

# math103/104 Syllabus

## Math 103/104: College Algebra

**Text:** *Applied College Algebra University of Louisiana Lafayette with Materials from Algebra: Form and Function, 2nd Edition*, McCallum, Connally, and Hughes-Hallett, Wiley, 2015.

**Prerequisites:** Minimum ACT Math score of 19, departmental placement exam or Intermediate Algebra with a grade of C or better.

**Note:** Only one of MATH 102, MATH 103 and MATH 104, MATH 105, MATH 107, MATH 109, or MATH 143 may be used for degree credit.

**WILEY PLUS is required. A TI-83 or TI-84 Graphics Calculator is required.**

### Sections and Topics

- Basic Review
- 1.1 What is a Function?
- 1.2 Functions and Expressions
- 1.3 Functions and Equations
- 1.4 Functions and Change
- 1.5 Functions, Modeling, and Proportionality
- 2.1 Introduction to Linear Functions
- 2.2 Linear Expressions
- Worksheet 1
- Worksheet 1
- 2.3 Linear Equations
- 2.4 Equations for Lines in the Plane
- 2.6 Systems of Linear Equations
- 3.1 Introduction to Quadratics
- 3.2 Quadratic Expressions
- 3.3 Solving Linear Equations
- 3.4 Equations for Lines in the Plane
- Worksheet 2
- 8.1 Polynomial Functions
- 8.3 Solving Polynomial Equations
- 8.4 Long-Run Behavior of Polynomial Functions
- 4.1 Power Functions: Positive Exponents
- 4.2 Power Functions: Negative and Fractional Exponents
- 4.3 Power Functions and Expressions
- 4.4 Power Functions and Equations
- 4.5 Modeling with Power Functions
- 5.1 Domain and Range
- 5.2 Composing Functions (omit decomposing)
- 5.3 Shifting and Scaling
- 5.4 Inverse Functions
- 6.1 Exponential Functions

- 6.2 Exponential Expressions: Growth Rate
- 6.3 Exponential Expressions: Half-Life and Doubling Time
- 6.5 Modeling with Exponential Functions
- 6.6 Exponential Functions and Base  $e$
- Worksheet 3
- 7.1 Introduction to Logarithms
- 7.2 Solving Equations using Logarithms
- 7.3 Applications of Logarithms to Modeling
- 7.4 Natural Logarithms and Other Bases
- 9.1 Rational Functions

Last updated 10 August 2015