

Northeastern State University
College of Science and Health Professions
Department of Mathematics and Computer Science
Tahlequah, OK

INSTRUCTOR:

Mr. William G. King

Office: WEBB 327

Office Hours: MTWThF 9:00 am MWF 1:00 pm

Telephone: 918-444-5840

E-mail: kingw@nsuok.edu

URL: <http://arapaho.nsuok.edu/~kingw>

COURSE TITLE AND NUMBER:

College Algebra Math 1513

CLASS DAYS & TIME:

MWF 12:00 pm

PREREQUISITES:

A mathematics ACT score of 19 or above OR a score of 75 or above on CPT OR a grade of C or better in Math 0133 OR a score of 15 or higher on BAT

CATALOG DESCRIPTION OF COURSE:

Linear and quadratic equations and inequalities; relations, functions, inverse functions; exponential and logarithmic functions; systems of equations; zeros of polynomials and determinants; permutations, combinations and the binomial theorem, as well as other selected topics.

COURSE PURPOSE:

This course provides the mathematical development of the concept of a function, examines the basic types of functions (linear, quadratic, polynomial, exponential, and logarithmic) provides examples from a wide variety of applications ranging from business to the social sciences as well as in education and the natural sciences. The universal usefulness of this concept in most fields of study is why College Algebra is a required course for most majors.

GENERAL EDUCATION LEARNING OUTCOMES:

Specific educational objectives for the Quantitative Analysis category include:

- Solving problems using basic arithmetic and algebra;
- Reasoning logically
- Communicating with symbols
- Drawing valid inferences from data presented in the form of a graph
- Creatively applying known results to new situations

STUDENT LEARNING OUTCOMES:

The student will be expected to achieve the following objectives:

1. Communicate with appropriate mathematical symbols.
2. Solve equations and inequalities of the following types: linear, quadratic, absolute values, radical, polynomial, rational, exponential, logarithmic, containing 2 or 3 variables.
3. Define a function, identify and graph the various types of functions and perform algebraic operations on functions.
4. Model and solve real-world problems using linear, quadratic, polynomial, rational, exponential and logarithmic functions.
5. Analyze how changing the parameters of functions affects the graphs of functions.
6. Convert between algebraic and graphical representations of rational, radical, absolute value, exponential and logarithmic relations.
7. Compute efficiently using the appropriate method - calculator, paper/pencil algorithms, or mental calculation

INSTRUCTIONAL MATERIALS: (Required Textbook)

Dugopolski, Mark. *College Algebra*, (5th edition). Boston, Massachusetts: Addison Wesley Publishing Company, 2011.

ADDITIONAL MATERIALS:

A non-graphing Scientific Calculator

INSTRUCTIONAL PROCEDURES:

1. Equations, Inequalities, and Modeling, Chapter 1
EXAM I
2. Functions and Graphs, Chapter 2
EXAM II
3. Polynomial and Rational Functions, Chapter 3
EXAM III
4. Exponential and Logarithmic Functions, Chapter 4
5. System of Equations and Inequalities, Chapter 5
FINAL EXAM

STUDENT PERFORMANCE ACTIVITIES: (Attendance/Punctuality)

Regular class attendance is expected. The instructor reserves the right to reduce a student's grade for excessive absences. The policy is a letter grade reduction for each four absences. Students with valid excuses such as sickness or death in the immediate family will be excused. Students are expected to arrive to class on time and be ready to take notes. Students are expected to participate in classroom discussion when appropriate. **All cell phones must be turned off during class time.**

ASSIGNMENT DUE DATES:

For each section covered, homework will be assigned, collected and graded. All homework assignments are due the next class meeting after being assigned. The homework grade will be scaled to 100 points.

STUDENT EVALUATION:

There will be three hour exams and one final exam. The breakdown of points is as follows:

Three Hour Exams (100 points each)	300 points
Homework	100 points
Final Examination	100 points
Total Points	500 points

Each student's final grade will be determined by their total points acquired based upon the following scale:

GRADING SCALE

A	90%
B	80%
C	65%
D	55%

Exam Replacement Policy: If the student's score on the Final Exam is higher than the lowest regular Exam score, the Final Exam score will replace their lowest Exam score in determining the student' final grade. If a student misses a regular hour exam, a makeup exam will be provided. The Final Exam will not replace a missed exam. The student who misses an exam must schedule a make up with the Instructor.

Withdrawal Policy: April 8th is the Last Day to Drop with automatic W. Last Day to drop a single class or withdraw form NSU is May 2nd.

Final Exam: Final Exam will be given Friday, May 4th at 1:00 p.m.

ADDITIONAL INFORMATION:

Please go to <http://offices.nsuok.edu/academicaffairs/SyllabiInformation.aspx> for required information pertaining to:

1. Academic Misconduct
2. American Disabilities Act Compliance
3. Inclement Weather/Disaster Policy
4. Teach Act
5. Accessibility
6. Release of Confidential Information