

**SOUTHEAST COMMUNITY COLLEGE  
DIVISION OF ARTS AND SCIENCES**

**Mathematics**

**Revision Date: 2015-10-05**

**Term:** 2015 Fall  
**Course:** MATH-1150-LN02 (College Algebra)  
**Class Time:** MWF 14:00–15:20 CDT  
**Class Room:** LNK U-103

**Instructor:** Toby Bartels, PhD  
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**Office:** ESQ 112 (downtown)

*Course policies are available at <http://TobyBartels.name/MATH-1150/2015FA/>.*

**I. CATALOG DESCRIPTION**

Course Number: MATH-1150  
Course Title: College Algebra  
Prerequisite: A grade of C or higher in MATH-1100 or a grade of B or higher in MATH-1103 or an appropriate score on a math placement test.  
Catalog Description: This course is the study of relations, functions and their graphs, equations and inequalities, polynomial and rational functions, exponential and logarithmic functions, and systems of equations.  
Credit Hours: 4.5  
Class Hours: 40  
Lab Hours: 0  
Total Contact Hours: 40

**II. COURSE OBJECTIVES**

- A. Review solving algebraic equations and inequalities.
- B. Investigate functions, function notation, and properties of functions.
- C. Find information about polynomial, rational, exponential, and logarithmic functions, including elementary functions.
- D. Develop techniques for graphing elementary functions, with an emphasis on graphing polynomial, rational, exponential, and logarithmic functions.
- E. Use functions to model and interpret geometric, economic, financial, and biological applications.
- F. Use equations to solve applications.

**III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:**

- A. Student Learning Outcomes:
  - 1. Solve equations and inequalities.
  - 2. Identify properties of a function using its equation and/or its graph.
  - 3. Use a variety of techniques to create a graph of a function.
  - 4. Create and use functions to model applications.
  - 5. Use problem-solving skills to model and solve applications.
  - 6. Set up and solve systems of linear equations.

- B. General Education Learning Outcomes:
  - 1. GELO 6: Quantitative Reasoning  
The student will demonstrate the ability to reason and solve quantitative problems using mathematical applications such as formulas, data sets, graphs, tables, etc.

**IV. CONTENT/TOPICAL OUTLINE**

- A. Review: techniques for solving algebraic equations and inequalities.
- B. Basic geometry concepts (distance, midpoint, area).
- C. Functions and their graphs with applications.
- D. Modeling with linear and quadratic functions.
- E. Analyzing and graphing polynomial and rational functions.
- F. Properties of exponential and logarithmic functions.
- G. Solving exponential and logarithmic equations.
- H. Graphing exponential and logarithmic functions.
- I. Modeling and applications using exponential and logarithmic functions.

**V. INSTRUCTIONAL MATERIALS**

- A. Required Text:
  - 1. Sullivan, *Algebra & Trigonometry*, 10th Edition, Pearson (Prentice Hall), 2016: hardback, looseleaf, or through MyMathLab.
- B. Optional Resources:
  - 1. A scientific or graphing calculator.
  - 2. MyMathLab access code.

**VI. METHODS OF PRESENTATION/INSTRUCTION**

- A. Textbook readings.
- B. Supplemental lectures.
- C. Small-group discussion.
- D. MyMathLab (optional).

**VII. METHODS OF EVALUATION**

- A. Daily in-class group work.
- B. Extra-credit and make-up homework.
- C. Weekly quizzes.
- D. Comprehensive final exam.
- B. SCC grading scale:
 

A+	95%+	C+	75%+	F	Below 60%
A	90%+	C	70%+		
B+	85%+	D+	65%+		
B	80%+	D	60%+		

**VIII. SPECIFIC COURSE REQUIREMENTS**

None.

## Southeast Community College Syllabus Statements

### **Academic Integrity:**

Academic integrity is one of the basic principles of a college community. SCC encourages and expects the highest standards of academic honesty from all students. Please note that cheating, plagiarism, and other forms of academic dishonesty are monitored and subject to disciplinary action.

### **Americans with Disabilities Act — Reasonable Accommodations:**

If you have a disabling condition that may substantially limit your ability to participate in this class, please contact the Dean of Student Services for additional information and assistance. The campus telephone numbers are: Beatrice 402-228-8220, Lincoln 402-437-2619, Milford 402-761-8270.

### **Electronic Devices:**

Instructors may allow the use of cell phones and personal electronic devices in the classroom or lab for instructional purposes to help meet course objectives or participation in course activities. The use of cell phones or other electronic devices for **personal use** during class time may not be allowed. Each instructor can identify when the use of cell phones or personal electronic devices will be allowed. Failure to follow the instructor's directions may lead to formal disciplinary action.

### **Firearms/Weapons Strictly Prohibited:**

SCC policy prohibits the possession of firearms, weapons, or fireworks on College property or at any College-sponsored event. Effective January 1, 2007, Nebraska State Statute 69-2441 makes it unlawful to carry a concealed handgun into a meeting of the governing body of a political subdivision, or collegiate athletic event; school, school grounds, school-owned vehicle, or school-sponsored activity or athletic event. These prohibitions apply to EVERYONE (employees, students, invitees, and visitors) and are enforceable EVERYWHERE (all College property and all College-related events.) Violations of the prohibitions will result in disciplinary and/or law enforcement action.

### **Hazardous Chemicals — Right to Know Statement:**

Some courses offered at Southeast Community College use hazardous chemicals as part of their curriculum. If the course you are attending requires you to use or exposes you to hazardous chemicals, your instructor will provide you with information and instruction about those chemicals. That information will include: requirements regarding personal protective equipment, methods of safe handling, use, clean-up, first-aid measures, etc.

### **Statement of Equal Opportunity:**

The policy of Southeast Community College is to provide equal opportunity and nondiscrimination in all admission, attendance, and employment matters to all persons without regard to race, color, religion, sex, age, marital status, national origin, ancestry, veterans' status, sexual orientation, disability, or other factors prohibited by law or College policy. Inquiries concerning the application of Southeast Community College's policies on equal opportunity and nondiscrimination should be directed to the Vice President of Affirmative Action, Equity and Diversity, 301 S 68th Street Pl, Lincoln NE 68510-2449; Phone 402-323-3412; Fax 402-323-3420; Email [jsoto@southeast.edu](mailto:jsoto@southeast.edu).