# Mathematics 3A, College Algebra – *Spring 2019* Section # 52367

**Instructor:** Scott Endler                    **Class Times:** MW 6:00pm - 7:50pm Room: CCI201

**E-mail:**            scott.endler@reedleycollege.edu

**Required Text:**    College Algebra
                      12th Edition, Lial, Hornsby, Schneider, Daniels

**Prerequisite**:     Math 103

**Catalog Description:**    This is a college level course in algebra for majors in science, technology, engineering, and mathematics. Students will study polynomial, rational, radical, exponential, absolute value, and logarithmic functions systems of equations theory of polynomial equations analytic geometry.

| Grading: | | | Grading Scale: | | |
|---|---|---|---|---|---|
| 60% | Chapter Tests | | | 90-100% | A |
| 15 % | Final Exam | | | 80-89.9% | B |
| 15% | Classwork/Homework | | | 70-79.9% | C |
| 10% | Quizzes | | | 60-69.9% | D |
| | | | | <60% | F |

**Chapter Tests:** Seven tests will be given during the term. These will mostly include material from the most recent chapter but may also include some previous material as well. Tests must be completed within time allowed during class. **There are no make-ups for missed quizzes or tests.**

**Final Exam:** The material in this course is used in many courses that follow in both math and science. Because of this, it is not acceptable to just forget everything once you take a chapter test. So, a comprehensive final exam will be given during final exam week.

**Classwork/Homework:** "Practice makes perfect" is particularly true in mathematics. Generally, assignments will be collected during class or at the beginning of the next class. Each assignment will be checked for completeness, neatness, and effort. Certain specific problems will be marked in depth. **Problems should be written out, all work must be shown, and answers boxed or underlined.** All assignments should have your name, the date, the assignment (chapter, section, and page number), and be in order.

**Late Work and Make-up Assignments:** Homework should be submitted on time. Being absent does not extend the due date for an assignment. Late homework will not be given full credit. Occasionally, optional make-up assignments may be given for extra credit homework points.

**Required materials:** Textbook, binder, 8.5" x 11" college ruled binder paper, pencils, scientific calculator, ruler, and graph paper.

**Attendance and participation:** It is important that you come to class every day and *participate actively*. Arrive on time and stay until the end of class. Late students not only miss important material but also distract the rest of the class. **Two tardies will be counted as an absence.** If you leave early, it may be counted as an absence. Learning mathematics is not a passive activity. As we progress through topics, students will be given problems in class to practice new skills. During this time, all students are expected to have paper out and to be actively working on these math problems with the rest of the class.

A student may be dropped due to excessive absences (5 or more). (However, if you decide to drop the course, it is **your** responsibility to make the drop official in the Administrations and Records Office or else possibly receive a grade of F.)

**Cheating and/or plagiarism**: Cheating and/or plagiarism will not be tolerated. A student will receive no credit for the assignment, quiz, or test if in the opinion of the instructor the individual has cheated.

**Accommodations for Students with Disabilities:**
If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible.

**Expected behavior:** Please turn off cell phones before the start of every class period. **Do not use cell phones as calculators.** No one appreciates the distractions! Anyone that is disrespectful or disruptive to other students or the instructor may be removed from class for the day, and it will be considered an absence, or may be dropped from the class if the behavior is extreme enough.

**Important Dates:**

| | | |
|---|---|---|
| **Add Date:** | Friday, February 1 | Last day to add a course |
| **Drop Date:** | Friday, February 1 | Last day to drop this course to avoid a "W" for Spring 2019 in person |
| | Sunday, February 3 | Last day to drop this course to avoid a "W" for Spring 2019 on WebAdvisor |
| | Friday, March 8 | Last day to drop this course (letter grades assigned after this date) |
| **Holiday:** | Monday, January 21 | Martin Luther King Jr. Day (no classes) |
| **Holiday:** | Monday, February 18 | Washington Day (no Classes) |
| **Holiday:** | M-F, April 15-19 | Spring Recess (no classes) |
| **Final Exam**: | Monday, May 20 | 6:00-7:50 pm |

**Course Outline:**

| | | | (Tentative) |
|---|---|---|---|
| Unit A: | Equations and Inequalities | Chapter 1 | Weeks 1-4 |
| Unit B: | Graphs and Functions | Chapter 2 | Weeks 3-7 |
| Unit C: | Polynomial and Rational Functions | Chapter 3 | Weeks 5-9 |
| Unit D: | Inverse, Exponential, and Logarithmic Functions | Chapter 4 | Weeks 7-13 |
| Unit E: | Systems and Matrices | Chapter 5 | Weeks 9-15 |
| Unit F: | Analytic Geometry | Chapter 6 | Weeks 12-17 |
| Unit G: | Further Topics in Algebra, Final Exam Review | Chapter 7 | Weeks 13-18 |

**Course Outcomes:**

Upon completion of this course, students will be able to:

A) analyze properties of various types of functions.

B) synthesize results from the graphs and/or equations of functions.

C) solve various types of equations and inequalities

D) apply appropriate techniques to model real world applications.

E) use formulas to find sums of finite and infinite series.

**Course Objectives:**

In the process of completing this course, students will:

A) Use functions including linear, polynomial, rational, radical, exponential, absolute value, logarithmic: definitions, evaluation, domain and range graph and complete operations with integers, fractions, decimals, percent, and exponents; calculate basic statistics

B) solve problems using the inverses of functions and the algebra of functions.

C) graphs functions including asymptotic behavior, intercepts, and vertices.

D) make transformations of quadratic, absolute value, radical, rational, logarithmic, and exponential functions.

E) solve equations including rational, linear, polynomial, radical, exponential, absolute value, and logarithmic.

F) solve linear, nonlinear, and absolute value inequalities.

G) solve systems of equations and inequalities.

H) use and apply the characterization of the zeros of polynomials.

I) use and apply the properties and applications of Complex numbers.

J) manipulate and graph the properties of conic sections.

K) generalize arithmetic and geometric sequences and find the $k^{th}$ term of a binomial expansion.

Optional topics include:

L) Partial Fractions, Introduction to Limits, Polar Coordinates, and Introduction to Matrices