Mathematics
Northeast College
Math 0312: Intermediate Algebra
CRN# 77997 – Spring/2012
DE Course/ Online
3 hour lecture course +1hour lab / 64 hours per semester/ 3 Weeks
Textbook: Intermediate Algebra by Lial, Hornsby, and McGinnis (11 ed):
ISBN-13: 9780321715418

MyMathLab Course ID: afaneh 70956

Instructor: Mr.Mohammad Afaneh

Instructor Contact Information: 713-718-2163 /713-560-2630/ mohammad.afaneh@hccs.edu

Office location and hours: Campus, Room 321. / Hours 1 PM to 3PM – T R or by appointment.

Course Description
Intermediate Algebra: Topics include factoring techniques, radicals, algebraic fractions, complex numbers, graphing linear equations and inequalities, quadratic equations, systems of equations, graphing quadratic equations and an introduction to functions. Emphasis is placed on algebraic techniques, in order to successfully complete Math 1314 College Algebra. A Departmental Final examination must be passed with a score of 60% or more in order to pass this course.

Prerequisites
ASSET: Elementary Algebra Raw Score: 14-25; Scaled Score: 45-55; ASSET: Intermediate Algebra Raw Score: 0-15; Scaled Score: 23-45; Math 0308: Pass with "C" or better

Course Goal
This is the final course in the developmental mathematics sequence and its purpose is to prepare students for College Algebra.

Course Student Learning Outcomes (SLO)
1. Solve algebraic equations and inequalities involving rational expressions, radicals, quadratics, or linear expressions.
2. Examine and interpret the linear and quadratic graphs of equations and inequalities.
3. Solve application problems.
4. Use and interpret function notation in both algebraic and graphical contexts.

Learning outcomes
Students will:
1.1 add, subtract, multiply and divide polynomials
1.2 factor polynomials
1.3 add, subtract, multiply and divide rational expressions
1.4 simplify complex fractions
1.5 solving equations involving rational expressions
1.6 simplify equations involving rational exponents and simplify radicals
1.7 add, subtract, multiply, divide expressions involving radicals and solve radical equations
1.8 add, subtract, multiply and divide complex numbers
1.9 solve quadratic equations by factoring, completing the square, quadratic formula and square root property
1.10 solve systems of linear equations in two variables
2.1 graph linear equations & linear inequalities in two variables
2.2 find the slope of a line & write its equation
2.3 graph quadratic functions and inequalities
3.1 solve word problems
4.1 recognize functional notation & evaluate functions

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
January 15, 2012	January 16, 2012 No Class MLK, Jr. Holiday	January 17, 2012	January 18, 2012	January 19, 2012	January 20, 2012	January 21, 2012
January 22, 2012	January 23, 2012	January 24, 2012	January 25, 2012	January 26, 2012	January 27, 2012	January 28, 2012
January 29, 2012	January 30, 2012	January 31, 2012	February 1, 2012	February 2, 2012	February 3, 2012	February 4, 2012
February 5, 2012	February 6, 2012	February 7, 2012	February 8, 2012	February 9, 2012	February 10, 2012	February 11, 2012 Class Starts 2.1
February 12, 2012	February 13, 2012 2.1	February 14, 2012	February 15, 2012 2.2	February 16, 2012	February 17, 2012 2.3	February 18, 2012
February 19, 2012 2.5	February 20, 2012 2.7	February 21, 2012	February 22, 2012 3.1	February 23, 2012 3.2	February 24, 2012 3.3	February 25, 2012 3.4
February 26, 2012	February 27, 2012 3.5	February 28, 2012	February 29, 2012 3.6	March 1, 2012	March 2, 2012 Exam One Online	March 3, 2012 **Exam One Online**
March 4, 2012 Exam One Online	March 5, 2012 4.1	March 6, 2012	March 7, 2012 5.1	March 8, 2012	March 9, 2012 5.3	March 10, 2012 Spring Break
March 11, 2012 Spring Break	March 12, 2012 Spring Break	March 13, 2012 Spring Break	March 14, 2012 Spring Break	March 15, 2012 Spring Break	March 16, 2012 Spring Break	March 17, 2012
March 18, 2012	March 19, 2012	March 20, 2012	March 21, 2012	March 22, 2012	March 23, 2012	March 24, 2012

5.4		5.5		6.1		6.2
March 25, 2012 6.3	March 26, 2012	March 27, 2012 6.4	March 28, 2012	March 29, 2012 6.5	March 30, 2012 Exam Two DE Testing Center	March 31, 2012 Exam Two DE Testing Center
April 1, 2012 Exam Two DE Testing Center	April 2, 2012 7.1	April 3, 2012 7.2	April 4, 2012	April 5, 2012 7.3	April 6, 2012 Spring Holiday	April 7, 2012 Spring Holiday
April 8, 2012 Spring Holiday	April 9, 2012 Last Day to Drop "W" 7.4	April 10, 2012 7.5	April 11, 2012 8.1	April 12, 2012 8.2	April 13, 2012	April 14, 2012 8.3
April 15, 2012	April 16, 2012 8.4	April 17, 2012 8.5	April 18, 2012 8.6	April 19, 2012 8.7	April 20, 2012 Exam Three Online	April 21, 2012 Exam Three Online
April 22, 2012 Exam Three Online	April 23, 2012 9.1	April 24, 2012 9.2	April 25, 2012 9.6	April 26, 2012 9.7	April 27, 2012 11.1	April 28, 2012
April 29, 2012	April 30, 2012 Review	May 1, 2012 Review	May 2, 2012 Review	May 3, 2012 Review	May 4, 2012 Final Exams	May 5, 2012 Final Exams
May 6, 2012 Final Exams	May 7, 2012	May 8, 2012	May 9, 2012	May 10, 2012	May 11, 2012	May 12, 2012

Notice to Students:

The Distance Education Student Handbook contains policies and procedures unique to the DE student. Students should have reviewed the handbook as part of the mandatory orientation. It is the student's responsibility to be familiar with the handbook's contents. The handbook contains valuable information, answers, and resources, such as DE contacts, policies and procedures (how to drop, attendance requirements, etc.), student services (ADA, financial aid, degree planning, etc.), course information, testing procedures, technical support, and academic calendars. Refer to the DE Student Handbook by visiting this link: http://de.hccs.edu/de/de-student-handbook

Instructional Methods

Math is a subject cannot be learned by observation, therefore, you must become an active participant, read the text, pay attention in class, and most importantly you must work the problems *EVERY DAY*! So you do not get behind!! This will require a considerable commitment of time and effort from you. Typically, the successful student in college can count on 3 hours of independent study for every hour in the classroom.

Student Assignments

HOMEWORK Policy: All homework must be completed using MyMathLab by logging into

www.coursecompass.com. You need to have the access code or you can buy it online as well.
The course ID is afaneh70956.

GRADING POLICY: Your final course average is calculated by:

Final Average = (Three tests + my math lab score + Final Exam) / 5.

Your final course grade is based on the following standard HCCS scale.

Final Average	$90 \leq Avg \leq 100$	$80 \leq Avg < 90$	$70 \leq Avg < 80$	$60 \leq Avg < 70$	$Avg < 60$
Final Course Grade	A	B	C	D	F

MAKE-UP POLICY: Tests must be taken on the specified day. *No MAKE-UP* examinations will be given. The final examination grade will be substituted for one missed test only, regardless of reason. If a second test is missed, the score for that test is zero; thus, more weight will be given to the final examination than would be the case if all examinations were taken.
CALCULATORS POLICY: Calculators are not Allowed

Final Exam Policy in Developmental Mathematics:

The following policy was adopted by Houston Community College regarding the system-wide

Final Examinations in developmental mathematics courses:

If a student scores less than a 50 on the Final Exam, then the student receives an **F** in the course. If a student scores at least 50 but less than 60 on the Final Exam, then the student earns a **D** or an **F** in the course (depending on the course average). If a student scores at least a 60 on the Final Exam, then the grades will be averaged in accordance with the grade calculation formula as stated on the student syllabus; i.e., the student earns an **A, B, C, D,** or **F** in the course.

Assessments
Exam One ----------------- 20%
Exam Two ---------------- 20%
Exam Three-------------- 20%
Homework --------------- 20%
Final Exam -------------- 20%

Total   --------------------100%

HCC Policy Statement - ADA

Services to Students with Disabilities

Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the Disability Services Office at his or her respective college at the beginning of each semester. Faculty members are authorized to provide only the accommodations requested by the Disability Support Services Office. Persons needing accommodations due to a documented disability should contact the ADA counselor for their college as soon as possible. For questions, please contact Kim Ingram at 713.718.8146. To visit the ADA Web site, please visit www.hccs.edu then click Future students, scroll down the page and click on the words Disability Information.

HCC Policy Statement: Academic Honesty
Note: As with all developmental mathematics courses at HCC, **the use of a calculator during an exam is prohibited** and will be considered cheating.

Cheating is not allowed.

A student who is academically dishonest is, by definition, not showing that the coursework has been learned, and that student is claiming an advantage not available to other students. The instructor is responsible for measuring each student's individual achievements and also for ensuring that all students compete on a level playing field. Thus, in our system, the instructor has teaching, grading, and enforcement roles. You are expected to be familiar with the University's Policy on Academic Honesty, found in the catalog. What that means is: If you are charged with an offense, pleading ignorance of the rules will not help you. Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. Penalties and/or disciplinary proceedings may be initiated by College System officials against a student accused of scholastic dishonesty. "Scholastic dishonesty": includes, but is not limited to, cheating on a test, plagiarism, and collusion.

Cheating on a test includes:
- Copying from another students' test paper;
- Using materials not authorized by the person giving the test;
- Collaborating with another student during a test without authorization;
- Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of a test not yet administered;
- Bribing another person to obtain a test that is to be administered.

Plagiarism means the appropriation of another's work and the unacknowledged incorporation of that work in one's own written work offered for credit.

Collusion mean the unauthorized collaboration with another person in preparing written work offered for credit. Possible punishments for academic dishonesty may include a grade of 0 or F in the particular assignment, failure in the course, and/or recommendation for probation or dismissal from the College System. (See the Student Handbook)

HCC Policy Statements

Class Attendance - It is important that you come to class! Attending class regularly is the best way to succeed in this class. Research has shown that the single most important factor in student success is attendance. Simply put, going to class greatly increases your ability to succeed. You are expected to be on time at the beginning of each class period. For complete information regarding Houston Community College's policies on attendance, please refer to the Student Handbook. You are responsible for materials covered during your absences. Class attendance is checked daily. Although it is your responsibility to drop a course for nonattendance, the instructor has the authority to drop you for excessive absences.

If you are not attending class, you are not learning the information. As the information that is discussed in class is important for your career, **students may be dropped from a course after accumulating absences in excess of six (6) hours of instruction**. The six hours of class time would include any total classes missed or for excessive tardiness or leaving class early.

You may decide NOT to come to class for whatever reason. As an adult making the decision not to attend, you do not have to notify the instructor prior to missing a class. However, if this happens too many times, you may suddenly find that you have "lost" the class.

Poor attendance records tend to correlate with poor grades. If you miss any class, including the first week, you are responsible for all material missed. It is a good idea to find a friend or a buddy in class who would be willing to share class notes or discussion or be able to hand in your work if you unavoidably miss a class

HCC Course Withdrawal Policy

If you feel that you cannot complete this course, you will need to withdraw from the course prior to the final date of withdrawal.   Before, you withdraw from your course; please take the time to meet with the instructor to discuss why you feel it is necessary to do so. The instructor may be able to provide you with suggestions that would enable you to complete the course. Your success is very important. Beginning in fall 2007, the Texas Legislature passed a law limiting first time entering freshmen to no more than **SIX** total course withdrawals **throughout** their educational career in obtaining a certificate and/or degree.

To help students avoid having to drop/withdraw from any class, HCC has instituted an Early Alert process by which your professor *may* "alert" you and HCC counselors that you might fail a class because of excessive absences and/or poor academic performance. It is your responsibility to visit with your professor or a counselor to learn about what, if any, HCC interventions might be available to assist you – online tutoring, child care, financial aid, job placement, etc. – to stay in class and improve your academic performance.

If you plan on withdrawing from your class, you **MUST** contact a HCC counselor or your professor prior to withdrawing (dropping) the class for approval and this must be done **PRIOR** to the withdrawal deadline to receive a "W" on your transcript. **Final withdrawal deadlines vary each semester and/or depending on class length, please visit the online registration calendars, HCC schedule of classes and catalog, any HCC Registration Office, or any HCC counselor to determine class withdrawal deadlines. *Remember to allow a 24-hour response time when communicating via email and/or telephone with a professor and/or counselor. Do not submit a request to discuss withdrawal options less than a day before the deadline.* If you do not withdraw before the deadline, you will receive the grade that you are making in the class as your final grade. T**he Last Day to Withdraw is Monday at 4:30PM April, 09, 2012.**

Repeat Course Fee

The State of Texas encourages students to complete college without having to repeat failed classes. To increase student success, students who repeat the same course more than twice, are required to pay extra tuition. The purpose of this extra tuition fee is to encourage students to pass their courses and to graduate. Effective fall 2006, HCC will charge a higher tuition rate to students registering the third or subsequent time for a course. If you are considering course withdrawal because you are not earning passing grades, confer with your instructor/counselor as early as possible about your study habits, reading and writing homework, test taking skills, attendance, course participation, and opportunities for tutoring or other assistance that might be available.

Classroom Behavior
Use of Camera and/or Recording Devices

As a student active in the learning community of this course, it is your responsibility to be respectful of the learning atmosphere in your classroom. To show respect of your fellow students and instructor, you will turn off your phone and other electronic devices, and will not use these devices in the classroom unless you receive permission from the instructor.

Use of recording devices, including camera phones and tape recorders, is prohibited in classrooms, laboratories, faculty offices, and other locations where instruction, tutoring, or testing occurs. Students with disabilities who need to use a recording device as a reasonable accommodation should contact the Office for Students with Disabilities for information regarding reasonable accommodations

Instructor Requirements

Practice is absolutely essential to the mastery of mathematics. This course requires diligent and consistent work, and the only way to learn math is to work problems. If you get behind, you may jeopardize your chance for success. Be prepared to ask questions about any problems you are unable to work and any material in the text you do not understand. Whenever possible, try to read the sections to be covered before the lecture period. To succeed in mathematics, you must realize that there are no short cuts to learning this important subject; you must work hard.

Grading Scale

90 - 100 = A
80 - 89 = B
70 - 79 = C
60 - 69 = D
Below 60 = F

Personal Communication Device Policy:

All personal communication devices (any device with communication capabilities including but not limited to cell phones, blackberries, pagers, cameras, palmtop computers, lap tops, PDA's, radios, headsets, portable fax machines, recorders, organizers, databanks, and electronic dictionaries or translators) must be muted or turned off during class. Such activity during class time is deemed to be disruptive to the academic process. Personal communication devices are to not be on the student desk during examinations. Usage of such devices during exams is expressly prohibited during examinations and will be considered cheating (see academic honesty section above).

Mathematics Bridge Course Statement for 0312:

Any student who earns a grade of D in Math 0312 is qualified to enroll in the Bridge Course-Math 0112. Please visit with the instructor of your course for details.

Student Course Reinstatement Policy:

Students have a responsibility to arrange payment for their classes when they register, either through cash, credit card, financial aid, or the installment plan. Faculty members have a responsibility to check their class rolls regularly, especially during the early weeks of a term, and reconcile the official class roll to ensure that no one is attending class whose name does not appear on it. Students who are dropped from their courses for nonpayment of tuition and fees who request reinstatement after the official date of record (OE Date) can be reinstated by making payment in full and paying an additional \$75 per course reinstatement fee. A student requesting reinstatement should present the registrar with a completed Enrollment Authorization Form with the signature of the instructor, department chair, or dean who should verify that the student has been attending class regularly. Students who are reinstated are responsible for all course policies and procedures, including attendance requirements.

Resources:

Free tutoring is available at Northline Campus Room 421. Additional help is also available through **www.hccs.askonline.net** and through Student Support Services. Students can get free assistance, 24 hours a day, 7 days a week, in Math, English and other subjects, at www.hccs.askonline.net. Typically, posted questions are answered by an HCC tutor or faculty within 24 hours (usually under 6 hours). There are also several online math resources that you can find with an internet search. You may also find information on the Learning Web site accessible through your specific HCCS campus website.

Course Outline:

CHAPTER   *Approximate Time*

2   LINEAR EQUATIONS, INEQUALITIES, AND APPLICATIONS   *(4 hours)*

Topics to be covered include: linear equations in one variable and formulas with applications. The unit concludes with absolute value equations and inequalities.

3   GRAPHS, LINEAR EQUATIONS, AND FUNCTIONS   *(6 hours)*

Topics to be covered include: graphing lines in the coordinate plane, the slope of a line, equations of a line, linear inequalities and their graphs, relations and functions. The section concludes with variation.

4   SYSTEMS OF LINEAR EQUATIONS   *(1.5 hours)*

Topics to be covered include: solving systems by graphing, elimination, and substitution methods. This unit only considers a two by two systems of linear equation.

5   EXPONENTS, POLYNOMIALS, & POLYNOMIAL FUNCTIONS   *(6 hours)*

Topics to be covered include: integer exponents, scientific notation, polynomial functions. This

unit concludes with multiplying, and dividing polynomials.

6   FACTORING *(6 hours)*

Topics to be covered include: factoring out the GCF, factoring the difference of two squares, factoring the general trinomial, factoring the sum and difference of two cubes, and factoring by grouping.

7   RATIONAL EXPRESSIONS AND FUNCTIONS *(6 hours)*

Topics to be covered include: rational expressions and functions; multiplying, dividing, adding and subtracting rational expressions; complex fractions. The unit concludes with equations involving rational expressions and applications of rational expressions.

8   ROOTS, RADICALS, AND ROOT FUNCTIONS *(6 hours)*

Topics to be covered include: Radical expressions and exponents; simplifying radical expressions; adding, subtracting, multiplying and dividing radical expressions; solving equations involving radical expressions. This unit concludes with complex numbers.

9 QUADRATIC EQUATIONS, INEQUALITIES, & FUNCTIONS *(3 hours)*

Topics to be covered include: solving quadratic equations by the square root property, completing the square, and the quadratic formula; vertical parabolas. This unit concludes with quadratic and rational inequalities.

11 NONLINEAR FUNCTIONS, CONIC SECTS, & NONLINEAR SYS *(1.5 hours)*

Chapter 11 Nonlinear Functions, Conic Sections, and Nonlinear Systems (1.5 hours)

Topics to be covered include: second degree inequalities whose graphs involve circles and parabolas only.

COMPREHENSIVE FINAL EXAMINATION: CHAPTERS 2 − 11.5 *(2hours)*