Course Title:	Introductory Algebra	Course Number: 30624/30812	Credits: 4
Instructor:	Jay C. McLaughlin, Ph.D Phone: (970) 675-3254	E-mail: jay.mclaughlin@cncc.edu	
Time:	101 - MTWR: 11:00 a.m.- 11:50 a.m.; Rector 11	Website: www.chemhaven.org/mat090	
	102 - MTWR: 8:00 a.m.- 8:50 a.m.; Rector 11		
	Office Hours: TR 3:00-4:00 pm Learning Center or by appointment Rector 11		
Text:	Algebra Introductory and Intermediate, an Applied Approach 5th Ed. - Aufmann & Lockwood		

Course Description

Includes first-degree equations, inequalities, formulas, polynomials, algebraic fractions, factoring polynomials, solving quadratic equations by factoring, and applications. Coordinate geometry, graphing linear equations and inequalities, and systems of linear equations may be included.

Requisites for the Course

Successful completion of Math 060 (grade of C or better) or Math assessment

Expected Student Outcomes or Competencies

1. Demonstrate knowledge and usage of first-degree equations, inequalities and formulas. (I)
2. Demonstrate knowledge and usage of polynomials. (II)
3. Demonstrate knowledge and usage of factoring and solving quadratic equations by factoring. (III)
4. Demonstrate knowledge and usage of algebraic fractions. (IV)
5. Demonstrate knowledge and usage of coordinate geometry. (V) (Optional)
6. Demonstrate knowledge and usage of linear systems. (VII) (Optional)

Outline View

I.   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.

II.   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.

III.   Demonstrate knowledge and usage of factoring.
   A.   Factor out the greatest common monomial factor.
   B.   Factor the difference of two squares.
   C.   Factor trinomials of the form $x^2 + bx + c$.
   D.   Factor trinomials of the form $ax^2 + bx + c$.
   E.   Apply the zero product property to solve quadratic equations.
   F.   Solve word problems that require quadratic equations.

IV.   Demonstrate knowledge and usage of algebraic fractions.
   A.   Simplify algebraic fractions.
   B.   Add, subtract, multiply, and divide algebraic fractions.

Objectives
The study of Algebra enables the student to learn critical thinking processes and problem-solving skills which may be transferable and useful in everyday life. The material presented in this course is designed to give the student sufficient background for success in future math courses, as well as provide the student with an understanding of algebra necessary for practical application in many technical and business fields. We will cover chapters 1,2,4,6,7. MAT099 will cover the rest of the material in the book.

Materials
Pencils (not pens) with erasers and a loose-leaf binder. Internet access to www.chemhaven.org/mat090 is also useful as practice exams and other useful materials are found there. Calculators may be used on in class assignments and homework but **ARE NOT** allowed to be used on exams. You may not use cell phones, PDA's or laptop computers in class. Student cell phones must be turned off while in the class. A ringing, vibrating or otherwise distracting cell phone not only distracts the owner but others around as well. Penalty for phone ringing, answering, or any other use is a zero on the daily worksheet or exam.

Attendance
Attendance is strongly recommended in order to do well in this class. There are two types of absences, excused and unexcused. Excused absences include athletic events, field trips, illness with doctors note (if you're not sick enough to go to the doctor, you're not sick enough to be excused from class), and family emergency (death, etc.). To be excused the student must ensure the instructor is notified in advance and in writing (eg. Text message, phone, or email). All other absences are unexcused. You are allowed to make up missed work (homework, and worksheets), only if the absence is excused. If you are excused for one day, then you are allowed one extra day to turn in the assignment. Tests which are missed must be made up the first day the student returns to class. Work may not be made up for unexcused absences.

Attendance is very important. You are allowed 3 unexcused absences without adversely effecting your grade. Your grade for worksheets will be decreased by 2 points per class missed after that.

Worksheets
A short worksheet will be given every class meeting over the day's lesson. On worksheets, you may use your notes, textbook, and collaborate with your friends and neighbors to help you learn the material. The purpose of the worksheet is to make sure you understand the basic formulas needed to complete the material before you leave class. You must show all necessary work in addition to the correct answers to receive full credit. Worksheets **must be completed in class** to receive credit. Tutoring will take place during the last portion of the period.

Homework
Homework is your opportunity to test that you understand the material and are able to do it on your own. Homework will be given every class session, and will be reviewed and collected the next class period. To receive credit for the homework assignments, each must contain **four items**:
    1. Your name (first and last)
    2. Section number, page number and problems assigned (eg. Sect. 1:2 problems 2-32, evens)
    3. Problems written out and all necessary work shown (you must demonstrate that you know how to work all problems!)
    4. Correct answers – Circled or highlighted to make finding them easy.

Although it is best to get your homework done before it is reviewed in class the following day, homework can be turned in one class day late for full credit for excused absences. After that time, the assignment will be worth zero points; however, upon request, it may be graded so that you can see if you know how to do the problems correctly. This is solely to help you in preparation for the chapter test.

Competency Exams

Competency exams will be given over material in chapter 1 and 2. Students must pass all competency exams at the specified level in order to pass the class. Competency exams may be retaken as many times as required.

Competency	Subject Matter	Key Concepts	Requirement
1	A/S/M/D	A/S/M/D Signed Numbers Up to 12 x 12 and 144 ÷ 12	47/50
2	Fractions	A/S/M/D with Fractions	7/8
3	Order of Operations PEMDAS	1. Parenthesis 2. Exponents 3. Multi/Div (Left to Right) 4. Add/Subt. (Left to Right)	9/10
4	Distributive Property	Distribution across ( )	9/10
5	Order of Operations Equivalent Equations (EE)	1. Parenthesis 2. Fractions 3. Like Terms 4. Addition Property 5. Multiplication Property	9/10
6	Word Problems	Translations from English → Math	9/10

Tests

Tests will be given at the end of each chapter. You will be given a cheat sheet containing some formula's and information, it is up to you to remember the rest. Missed tests can be made up for full credit only when the instructor is notified <u>in advance</u> and <u>in writing</u> for an excused absence. Call me if you cannot attend class the day of a test. Without prior arrangements, 25% will be deducted off your test grade per day late. Save your practice tests! There will be a two-part final exam, which will count as two tests. The chapter tests will help you prepare for your final.

Section	Final Exam Part 1 (Ch 2 and 4)	Final Exam Part 2 (Chapters 6 and 7)
102 (8:00)	4/24/2012 at 8:00 am - 8:50 am	5/1/2012 at 8:00 am - 9:50 am
101 (11:00)	4/24/2012 at 11:00 am - 11:50 am	5/1/2012 at 10:10 am -12:00 pm

Grades

Grades are calculated based on the following point scheme. The standard curve is used to determine your overall grade.

Category	Points
Worksheets	50 pts
Homework	50 pts
Competency	50 pts
Exam 1	50 pts
Exam 2	100 pts
Exam 4	100 pts
Exam 6	100 pts
Exam 7	100 pts
Final Part 1 (Ch 2 and 4)	100 pts
Final Part 2 (Ch 6 and 7)	100 pts
Total	**800 pts**

Percent	Grade
90-100	A/S
80-89	B/S
70-79	C/S
60-69	D/U
< 59	F/U

Should you fail a chapter test, (and have completed all the homework on time for that chapter, and attended class) you may retake the test the following Friday at 10:30 am. The grade for that chapter will be changed from failing to the new grade up to a maximum of 70%. This may be done for one chapter only.

-The instructor reserves the right to make any and all changes to this syllabus and to the course content without prior notice. Changes will be announced in class. If absent, you will still be responsible for knowing the changes. Don't miss class!!!

Records

A record of your work **must** be maintained by the student and presented to the instructor upon request. The record should consist of a copy of all graded materials including worksheet's, homework's and practice test's. Grades for un-maintained work may be changed to a zero at the discretion of the instructor.

ADA Policy

Any student, who believes he/she has a disability, as outlined in the Americans with Disabilities Act, and would like reasonable accommodations, should set up an appointment to discuss this with the instructor.

Cheating

Turning in work that is not 100% original and belonging to the student will result in a F for that assignment. Furthermore, the student will be reported to the Dean of Instruction for further disciplinary sanctions in accordance with CNCC policies. Providing materials that are used for copying is considered cheating and will be treated as above.

MAT 090 Course Contract

I _____ have received, read, understood and agree to abide by the terms
            (print name)

presented in the class syllabus. I have received a handout detailing the homework assigned in class. I have

recorded the email address (jay.mclaughlin@cncc.edu) and phone number (970-675-3254) of my instructor into

 my cell phone or other often carried device.

Signed: _____   Date:_____
                    (Signature)