



Mathematics Southwest Campus Developmental Mathematics



Math 0409: Foundations of Mathematics

CRN 63222 –Spring 2018

Class location| 4:00 – 5:50 Monday/ Wednesday

4 hour lecture course / 32 hours per semester/ 8 weeks

Textbook: Introductory and Intermediate Algebra. Houston Community College Developmental Math Courses
0409/0312 (Custom Edition). Pearson Learning Solutions: Boston, 2015

ISBN 13: 978-1-323-15682-7.

MyMathLab Course ID: **garner79838**

Instructor: Sheryl Garner

Instructor Contact Information: sheryl.garner2@hccs.edu

Type of Instruction: 2 Hour Lecture

Office location and hours: Since I am an adjunct professor, I can be contacted through the math department office or email concerning any problems you are experiencing in this course. You do not need to wait until you have received a poor grade before asking for assistance. Your performance in my class is very important to me. I am generally available before or after class to hear your concerns and just to discuss course topics

Preferred Method of Contact is through email.

Class Cancellation: Notification will be posted on the classroom, and an email will be sent out in the event of a course cancellation.

Course Description

Foundations of Mathematics: Topics include real numbers, proportions, descriptive statistics, basic geometry, polynomials, factoring, linear equations, inequalities, linear models, percentage models, order of operations, set operations, and an introduction to other models which may include exponential, quadratic and/or rational models. quadratic equations and rational expressions. A departmental final examination must be passed with a score of 60% or more to pass the course. Prerequisite: MATH 0306 or equivalent test score.

Prerequisites

TSIA Reading Score above 341 or GUST 0339 with a grade of C or higher; TSIA ABE level 5 or 6; TSIA Math Score 336 – 347 with Elementary Algebra Score 5 – 15 and Intermediate Algebra Score 0 – 6; Math 0106: Pass with “C” or better

Course Goal:

This course is intended for students who have either never been exposed to algebra or who have been away from the subject for quite some time. Particularly, this course is intended to prepare students for the study of Math 0312 or for a non-Calculus-based College Level Math course, specifically Math 1332 or Math 1333.

Course Student Learning Outcomes (SLO):

1. Identify and apply properties of real numbers, and perform accurate arithmetic operations with numbers in various formats.
2. Demonstrate the ability to manipulate/simplify algebraic expressions, & classify/solve algebraic equations with appropriate techniques.
3. Demonstrate the use of elementary graphing techniques.
4. Apply basic geometric theorems and formulas to rectangles, squares, parallelograms, triangles, parallelograms, triangles and circles.
5. Demonstrate the ability to classify, add, subtract, multiply, divide, simplify, and factor polynomials
6. Apply “Proportional Reasoning” to solve related problems including ratios, rates, proportion, percent and conversions of units.
7. Recognize, examine, and interpret the linear, quadratic, exponential, and/or rational models of equations and evaluate the square roots of perfect square numbers.

Learning objectives

Students will:

- 1.1 add, subtract, multiply and divide real numbers and manipulate certain expressions.
- 1.2 solve problems using scientific notation.
- 1.3 simplify algebraic expressions
- 2.1 solve linear equations and inequalities in one variable
- 2.2 solve problems using equations and inequalities.
- 3.1 plot ordered pairs and graph linear equations.
- 3.2 find the rate of change of a line and write its equation
- 3.3 graph linear inequalities in two variables
- 4.1 find the perimeter and area of rectangles, squares, parallelograms, triangles, trapezoids and circles; volume and surface area, relations between angle measures, congruent and similar triangles, and properties of parallelograms.
- 5.1 Recognize polynomials, add, subtract, multiply, and divide polynomials
- 5.2 factor polynomials using the techniques of the greatest common factor, grouping, difference of two squares, and trinomials of the form $x^2 + bx + c$
- 6.1 multiply and divide, and simplify rational expressions
- 6.2 find ratios and solve rational equations and proportions
- 7.1 model situations with linear, quadratic, or exponential functions.
- 7.2 find square roots of perfect square numbers

Core Objectives

Given the rapid evolution of necessary knowledge and skills and the need to take into account global, national, state, and local cultures, the core curriculum must ensure that students will develop the essential knowledge and skills they need to be successful in college, in a career, in their communities, and in life. Through the Texas Core Curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world, develop principles of personal and social responsibility for living in a diverse world, and advance intellectual and practical skills that are essential for all learning.

Critical Thinking Skills: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.

Communication Skills: to include effective development, interpretation and expression of ideas through written, oral and visual communication.

Empirical and Quantitative Skills: to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

CALENDAR

Module	Class Meeting	Topic/HW
1		Geometry and Sets and Class Introduction
	3/19	8.2: Perimeter
	3/19	8.3: Area
	3/21	8.4: Circles
	3/23	Appendix D: Introduction to Set Operations

2		Introduction to Real Numbers
	3/19	1.1: Introduction to Algebra
	3/21	1.2: The Real Numbers
	3/23	1.3: Addition of Real Numbers
	3/26	1.4: Subtraction of Real Numbers
	3/28	1.5: Multiplication of Real Numbers
	3/28	1.6: Division of Real Numbers
	3/30	1.7: Properties of Real Numbers
	3/30	1.8: Simplifying Expressions; Order of Operations
	<i>4/2</i>	<i>Exam I: COVERS CHAPTERS 1, 8, and Appendix D</i>
3		Solving Equations and Inequalities
	4/2	2.1: Solving Equations using Addition Principle
	4/2	2.2: Solving Equations using The Multiplication Principle
	4/4	2.3 Using the Principles Together
	4/4	2.4 Formulas
	4/9	2.5 Applications of Percent
	4/9	2.6 Applications and Problem Solving

	4/11	2.7 Solving Inequalities
	4/11	2.8 Applications and Problem Solving with Inequalities
4		Graphing Linear Equations and Inequalities in two variables
	4/11	3.1 Graphs Linear Equations
	4/13	3.2 More with Graphing and Intercepts
	4/13	3.5 Graphing Using the Slope and the y-Intercept
	4/13	3.7 Graphs Linear Inequalities in Two Variables
	4/18	<i>Exam II: Covers Chapter 2 & 3</i>
5		Polynomials
	4/16	4.1 Integers as Exponents
	4/16	4.2 Exponents and Scientific Notation
	4/16	4.3 Introduction to Polynomials
	4/18	4.4 Addition and Subtraction of Polynomials
	4/18	4.5 Multiplication of Polynomials
	4/18	4.6 Special Products
	4/20	4.7 Operations with Polynomials in Several Variables
	4/20	4.8 Division of Polynomials (Monomials Divisors Only)

6		Factoring Polynomials
	4/23	5.1 Introduction to Factoring (GCF and Grouping)
	4/23	5.2 Factoring Trinomials (of the type $x^2 + bx + c$ only)
	4/23	5.5 Factoring Trinomial Squares and Differences of Squares
	4/25	5.6 Factoring: A General Strategy
	4/25	<i>Exam III - COVERS CHAPTERS 4 and 5</i>
7		Rational Expressions & Equations
	4/25	6.1 Multiplication and Simplifying Rational Expressions
	4/25	6.2 Division and Reciprocals
	4/27	6.7 Solving Rational Equations (proportions only)
	4/27	6.8 Applications Using Rational Equations and Proportions (proportions only)
8		Linear, Quadratic, and Exponential Modeling; Radicals & Radical Expressions
	4/27	7.1 Introduction to Radical Expressions (Perfect Square Radicands Only)
	4/30	• <i>Exam IV - COVERS CHAPTERS 6 and</i>
	5/2	• Linear modeling • Quadratic modeling • Exponential modeling
5/9		<i>Comprehensive Departmental Final Exam</i>

Instructional Methods

Most of the instruction will come from classroom lectures and a homework & quiz management system called MyMathLab, which must be purchased for this class. The MyMathLab Course ID for this class **GARNER79838**

Technical Support

If you should experience technical difficulties during the semester, these problems are not under the control of the instructor. Such technical problems should be directed to technical support. For Eagle Online tech support, go to the HCC Eagle Online support website call 713-718-2000, options 4, 2, 3 (available 24 x 7). For MyMathLab tech support call 1- 800-677-6337

Assignment Requirements

Homework and quizzes/assessments will be submitted online through MyMathLab. Three (at least) major exams and the final exam will be proctored and taken in class. ***No calculators or formula sheets will be allowed on any proctored exam, except for the Geometric Formula sheet.***

Instructor Requirements

As a student wanting to learn about the field of mathematics, it is your responsibility to read the textbook, submit assignments on the due dates, study for the exams, participate in classroom activities, attend class, and enjoy yourself while experiencing the real world of mathematics.

As I believe that engaging the students in the learning is essential for teaching to be effective, you will spend a portion of class time involved in problem solving activities. You will be involved in discussions with your classmates and your instructor. As you will want to contribute to these discussions, you will need to come to class prepared to discuss, analyze and evaluate information from your text and other assigned readings.

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

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 below).

Calculator Policy: As with all developmental mathematics courses at HCC, **the use of a calculator during any exam, including the final exam, is prohibited** and will be considered cheating (see academic honesty section below).

Classroom Behavior Class Rules

1. Respect other when they are talking
2. Be prepared to be successful (using technology only as instructed by the teacher).
Bring pencil, binder, book and other electronics expected for learning
3. Do not disrupt the learning environment by minimize your movement and talking.
Please silence your cell phones during class time and leave the room if you need to answer a call. Do not leave a mess behind (food wrappers, papers, pencil shavings, etc).
Everyone will be expected to conduct themselves with courtesy and respect in the is classroom.

Student's Assessments

The assessments weights are as follows: Five exams and drop the lowest exam. Each of the 4 exams=18.75% total 75%, the final exam=25%. 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: a. Students who score less than 60% on the

Final Examination or who have an overall course average less than 70% will be awarded a grade of “IP” or “F.” The “IP” grade will be awarded to those students who took Math 0409 for the 1st time. The “F” grade will be awarded to those students who are repeating Math 0409. b. Students who score 60% or higher on the Final Examination and whose overall course average is equal to or greater than 70%, will have their grades averaged and awarded a grade based upon the standard 10 point scale.

Exam policy:

Grading & Evaluation: Your grade will be determined based upon how many points that you accumulate from quizzes, web activity, homework, and exams. The approximate number of points is as follows: 1. Four major examinations –Lowest Exam each exam 20% toward your grade. 2. Classroom Participation (Participation /Classroom Assignment/ Quizzes) 3. A departmental comprehensive final. The final exam will be onsite in a classroom that is 25% of your grade.4. Homework assignments 15 % toward your grade Final average = { (Exam 1 + Exam 2 + Exam 3 + Exam 4-(Lowest Exam) = [(20% each) + (Participation/ Classroom Assignments/ Quizzes) and (HW Assignments)* 15% + (Final Exam)* 25% }

There are four (4) major exams at 100 points each and a departmental final exam. The worse major exam will be dropped. (projects, in class exams, take home exams...

Make-up policy:

There are no make-up exams given. If one exam is missed, then one test grade will be dropped. If two exams are missed, then one will be a zero.

Final Exam Policy in Developmental Mathematics:

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- a. Students who score less than 60% on the Final Examination or who have an overall course average less than 70% will be awarded a grade of “IP” or “F.” The “IP” grade will be awarded to those students who took Math 0409 for the 1st time. The “F” grade will be awarded to those students who are repeating Math 0409.
- b. Students who score 60% or higher on the Final Examination and whose overall course average is equal to or greater than 70%, will have their grades averaged and awarded a grade based upon the standard 10 point scale.

Instructor’s Grading Criteria:

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Break down of grade calculation by points or percentage.

For Example: (please remember to change it to fit your grading policy)

Grading policy:

Exam 1 20%

Exam 2 20%

Exam 3 20%

Homework/lab 15%

Final Exam 25%

HCC Grading Scale:

A = 100 – 90.....	4 points per semester hour
B = 89 – 80.....	3 points per semester hour
C = 79 – 70.....	2 points per semester hour
69 and below = F or IP0 points per semester hour
IP (In Progress)	0 points per semester hour
W(Withdrawn)	0 points per semester hour
I (Incomplete).....	.0 points per semester hour
AUD (Audit)	0 points per semester hour

IP (In Progress) is given only in certain developmental courses. The student must re-enroll to receive credit. COM (Completed) is given in non-credit and continuing education courses. To compute grade point average (GPA), divide the total grade points by the total number of semester hours attempted. The grades “IP,” “COM” and “I” do not affect GPA.

Note: The grade of “FX” is given when a student fails due to lack of attendance. A grade of “W” may be given on or before the official withdrawal date but not at the time of final grade submission.

HCC Policy Statement – ADA, Academic Honesty, Student Attendance, 3-peaters, Withdrawal Deadline

Access Student Services Policies on their Web site: <http://www.hccs.edu/district/students/student-handbook/>

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to <http://www.hccs.edu/district/students/disability-services/>

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 attend all lecture and labs regularly. 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 a paper if you unavoidably miss a class.

Class attendance equals class success.

Cheating : 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 student's 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

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

The last day to withdraw April 3, 2018

Campus Carry Policy: At HCC the safety of our students, staff, and faculty is our first priority. As of August 1, 2017, Houston Community College is subject to the Campus Carry Law (SB11 2015). For more information, visit the HCC Campus Carry web page at <http://www.hccs.edu/district/departments/police/campus-carry/>.”

Resource Materials: In addition, this course has an associated CANVAS Model course. Course materials are available within the CANVAS Course Management System. Any student enrolled in Math 0409 at HCC has access to the Learning Resource

Center (LRC) where they may get additional help in understanding the theory or in improving their skills. The LRC is staffed with mathematics faculty and/or student assistants, and offers tutorial help, videos and computer-assisted drills.

HCC Policy Statement: Sexual Misconduct

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex-including pregnancy and parental status-in educational programs and activities. If you require an accommodation due to pregnancy, please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:

David Cross
Director EEO/Compliance
Office of Institutional Equity & Diversity
3100 Main
Houston, TX 77266-7517 or Institutional.Equity@hccs.edu

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:

The HCC Tutoring Centers provide free tutoring for individual subjects offered at specific times throughout the week on various campuses. There is no need to make an appointment. If you need a tutor, visit: www.hccs.edu/findatutor for times and locations. For more information about tutoring at HCC, visit www.hccs.edu/district/students/tutoring.

Additional help is also available through Student Support Services. Students can get free assistance, 24 hours a day, 7 days a week, in Math, English and other subjects, at <https://hccs.upswing.io/>. 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.

Any student that faces challenges securing their food or housing and believes this may affect their performance in the course are urged to contact the Dean of Students for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable us to provide any resources that HCC may possess

There are also several online math resources that you can find with an internet search. Some sample websites include:

<http://sophia.hccs.edu/~douglas.bump/math>

www.awl.com/tutorcenter/stinfo.html

www.harcourtcollege.com/math/nettutor/0030260264/

www.khanacademy.org

www.Purplemath.com

www.mhhe.com/barnett

EGLS₃ -- Evaluation for Greater Learning Student Survey System

At Houston Community College, professors believe that thoughtful student feedback is necessary to improve teaching and learning. During a designated time, you will be asked to answer a short online survey of research-based questions related to instruction. The anonymous results of the survey will be made available to your professors and division chairs for continual improvement of instruction. Look for the survey as part of the Houston Community College Student System online near the end

of the term. Visit www.hccs.edu/EGLS3 for more information.

Administration contact information

College - Level Math Courses

Chair of Math	Jaime Hernandez	SW Campus	713-718-2477	Stafford, Scarcella, N108
- Secretary	Tiffany Pham	SW Campus	713-718-7770	Stafford, Scarcella, N108
Math Assoc. Chair	Clen Vance	CE Campus	713-718-6421	San Jacinto Building, Rm 369
Math Assoc. Chair	Ernest Lowery	NW Campus	713-718-5512	Katy Campus Building, Rm 112
Math Assoc. Chair	Mahmoud Basharat	NE Campus	713-718-2438	Codwell Hall Rm 105

Developmental Math Courses

Chair of Dev. Math	Susan Fife	SE Campus	713-718-7241	Felix Morales Building, Rm 124
- Secretary	Carmen Vasquez	SE Campus	713-718-7056	Felix Morales Building, Rm 124
Dev. Math Assoc. Chair	Marisol Montemayor	SE Campus	713-718-7153	Felix Morales Building, Rm 124
Dev. Math Assoc. Chair	Jack Hatton	NE Campus	713-718-2434	Northline Building, Room 321
Technical Support Specialist	Hien Nguyen	NE Campus	713-718-2440	Northline Building, Rm 321

For issues related to your class, please first contact your instructor.

If you need to contact departmental administration, then contact the appropriate Associate Chair.

If further administrative contact is necessary, then contact the appropriate Department Chair.