

UNIVERSITY OF COLORADO, COLORADO SPRINGS
PPCC MAT 90, Survey of Algebra, 4 credit hours, Fall 2011

Instructor: Ron Haeckel Office: Math Dept Phone(s): 719-255-3035

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Section Number: MAT 90-601 **Meeting Time and Days:** MWF 9:25-10:40am

Room: UHAL 132 **MathLabPlus Course Code:** haeckel35782

MATH 90 COURSE DESCRIPTION: This course includes solution and application of first-degree equations, inequalities, and formulas; graphing; polynomials; factoring polynomials and solving equations by factoring; and applications.

TEXT: *Introductory Algebra* customized from a text by Allen R. Angel.
THIS BOOK CAN NOT BE SOLD BACK TO THE BOOKSTORE.

ATTENDANCE: STUDENT SUCCESS IS DIRECTLY RELATED TO ATTENDANCE. Attendance will be taken. If a student must be absent due to extreme circumstances, the instructor should be notified. It is the student's responsibility to contact the instructor regarding any missed tests or missed classroom material due to the student's absences.

It is the student's responsibility to learn all the material in the chapters and sections in the course, regardless of whether or not the instructor covers it all **in class or you are present in class**. The exceptions are any material excluded by the syllabus. **Students must use the textbook, the homework, and the lectures to learn the material.**

GRADING: Test scores must comprise at least 80% of the course grade. Homework, attendance, quizzes, projects, etc. may not count more than 20% of the course grade, at least 5% of which must be in **MATHLABPLUS** (a *required* component of this course). **Any test taken late will have points deducted.** The first test taken late will have 5 points deducted from the grade, the second test taken late will have 10 points deducted from the grade, the third test taken late will have 15 points deducted from the grade, etc. No notes, books, calculators (unless otherwise indicated on the test), or any other supplemental resources may be used during testing. **Tests may not be retaken.**

SA 90 – 100%
SB 80 – 89%
SC 70 – 79%
UD 60 – 69%
UF 0 – 59%

***Attendance, tardies, and other criteria may be tied to the Grading Scale.**
NOTE: Students should achieve a "C" or better to advance to the next level math class. Your grade will affect your GPA.

Homework is an important part of any math class and will be assigned and graded for every section covered. Homework will be due the first class period of the following week. There will be a **20% penalty for LATE HOMEWORK up to the date of the test over that material and then the homework will be scored a zero.** Homework is worth 15% of your grade

There will be 6 chapter tests and a comprehensive final. The chapter tests are worth 60% and the final is worth 20% of your grade. Exams may be made up only for genuine illness or emergency (I may require documentation). If you will be gone when an exam is given you must make arrangements with me, **in advance**. Failure to make prior arrangements will result in a 0 for that exam. You may replace your lowest test score with your Final Exam score if it is higher. **THE FINAL EXAM MUST BE TAKEN ON THE DAY SCHEDULED OR YOU WILL RECEIVE A ZERO.** No notes, books, or any other supplemental resources may be used during testing. Once a test is given to a student, it must be finished at that time. There will be NO retests. No test scores will be dropped.

There will be NO extra credit. Partial credit will be given on homework assignments and exams, provided you show all your work.

CLASSROOM CIVILITY: Behaviors such as eating, drinking, arriving late, leaving early, casual conversations, leaving and returning to class, and the like, are not permitted. If you believe you have a legitimate need to be consistently late for class or leave early consistently, see the instructor and we will see if we can find a class section that better meets your needs. Cell phones, pagers, and beepers **must be turned off while in the classroom.** If you have a legitimate **emergency** need to keep your cell phone or pager on during class, you must inform the instructor before class.

INCOMPLETE: An incomplete will issued only if the student has completed successfully more than 75% of the course requirements, and has an emergency that cannot be resolved prior to the end of the semester. An incomplete is rarely issued and may pose some risk to your GPA since ALL remaining work must be satisfactorily completed prior to the deadline for the incomplete or a grade of F will be issued for the course.

WITHDRAWAL: Drop with a refund is possible before **September 8th**. An official withdrawal may also be initiated by the student after **September 8th and before October 28th** resulting in a grade of "W". It is the students responsibility to drop or to withdraw from this class. If you simply stop attending without officially withdrawing, a grade based on the total points earned will be assigned to you at the end of the semester as per the grading policy listed in the syllabus. This will usually result in an F on your grade report and may not be changed to a W once it is issued.

MATH LEARNING CENTER (MLC): If a student would like additional assistance or is concerned about his/her grade, contact the instructor. Also, **free instructional help** is available in the MLC, Engineering building, room 136. The Spring hours are as follows (255-3687):

Monday	9 - 7
Tuesday - Thursday	8 - 7
Friday	8 - 4
Sunday	11 - 2

COURSE OBJECTIVES:

Students will be expected to:

- I. **Review prerequisites as needed. (Optional)**
- II. **Demonstrate knowledge and usage of first-degree equations and inequalities**
 - A. Solve first degree equations including those involving fractions, decimals, ratio, proportion, percent.
 - B. Check the solution of first degree equations.
 - C. Solve first degree inequalities.
 - D. Graph solutions for first degree inequalities.
 - E. Define the unknowns when solving a word problem.
 - F. Translate word problems into algebraic equations or inequalities.
 - G. Solve word problems and summarize results using a complete sentence.
 - H. Apply formulas in calculating perimeter/circumference and area of plane geometric figures.
 - I. Evaluate formulas for given values of the variables.
 - J. Solve a formula for a specified variable.
 - K. Solve word problems that apply formulas.
- III. **Demonstrate knowledge and usage of polynomials.**
 - A. Determine the degree of a polynomial.
 - B. Add and subtract polynomials.
 - C. Multiply monomials.
 - D. Multiply a monomial by a polynomial.
 - E. Multiply a binomial by another binomial.
 - F. Divide polynomials by monomials and binomials.
 - G. Simplify expressions containing positive, zero, and negative exponents.
 - H. Change notation from standard decimal form to scientific notation and vice versa.
 - I. Apply scientific notation and properties of exponents to simplify expressions.
- IV. **Demonstrate knowledge and usage of factoring.**
 - A. Factor out the greatest common monomial factor.
 - B. Factor the difference of two squares.
 - C. Factor the sum and difference of cubes.
 - D. Factor trinomials of the form $x^2 + bx + c$.
 - E. Factor trinomials of the form $ax^2 + bx + c$.
 - F. Apply the zero product property to solve quadratic equations.
 - G. Solve word problems that require quadratic equations.
- V. **Demonstrate knowledge and usage of coordinate geometry.**
 - A. Graph linear equations and inequalities in two variables using the Cartesian coordinate system.
 - B. Determine the x and y-intercepts of a linear equation.
 - C. Determine the slope of a line between two given points.

- D. Determine the slope of a line given the equation of a line.
 - E. Determine if two lines are parallel or perpendicular by their slopes.
 - F. Determine the equation of a line.
 - G. Determine the equation of a line that is parallel or perpendicular to a given line and passes through a given point.
 - H. Write the equation of a line in various formats.
 - I. Solve and graph applications using one equation with two variables.
- VI. Demonstrate knowledge and usage of algebraic fractions. (Optional)**
- A. Simplify algebraic fractions. (Optional)
 - B. Add, subtract, multiply, and divide algebraic fractions. (Optional)
 - C. Solve fractional equations. (Optional)
 - D. Solve application problems involving algebraic fractions. (Optional)
- VII. Demonstrate a knowledge and usage of linear systems. (Optional)**
- A. Solve systems of linear equations by graphing, the addition method, and the substitution method and identify the system as consistent, inconsistent, or dependent. (Optional)
 - B. Solve application problems by solving a system of linear equations in two variables. (Optional)

DISCLAIMER: The instructor reserves the right to change this syllabus as the semester progresses and as the need arises. The student needs to be aware also of PPCC policies as found in the college handbook.

THIS SYLLABUS MAY BE ADJUSTED DURING THE CLASS AS NECESSARY.