Math 103 *(ONLINE – Key code: reedley 1904 2616)* Spring 2009
Mrs. Maria Kelly *(email: maria.kelly@reedleycollege.edu)* FEM 1G
Office Hours: MWF 9:00 – 10:00 Ext: 3208

INTERMEDIATE ALGEBRA *(Online)*

COURSE DESCRIPTION:
Operations with signed numbers, algebraic expressions, linear equations and their graphs, inequalities, exponents, radical expressions and equations, factoring, rational expressions and equations, quadratic equations and applications.

PREREQUISITE:
Successful completion (grade of C or better) in Math 101 or its equivalent

REQUIRED TEXT: Charles P. McKeague, Elementary and Intermediate Algebra, Saunders College Publishing, 2007. ISBN 0-495-44826-5

HOMEWORK:
Homework assignments are completed online and the assignments can be found at the *WebAssign* website. You may work ahead if you like; all homework for the entire course is now available to the student. ***It is important to stay current to be successful in the course!*** Homework assignments are usually due once a week, usually ***but not*** always on the weekend. **Do not expect to take the exam and then complete the homework.** Each chapter's assignments have a due date and the assignment will be unavailable to the student after the due date. **No late homework will be accepted**. Online homework will account for **10%** of your grade.

*Note: When working on homework, you do not have to complete an entire assignment during one session. If you need to stop while in the middle of an assignment, simply hit the **Save Work** icon and the program will save your work. You can then come back to the assignment and continue from where you left off at another time. I recommend hitting **Save** and **Submit Answers** often while doing the homework and be sure to hit these buttons before logging off to prevent your work from being lost.*

ONLINE TESTS: There will be eight (8) online tests given, one for each chapter of material covered in the course (Chapter 7 has two exams). All online tests are available as of the start of the semester. However, each test has a deadline and each test will cease to be available after its deadline. Each exam is worth **100 points** and Online Tests will account for **30%** of your grade.

*Note: Before you begin an online exam, be sure you have everything you need and will not be interrupted. Once you begin the exam you will have **2 hours** to complete it. After the 2 hours have expired the exam will no longer be available to you. It is not possible to stop the exam and return to it later!*

ONLINE EXAM PREREQUISITES: It is imperative that you complete homework before taking the online exam. I have set a prerequisite of a 70% average on homework **prior** to the exam being taken. If you take the exam but do not have at least a 70% average on that chapter's homework, then your online exam score will be docked the difference between 70% and the average you actually earned for that chapter's homework. *For example: Student A has a 60% average on homework for Chapter 8 and gets an 80% on the online exam. This student's exam score will be docked 70-60 = 10 points, giving them a score of 70% for the online exam.*

MIDTERM EXAMS: There will be three (3) Midterm Exams which will be given at the Reedley College Campus. Each Midterm Exam will be worth 100 points, will cover **two chapters**, and will require all work to be shown for each problem in order to receive full credit. Two hours will be allowed to take each of the Midterm Exams. The Midterm Exams will account for **40%** of your grade.

FINAL EXAM: A two hour **comprehensive** final exam worth 100 points will be given at the end of the semester during finals week on the Reedley College campus. This final exam will account for **20%** of your grade.
Note: Calculators may be used on both the midterm and final exam. Cell phones are NOT to be used as calculators and should not be in plain view while taking an exam.

Students will need to present a valid picture I.D. in order to take both midterm exams and the final exam. **NO STUDENT WILL BE ALLOWED TO ANY MIDTERM EXAMS OR THE FINAL EXAM WITHOUT A VALID DRIVER'S LICENSE OR PICTURE I.D.**

GRADING:

Weight of course components:

HOMEWORK	10%
ONLINE EXAMS	30%
ONCAMPUS MIDTERMS	40%
FINAL EXAM	20%

Grade in the course:

100 – 90%	A
89 – 80%	B
79 – 70%	C
69 – 60%	D
< 60%	F

The instructor reserves the right to make slight adjustments in the grading scale.

Important Dates:
January 30, 2009 – Last day to add
February 17, 2009 – Last day to file for Pass/No Pass grading basis
March 13, 2009 – Last day to drop

Final Exam: Wednesday, May 20, 2009, 6:00 – 7:50 (Reedley College Campus)

NOTE: *If you have a verified need for an academic accommodation or materials in alternate media per the Americans with Disabilities Act or Section 504 of the Rehabilitation Act, please contact me as soon as possible.*

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 n^{th} 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:

(Specify major objectives in terms of the observable knowledge and/or skills to be attained.)

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.

IV. COURSE CONTENT OUTLINE:

A. Equations and Inequalities in Two Variables
   1. Slope of a line
   2. The equation of a line
   3. Linear inequalities in two variables
   4. Algebra using function notation

B. Rational Exponents and Roots
   1. Rational exponents
   2. Simplified form for radicals
   3. Addition, subtraction, multiplication, and division of radical expressions
   4. Equations with radicals
   5. Complex numbers

C. Quadratic Functions
   1. Completing the square
   2. The quadratic function
   3. Graphing Parabolas
   4. Quadratic Inequalities

D. Exponential and Logarithmic Functions
   1. Exponential Functions
   2. The Inverse of a function
   3. Logarithms and their properties
   4. Exponential equations and change of base

E. Sequences and Series
   1. Arithmetic and geometric sequences
   2. Series
   3. Binomial Expansion

F. Conic Sections
   1. Circle
   2. Ellipses and Hyperbolas