

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. Make sure you understand the difference between **Save** and **Submit Answers**. The first will save your work but **does not** submit answers to be graded.*

ONLINE TESTS: There will be eight (7) 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. **NOTE: YOU WILL NOT BE ALLOWED TO SCORE HIGHER ON AN ONLINE EXAM THAN THE AVERAGE HOMEWORK SCORE FOR THAT CHAPTER.** For example, if you have an average of 30% for chapter 10 and then score 90% on the online exam, you will not get the grade of 90%. When I see this happen I will change the exam score to a 30%. The reason behind this is that you can't learn the material without doing the work and you have to earn the right to a good grade through a demonstration of effort. This also prevents cheating, i.e., getting someone to take the quizzes for you.

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. ***The final exam score may be used to replace the lowest midterm exam score. The final exam score cannot be replaced by a midterm exam score. Students who do not take the final exam will receive a score of 0%.***

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:

Grade in the course:

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

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.

Plagiarism: Reedley College rules on plagiarism will be enforced. Students cheating and students allowing others to cheat off of their assignment will receive a 0% on that assignment (whether it is a final, test, quiz, midterm, or any other assigned work). **PLEASE NOTE:** A difference in score of 20% or higher on the online exams and the onsite midterm exams might be a sign of cheating. **The teacher reserves the right to make that conclusion.** [For example, if a student scores a 75% on the online chapter quiz, but scores a 55% on his midterm which is based on the same material – this might mean that the student got unauthorized help on the online chapter quizzes.]. In that case, the rules on plagiarism/and cheating can be enforced.

IMPORTANT DATES AND DEADLINES

WARNING: This is an extremely fast paced and intensive class. Only students who have strong math skills and strong study skills will succeed. Also, please make sure to check your calendar. Those dates are non-negotiable. Please drop the class if the dates or pace of the class is not appropriate for you. You will be required to take a diagnostic exam on some of the skills in Chapter 5. If you do not score 70% or higher on that exam, you will be dropped from the class because this shows me you are not ready for the material in this course. This class is not for everyone: some students would benefit more from a regular semester class.

****Print and Post this page next to your computer screen****

MARK YOUR CALENDARS NOW!**I. Important General Class Dates: Summer 2009**

June 15	Monday: First Day of Summer 2009 Classes
June 16	Tuesday: Orientation Session
June 22	Monday: Exam for Chapter 5 material due. Students who have not completed Chapter 5 homework and scored at least 70% on the Chapter 5 exam <u>will be dropped!</u>
June 25	Thursday: Last day to add or drop without receiving a grade of W
July 2	Thursday: Midterm #1, 6:00 p.m., Reedley College, CCI 201.
July 30	Thursday: Midterm #2, 6:00 p.m., Reedley College, CCI 201.
August 6	Thursday: Final Exam, 6:00 p.m., Reedley College, CCI 201.

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^{th} 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