



# BAKER COLLEGE

## STUDENT LEARNING OUTCOMES

MTH1120 College Algebra II

3 Semester Hours

### Student Learning Outcomes and Enabling Objectives

1. Analyze functions.
  - a. Describe functions, inverse functions, and their properties.
  - b. Perform various operations with functions including function composition.
  - c. Construct graphs of functions as well as gathering information from graphs.
  - d. Apply functions to real-world situations.
  
2. Analyze radical expressions.
  - a. Describe radical expressions and functions and their properties.
  - b. Construct graphs of radical functions as well as gathering information from graphs.
  - c. Perform various operations with radical expressions and their related functions.
  - d. Convert between radical and rational exponents.
  - e. Perform various operations with complex numbers.
  - f. Solve radical equations and apply radical expressions to real-world situations.
  
3. Analyze quadratic equations and functions.
  - a. Solve quadratic equations by means of graphs, trial and error, completing the square, the square root property, and the quadratic formula.
  - b. Construct graphs of quadratic functions as well as gathering information from graphs.
  - c. Solve functions that are quadratic in form.
  - d. Apply quadratic functions to real-world situations.
  
4. Analyze exponential and logarithmic functions.
  - a. Describe exponential and logarithmic functions as well as their properties.
  - b. Perform various operations with exponential and logarithmic functions.
  - c. Solve equations involving logarithmic functions.
  - d. Construct graphs of exponential and logarithmic functions as well as gathering information from graph.
  - e. Apply exponential and logarithmic functions, including growth and decay models.
  
5. Analyze conic sections.
  - a. Recognize standard forms of conic sections.
  - b. Construct graphs of conic sections as well as gathering information from graphs.
  - c. Apply conic sections to real-world situations.
  
6. Distinguish between arithmetic and geometric series.
  - a. Identify patterns using summation notation.
  - b. Write sums using summation notation.

# Big Ideas and Essential Questions

## Big Ideas

- Functions
- Radical expressions
- Quadratic equations
- Conic sections
- Arithmetic and geometric series

## Essential Questions

1. How does algebra help me in the process of critical analysis?
2. How can algebra be used to make informed decisions?
3. How can algebra be used to solve real world problems?
4. How can we leverage the use of technology for learning algebra and as well as its real-world applications?

These SLOs are approved for experiential credit.

Effective: Fall 2017