COURSE INFORMATION

Dept.: MATH

Course Num: 094

(Formerly: MPC 090, MATH 090)

CIP Code: 33.0101

Intent Code: 11

Program Code:

Credits: 5

Total Contact Hrs Per Qtr.: 55

Lecture Hrs: 55

Lab Hrs: 0

Other Hrs: 0

Distribution Designation: None

COURSE DESCRIPTION (as it will appear in the catalog)

This course includes the study of basic arithmetic and algebraic concepts and operations including operations with integers, fractions, decimals, percents, order of operations, measurement, the metric system, algebraic expressions, formulas and simple linear equations. Credit cannot be earned in both MAP 117 and MATH 094.

PREREQUISITES

DVS 080 or appropriate placement on the BBCC math placement exam

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. Use properties of prime and composite numbers to find least common multiples and reduce fractions to lowest terms.
2. Apply appropriate methods add, subtract, multiply, divide, and find powers of integers, fractions, and decimals.
3. Use order of operations to simplify arithmetic and algebraic expressions.
4. Solve application problems using ratios and proportion.
5. Solve application problems using percents.
6. Use conversion factors when converting units of measure.
7. Use formulas to compute length, area, and volume of geometric shapes.
8. Compute mean, median and mode of a data set.
9. Solve basic linear equations.

INSTITUTIONAL OUTCOMES

IO2 Quantitative Reasoning: Students will be able to reason mathematically.

COURSE CONTENT OUTLINE

1. Add and subtract integers
2. Multiply and/or divide integers
3. Simplify with order of operations with integers and absolute value
4. Simplify with order of operations with integers
5. Evaluate algebraic expression for given values
6. Add polynomials
7. Distribute, then combine like terms
8. Find the prime factorization of a number
9. Reduce simple fraction
10. Divide fractions
11. Find LCM with variables
12. Subtract fractions
13. Use order of operations with fractions
14. Solve a perimeter problem
15. Subtract mixed numbers
16. Calculate weighted average
17. Find mean, median, mode
18. Calculate a basic probability
19. Compare unit prices
20. Solve a proportion application
21. Change fraction to percent
22. Solve a percent problem
23. Solve a percent application
24. Calculate simple interest
25. Convert units
26. Convert with two unit measures
27. Calculate a volume
28. Use the Pythagorean theorem
29. Multiply two monomials
30. Do a scientific notation conversion
31. Solve equation of the form $ax+b=c$ (integer solution)
32. Solve equation of the form $ax+b=c$ (rational solution)
33. Solve equation of the form $ax+b=cx+d$
34. Solve equation of the form $a(bx+c)=dx+e$
35. Solve equation of the form $ax=bx+c$ (rational coefficients)
36. Solve equation of the form $ax+b=cx+d$ (decimal coefficients)
37. Solve a proportion
38. Solve equation of the form $a(bx+c)+d=ex+f$
39. Solve equation of the form $a=-bx+c$
40. Solve equation of the form $ax+b=c$ (rational coefficient)

DEPARTMENTAL GUIDELINES (*optional*)

Course will be Pass/Fail.

Classes taught as a lecture format will use the following grade weights:

To earn a P the student must have a weighted average (75% Test, 25% other course work such as quizzes, homework, etc) above 75% and pass all three modules of the final exam. Passing a module is defined as a score of 65% or higher.

Classes taught as an emporium format will use the following grade weights:

Each unit will be weighted 75% tests, 20% homework, and 5% workbook. Students will earn a passing grade based on units passed and attendance policy as agreed upon by the department.

DIVISION CHAIR APPROVAL

DATE