Course catalog description
A brief but careful review of the main techniques of algebra. Polynomial, rational, exponential, and logarithmic functions. Graphs, equations and inequalities, sequences.

Credit hours
MTH 127: 5 hours
MTH 130: 3 hours

Prerequisites
- MTH 127: ACT Math 19 or ACT Math 20 or MTH099 or MTH102.
- MTH 130: ACT Math 21

List of topics
- Solving equations in one variable of the following types:
  - linear equations and inequalities, basic equations with absolute value
  - quadratic equations with real solutions (factoring and quadratic formula only, no completing the square)
  - equations with rational expressions
  - equations with radicals
  - equations with exponential and/or logarithmic expressions

Basic Functions
- definition of "function", "domain", and "range"
- graphing lines
- linear and quadratic functions and their applications
• identification of other common functions and their applications
• graphing functions with translation and reflection (no scaling)
• identifying symmetry in functions (even/odd)
• graphically determine where a function is increasing, decreasing, and constant
• composition of functions and inverse functions

**Polynomial and Rational Functions**

• polynomial long division (synthetic division is optional)
• remainder and factor theorems
• basic graph sketching including end behavior
• intermediate value theorem
• equations of asymptotes - vertical and horizontal (no oblique)

**Exponential and logarithmic functions**

• basic properties of exponential functions and their graphs
• basic properties of logarithmic functions and their graphs
• Applications of exponential and logarithmic functions (population growth, compound interest, laws of cooling, decibels, Richter scale, etc.)

Solving systems of linear equations in two variables using substitution and elimination

**Learner Outcomes**

• Identify and implement appropriate solution methods for single-variable equations
• Identify and graph standard algebraic functions
• Interpret graphs of functions
• Construct functions to model applications
• Communicate written mathematics using appropriate notation and explanation in English

**Suggested textbooks**


**Last updated**

December 2016