Bunker Hill Community College
imagine the possibilities
250 New Rutherford Avenue
Boston, MA 02129 – 2925

SYLLABUS

MAT 094
FUNDAMENTALS OF ALGEBRA

Fall 2010
September 8th to December 15th

SECTION	**W1**
COURSE TIME	**Wednesdays, 6:00 PM to 8:45 PM**
COURSE ID	**ford32407 (for MyMathLab on coursecompass.com)**
LOCATION	**Room D210**
INSTRUCTOR	**Ellen Ford**
OFFICE HOURS	**By appointment**
TELEPHONE	**(617) 228 –2190, anytime during message, enter 4086**
E-MAIL	**emford@bhcc.mass.edu**

COURSE DESCRIPTION

This course introduces further applications of algebraic expressions and equations. It includes solutions of linear equations and inequalities, the Cartesian coordinate system, linear equations in two variables and their graphs, systems of linear equations, integer exponents, polynomials, factoring, and an introduction to quadratic equations. Math study skills and successful student strategies are integrated throughout the course. The course does not satisfy the college math requirement for graduation. (3 credits)

COURSE PREREQUISITES

Student requires a grade of C or better in Prealgebra (MAT092) or placement. Students earn no credit for this course if they have already received credit for a mathematics course having a higher course number.

COURSE MATERIALS

- Introductory Algebra, Custom Edition. Lial, Hornsby & McGinnis. Addison Wesley, 2006. Be sure to purchase a textbook packaged with a *MyMathLab* access code.
- A standard-sized folder for study skill assignments.
- Pencils with erasers.
- A notebook for taking notes in class and working out homework problems.
- Basic four-function calculator or scientific calculator. Any calculator that is not part of another device (e.g. cell phone, laptop) is acceptable. Look for one with a square root key (√) and a 10 digit display. Get your calculator soon so that you can practice with it before your first exam. You will be able to find one for under $10 anyplace else that sells school or office supplies. For an extra $10, a scientific calculator has many useful features, so you might want to invest in one if you are going to continue taking courses where you have to perform mathematical computations. If you are thinking of getting a graphing calculator, please see me first.

INTERNET ACCESS

Students will need to use the Internet to submit homework and chapter tests using *MyMathLab* that comes packaged with the textbook.

ASSISTANCE

Should you need assistance, you have the following resources available:

- Your instructor - available during class, via e-mail, and by appointment.
- The tutors in the TASC Center (E174).
- Your textbook and *MyMathLab* multimedia resources.
- Your fellow students.
- The Math Computer Lab (M103).
- The Pearson Tutor Center provides FREE support for MyMathLab students at no additional cost. It is staffed by college-level mathematics instructors who can help you with what you're learning. Before you can use the Tutor Center you must register online. Go to the first page of your MyMathLab course; click on Chapter Contents and then click on the Tutor Center icon. The registration form is there. Once you are registered, you can speak with a college-level mathematics instructor about any difficulty you are having with a homework problem by telephone, fax, email, or interactive web. The hours are Sun – Thurs 5pm – 12am. Please do this immediately upon signing into MyMathLab.

ATTENDANCE

Students are required to attend **all** scheduled classes and to arrive **on time**. While some absences are unavoidable, the student must make a conscientious effort to be in class. It is the student's responsibility to submit any work that was due on the date of an absence. It is also the student's responsibility to pursue the lessons taught on the date of an absence, by asking a fellow student or the instructor.

Successful students will recognize that the material in this course is cumulative. This means that if you miss the second class, you will have a hard time understanding the material discussed at the third class. Therefore, you must find a way to learn the material from missed class(es) prior to returning to class. Your textbook and MyMathLab multimedia resources are a good place to start.

In case of extended absence such as serious illness, the student is expected to call the office of the Dean of Student Affairs (617-228-2408) so that instructors will be notified. In such situations, arrangements for make-up work must be discussed individually with the instructor.

STUDY EXPECTATIONS

For each hour that you meet in class, you should expect to study **two to three hours** outside of class. This means that you should plan to spend between 6 to 9 hours each week studying for this class. Study will include reading the textbook, completing online homework, completing study skill handouts, and taking online tests. Students who feel they need more practice may use the "study plan" or "sample test" features of MyMathLab, or work the exercises in the textbook.

STUDENT CODE OF CONDUCT

Students are expected to follow the Student Code of Conduct set forth in the BHCC Student Handbook (http://www.bhcc.mass.edu/PDFs/StudentHandbook2010.pdf). Electronic devices, including cell phones, laptops, and mp3 players, are to be turned off during class time.

POLICY FOR INDIVIDUALS WITH A DISABILITY

Bunker Hill Community College is committed to providing equal access to the educational experience of all students in compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. A student with a documented disability, who has not already done so, should schedule an appointment at the Office for Students with Disabilities (Room D106A) in order to obtain appropriate services.

GRADING

Student grades will be available throughout the semester on the Gradebook feature of MyMathLab. Final course grades will be computed as follows:

Category	Numerical Grade
Class Participation	20%
Online Homework Assignments	28%
Online Tests	12%
Chapter Tests	15%
Final Exam	25%

Numerical Grade	Letter Grade
94-100	A
90-93	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
70-76	C
60-69	D
0-59	F

Students who intend to enroll in a college level math course must earn at least a grade of C.

CLASS PARTICIPATION

The class participation category is made up of three subcategories:

- Study skill ("portfolio") assignments are assignments that relate to the objectives listed on page 7 of this syllabus. These assignments are typically one-page handouts. They will normally be completed in the classroom, but may be assigned as homework if time does not permit. Portfolio assignments will be available under the "assignments" button of MML.
- Pre-reading assignments. At the end of each class, the instructor will announce the sections of the textbook that will be covered at the next class meeting. Students are expected to pre-read those sections of the text prior to the next class session. At the beginning of each class, students will be given a brief pre-reading assignment that will consist of two or three questions relating to the material they read. These questions will not be math problems, but will be conceptual in nature. For example "what is the difference between an integer and a fraction?"
- Classroom work. In our class, there will be lecture/discussion of new topics, followed by practice problems related to the new topics. Classwork grades are based on effort and level of collaboration with classmates.

Each of these subcategories will count toward a weekly class participation grade. Only study skill assignments can be made up (with a 10% penalty for each week late). Unexcused absences and tardies will receive zeros for other missed class participation work.

ONLINE HOMEWORK ASSIGNMENTS

Each week there will be homework assigned on MyMathLab. Students may utilize online learning aids and make additional attempts at homework questions when necessary. Grade expectation for each of the online homework assignments is 100%. Students should show their work for all online homework in their notebooks. This work should be organized by homework assignment and problem number so that students may reference their work during class discussions.

ONLINE TESTS

The purpose of the online tests is to give students a realistic practice experience for the final exam as well as for the Chapter Tests given in class. The online tests will be available under the "TAKE A TEST" link in *MyMathLab*. Students will be allowed to take the tests twice, with only the better of the two scores counting. Students may work with each other and seek help from the tutoring center to complete these assignments. The practice tests will count for 12% of the final grade.

CHAPTER TESTS

There will be 3 Chapter Tests given to test specific objectives. Chapter tests will count for 15% of the final grade. Test dates will be announced in advance. If you are unable to take a scheduled test, you are required to notify your instructor in advance. Chapter Tests are designed to closely mirror the final examination in terms of difficulty, format, and testing conditions. Students who score below 80% on any chapter test are NOT on track to perform well on the final exam. If you do not pass any chapter test with a score of 80% or above, you are urged to seek assistance (see the "Assistance" section above.) Please note: Calculators are allowed for Chapter Tests.

FINAL EXAM

The final exam will be administered on December 15, 2010. <u>It is considered an exit exam and must be passed with a score of 70% or above to pass the course</u>. The final exam will cover all course content. If the final exam score does not meet this criterion, a second attempt is allowed. Please note: Calculators are allowed for the Final Exam.

CLASS MEETING AGENDA

Classes with No Test	Classes with Test
1. Pre-Reading Assignment 2. Homework Questions 3. Lecture/ Discussion/Practice 4. Study Skills Assignment (Time Permitting) 5. Lecture/Discussion/Practice 6. Homework/Reading For Next Week	1. Homework Questions 2. Test 3. Lecture/ Discussion/Practice 4. Study Skills Assignment (Time Permitting) 5. Homework/Reading For Next Week

IP GRADE

If you do not finish all course work within the 15 week semester, you may receive an "In Progress" grade only if the following conditions are met.

1. You may have no more than two (2) unexcused absences.
2. You must be making steady progress with the course material and at least 70% of the total units must be completed. Do not request an IP unless you have mastered the Chapter on Exponents and Polynomials and passed the Chapter 3 & 5 Test.
3. During the last week of class, you must sign an IP contract form stating the conditions for completion of the remaining course requirements

COURSE OUTLINE

Although completion dates are **SUBJECT TO CHANGE** based on class progress and level of participation in class, all units will be completed before the final exam.

	Topic	Date
Week 1	Introduction, The Real Number System	8-Sep
Week 2	The Real Number System, Equations, Inequalities, Applications	15-Sep
Week 3	Equations, Inequalities, Applications	22-Sep
Week 4	Equations, Inequalities, Applications	29-Sep
Week 5	Exam Chapters 1 & 2, Linear Equations in 2 Variables	6-Oct
Week 6	Linear Equations in 2 Variables	13-Oct
Week 7	Linear Equations in 2 Variables	20-Oct
Week 8	Exponents & Polynomials	27-Oct
Week 9	Exponents & Polynomials	3-Nov
Week 10	Exam Chapters 3 & 5, Factoring	10-Nov
Week 11	Factoring	17-Nov
Week 12	Factoring, Systems of Linear Equations	24-Nov
Week 13	Systems of Linear Equations	1-Dec
Week 14	Exam Chapters 6 & 4, Final Exam Review	8-Dec
Week 15	Final Exam	15-Dec

Note: November 17, 2010 is the last day for course withdrawal.

MATH COURSE OBJECTIVES

❖ Evaluate expressions involving sums, differences, products, and quotients of signed numbers according to the agreement on order of operations.
❖ Apply the associative, commutative, inverse and identity properties for addition and for multiplication. ❖ Apply the distributive property.
❖ Simplify a general linear expression using addition, subtraction and multiplication by a constant. ❖ Solve linear equations by simplifying one or both of the linear expressions.
❖ Solve linear equations having one solution, no solution or an infinite number of solutions. ❖ Solve linear equations with expressions including constant denominators.
❖ Translate a verbal statement into a mathematical equation, and use the equations to solve a number problem.
❖ Solve problems involving angle measures of a triangle, and perimeters of triangles and rectangles. ❖ Evaluate a formula given numerical values for the variables. ❖ Solve a formula for a given variable.
❖ Solve problems involving ratio and proportions. ❖ Use an equation of the form ax = b to solve percent, uniform motion, and unit price problems.
❖ Solve linear inequalities in one variable and graph the solutions on the number line.
❖ Identify and interpret: coordinate system, number plane, origin, axis, quadrant, ordered pair, coordinate. ❖ Plot points with given coordinates in the number plane. ❖ Identify the coordinates of the ordered pair represented by a point in the number plane.
❖ Given a linear equation, construct a table of ordered pairs and draw the graph of the line. ❖ Define and interpret: slope, x-intercept, y-intercept. ❖ Find the y and x-intercepts of a line and use them to draw the graph.
❖ Use the slope formula to compute the slope of a line through two given points.
❖ Identify and interpret: the equation of a line in slope-intercept form, in point-slope form and in standard form. ❖ Determine the equation of a line when given: two points, a point and y-intercept, or a point and slope.
❖ Draw graphs of linear inequalities in two variables.
❖ Solve systems of two linear equations in two variables by graphing. ❖ Solve linear systems which have one solution, no solution and multiple solutions.
❖ Solve systems of two linear equations in two variables algebraically by the substitution method.
❖ Solve systems of two linear equations in two variables algebraically by the addition method.
❖ Solve applied problems using systems of two linear equations in two variables. ❖ Solve problems involving values and mixtures.
❖ Define and identify: monomial, binomial, polynomial. ❖ State the degree of a term, the degree of a polynomial, and write a polynomial in descending powers of a variable. ❖ Find the sum and difference of two polynomials.
❖ State and apply the rules for exponents. ❖ Evaluate numerical expressions having integer exponents. ❖ Simplify expressions with variables having integer exponents.
❖ Multiply a polynomial by a monomial or a binomial.
❖ Divide a polynomial by a monomial.
❖ Use long division to divide a polynomial by a binomial.
❖ Express a number given in scientific notation in decimal notation. ❖ Write numbers in scientific notation. ❖ Perform operations on numbers in scientific notation and express the answers in scientific notation.
❖ Define and identify: factor, common factor, greatest common factor. ❖ Factor out a common factor from a polynomial. ❖ Factor by grouping.
❖ Factor a trinomial into two binomial factors. ❖ Factor a binomial or trinomial completely.
❖ Factor the difference of two squares as a sum and difference of binomials. ❖ Factor a perfect trinomial square as the square of a binomial.
❖ Solve quadratic equations by factoring.
❖ Solve problems involving areas using quadratic equations which can be solved by factoring. ❖ Solve problems involving the Pythagorean Theorem.

STUDY SKILLS AND SUCCESSFUL STUDENT OBJECTIVES

Classroom Policy, Procedures, Resources

SS1 Describe mathematics course attendance policy, classroom expectations and instructor contact information.
SS2 Explain mathematics course requirements including materials, assignments, quiz/test/exam schedule, grading policy, exit requirements and prerequisite requirements.
SS3 Work collaboratively with fellow students, tutors and instructor.
SS4 Identify personal needs and use appropriate strategies and resources to meet those needs.

Time Management

SS5 Construct and follow a weekly schedule which allows sufficient time for school and study obligations.

Learning Styles and Learning Strategies

SS6 Identify personal learning styles; plan study strategies and choose study materials which match personal learning styles.
SS7 Identify and use active learning strategies which involve multiple learning channels.

Homework/Study Habits

SS8 Identify characteristics of a good personal study environment.
SS9 Identify and practice good study habits.

Textbook/Notebook

SS10 Identify the helpful features of a mathematics textbook.
SS11 Take notes in class using an organized note-taking method.

Tests

SS12 Describe and use good test-taking practices.
SS13 Use strategies to minimize test anxiety and develop a positive attitude.
SS14 Use test results to identify math errors and test-taking errors.

Math Models

ML1 Use concrete models to understand and explain math concepts, relationships and problem situations.
ML2 Construct number lines and other visual models.
ML3 Read and understand information given in tables, diagrams and graphs.
ML4 Show numerical information and relationships using tables, diagrams and graphs.
ML5 Use calculators and computers appropriately as tools in learning mathematics.

Problem Solving

ML6 Identify and apply each step in the problem solving process.
ML7 Identify and apply a variety of problem solving strategies.

Math Language

ML8 Use math terms and symbols correctly.
ML9 Translate math symbols into words.
ML10 Understand and apply formulas.
ML11 Translate words into mathematical expressions.

MyMathLab is an interactive website where you can:

- Self-test to improve your math skills.
- Study more efficiently.
- Create personalized study plans with exercises that match your book.
- Get help when you need it.
- Utilize multimedia learning aids like videos and animations.
- Talk to a live tutor via a toll free number.

What do I need to get started?

☑	**A Valid Email Address**	*Don't have it yet?* Contact your school's technology center or set up a free account on a web site that offers this service (for example, through Hotmail or Yahoo).
☑	**Course ID** (CourseCompass students only)	**ford32407**
☑	**Student Access Code** 	*Don't have it yet?* If your new textbook was not bundled with a Student Access Code, you need to: • Go to your campus bookstore to buy the standalone Student Access Kit (kit contains access code card and instructions) for your textbook **OR** • Purchase online access now using a credit card.

What steps do I take next?

Take the access card that was packaged with the text, review the grid above *one more time* and then follow steps 1 - 8 below.

1) Go to http://www.coursecompass.com and click on **Register**.
2) Enter your six-word student access code, school zip code and country.
3) Enter the Course ID **ford32407**
4) Fill in the requested information, and then create your unique Login Name and Password. It's recommended that you use your email address as your login name.
5) Return to www.coursecompass.com, log in and click on the course you are taking.
6) The first time you enter the site from your computer *and* anytime you use a new computer, click on the software **Installation Wizard** on the Announcements page or on the navigational buttons on the bottom left side of the screen. This wizard will walk you through the installation of the software you will need to use the MyMathLab resources. Note: the software may already be installed in the school lab. Check with your lab administrator.
7) Technical problems? Call Tech Support at **800-677-6337**, Monday – Friday 9am – 6pm EST.
8) Additional help can be found on the Announcements page by clicking on Student Help or viewing the tip sheets.