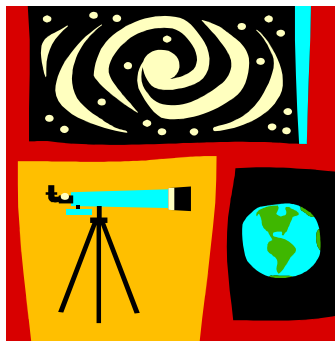# Intermediate Algebra
Fall 2009
Mathematics 103
Science and Engineering Emphasis
Section # 56734

Instructor: Dr. John Heathcote   **Class Times:** MWF 2:00-3:20 pm, CCI-201
Office: FEM – 4D

My office is in the back left corner of FEM-4E, the computer lab. It is okay to enter the computer lab even if there is a class. Just quietly walk in and look for me in my office.

Phone: 638-3641 ext. 3215

e-mail: john.heathcote@reedleycollege.edu

Office Hours: Tuesday, 12:00-12:50 pm
Wednesday, 1:00-1:50 pm
Thursday, 1:00-1:50 pm
Or feel free to stop by or make an appointment

Optional Text: Elementary and Intermediate Algebra, a combined course, 3rd Edition, Charles P. McKeague

Required Access to Web-Based Homework: We will be using a textbook website for submitting homework after each class. You are required to have access to this site in order to submit your work. You can get access to this site either with an access code provided when you purchase the textbook or by purchasing the access online, using a credit card. You will be able to access the website for free for the first two weeks of the course. After that two week time, you will need to have purchased access to the website.

Class notes are available in the bookstore.

Calculators may be used in this class and will be necessary for some calculations. I would recommend a scientific calculator that shows the expression as you type it in. The TI-30X ($18.99 in the bookstore) is a good, economical choice.

Prerequisite: Math 101 or placement test

Catalog Description: This course will deal with many algebraic concepts including: equations and inequalities in two variables, rational exponents and roots, quadratic functions, exponential and logarithmic functions, and conic sections.

Grading: 60%   Chapter Tests
10 %   Final Exam
20%   Online Homework
10%   In-Class Activities and Worksheets

Grading Scale: 90-100%   A
80-89.9%   B
70-79.9%   C
60-69.9%   D
<60%   F

Chapter Tests: Six or 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. Each test will take one full class period. Unless special circumstances exist, the test must be completed during the class. No extra time will be given.

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.

Online Homework: "Practice makes perfect" is particularly true in mathematics. Therefore, it is critical that you do your homework and put in a good effort in using that homework as a way to learn and practice the material. You will access your homework on the textbook website. You are able to print out a copy of your homework if you would like to work them all out before entering your answers on the computer. When you do submit answers on the computer, you will immediately find out if you are correct. If you are incorrect, you will have multiple attempts to correct your answer. At the beginning of each unit, all of the homework for that unit will be available to you on the website. Homework assignments are due at midnight on the day that they are due.

Late Work and Make-up Assignments: You will not be able to access a homework assignment after the due date passes.

In-Class Activities and Worksheets: In-class activities are used in order to practice the techniques of algebra and to learn about the applications of these topics to science and engineering. Some activities will be performed in groups, while others will be done individually. If you are going to miss a day of an in-class activity, you must notify the instructor before the start of class in order to schedule a make-up time or to be excused from the activity. After the fact, there will be no make-ups or excuses allowed. There will also be some worksheets that are assigned as homework to supplement the online content.

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

Attendance and participation: It is important that you come to class every day and *participate actively*. Arrive on time. Late students not only miss important material but also distract the rest of the class.

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.

If you miss more than two weeks worth of class sessions, you may be dropped. (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.)

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.

Please turn off cell phones before the start of every class period.
The use of phones for calls, texts, or other activities is prohibited without previous approval from the instructor.

Add Date:	Friday, September 4th	Last day to add a course
Drop Date:	Friday, October 16th	Last day to drop this course
Holidays:	Monday, September 7th	Labor Day
	Wednesday, November 11th	Veterans' Day
	Friday, November 28th	Thanksgiving Day Holidays
Final Exam:	Wednesday, December 16th	2:00-3:50 pm

Blackboard Site: There is a Blackboard website to complement this course. If you miss one of the handouts for this course, it will be available at this website. In addition, grades, important class announcements and schedules will be posted there.

Course Outline:

Unit A:	Equations and Inequalities	7.1-7.4, 10.6	Weeks 1-2
Unit B :	Rational Exponents and Roots	Chapter 9	Weeks 3-5
Unit C:	Quadratics	Chapter 10	Weeks 6-7
Unit D:	Linear Graphs, Functions	Chapter 8	Weeks 8-9
Unit E:	Exponential and Log. Functions	Chapter 11	Weeks 10-12
Unit F:	Systems of Equations	7.5, 7.6, 12.3	Weeks 13-14
Unit G:	Parabolas, Conic Sections	8.6, Chap. 12	Weeks 15-17

COURSE OUTCOMES:

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

A) create a linear equation given a slope and a point or two points; graph linear equations and inequalities and use function notation to find the value of expressions.
B) add, subtract, multiply, and divide radical expressions and use exponent properties and conjugate properties to simplify and solve radical expressions.
C) complete the square of a quadratic equation and use the quadratic formula to solve any quadratic equation; graph quadratic equations using translations.
D) solve exponential and logarithmic equations by using equivalent expressions; use exponential and logarithmic properties to convert between common logarithms, natural logarithms and other bases.
E) expand binomial expressions using Pascal's triangle and the binomial coefficient formula; find the nth term of a sequence of numbers.
F) graph each of the conic sections by translations; put conic equations and inequalities into the standard form.

COURSE OBJECTIVES:

In the process of completing this course, students will:

A) use function notation and the properties of lines and linear inequalities.
B) simplify radical expressions and perform operations on radical expressions.
C) graph parabolas and solve quadratic equations.
D) use the properties of exponents and logarithmic functions to change the base of a logarithm.
E) generalize arithmetic and geometric sequences and find the k^{h} term of a binomial expansion.
F) manipulate and graph equations of conic sections.