Math 0310: Basic Concepts for Business Math and Statistics
CRN 19753 – Fall 2018 Second Start
NE - Learning Hub Rm 216| 8:00 – 11:50 AM | Sa
3-hour lecture course / 48 hours per semester/ 12 weeks
Textbook: Introductory and Intermediate Algebra for Houston Community College; Margaret Lial;
Pearson Custom Publishing: 2019; ISBN 13: 978-0-13-533201-6

MyMathLab Course ID: afiesimama47956

Instructor: Dr Boma T Afiesimama

Instructor Contact Information: boma.afiesimama@hccs.edu; btafies@yahoo.com; department phone (713) 718-8049

Office location and hours: Northline Rm. 321; by appointment only.

Preferred Method of Contact: email, at the above addresses.

Class Cancellation: The department secretary will call the students in case of cancellation

Course Description
Math 0310 Basic Concepts for Business Math and Statistics: Topics include real numbers, order of operations, proportions and percent, percent of increase/decrease, simple interest, introduction to probability and statistics, integer exponents, polynomials, linear equations and inequalities in one variable, linear equations and inequalities in two variables, systems of linear equations, matrices, linear functions and an introduction to other which may include exponential, quadratic functions, quadratic equations, and set operations. A departmental final examination must be passed with a score of 60% or more in order to pass the course.

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 1324 or Math 1342.

HCC MATH PATHWAYS
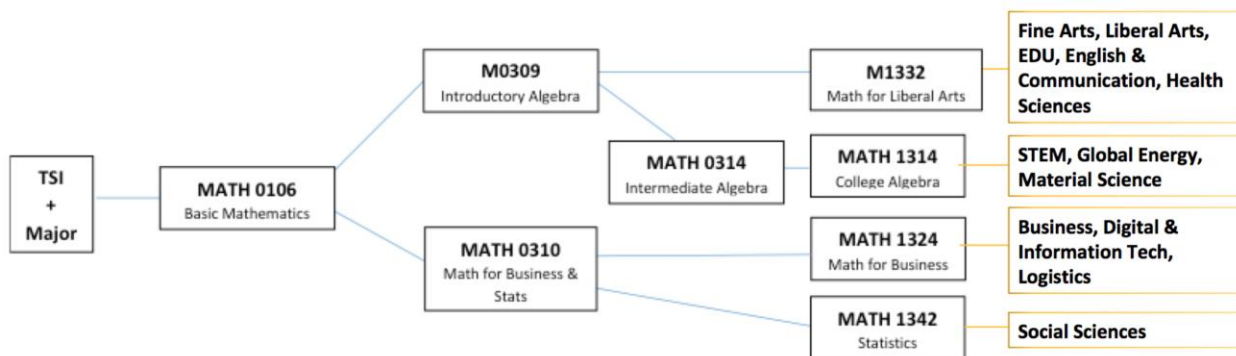
Prerequisites

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

Co-requisite: MATH 0310 is a co-requisite to MATH 1324 and MATH 1342. Since MATH 0310 is co-requisite with MATH 1324 and MATH 1342, withdrawing from MATH 0310 will necessitate withdrawal from MATH 1324 and/or MATH 1342 as well.

MATH 0310 is a co-requisite to with MATH 1324 and MATH 1342. MATH 0309 is a prerequisite to MATH 0314 and MATH 0314 is a prerequisite to MATH 1314. Co-requisite courses may be taken during the same semester. If a course has a prerequisite, the prerequisite must be successfully completed (C or better) before taking the next course.

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 and perform matrix operations.
4. Find the probability of a simple event and understand the counting techniques.
5. Recognize, read, interpret statistical graphs and find the central of tendency of data.
6. Solve problems including ratios, rates, proportion, and percent.
7. Recognize, interpret, and solve the linear, quadratic, exponential models of equations.

Learning objectives

Students will:
1. add, subtract, multiply and divide real numbers and manipulate certain expressions
2. use the rules for integer exponents
3. simplify algebraic expressions
4. solve problems using equations and inequalities
5. plot ordered pairs and graph linear equations
6. solve systems of linear equations
7. operations on matrices and determinant
8. graph linear inequalities
9. find the rate of change of a line & write its equation
10. use rules for exponents and operations on polynomials
11. use function notation and evaluate functions
12. model situations with linear, quadratic, or exponential functions
13. find the probability of a simple event, find the central of tendency of data
14. read and interpret bar graphs, circle graphs, line graphs, pictorial graphs

Core Objectives

Given the rapid evolution of necessary knowledge and skills and the need to consider 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.

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COURSE OUTLINE

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CONTENTS *(Approximate Time)*

INTRO TO REAL NUMBERS & ALGEBRAIC EXPRESSIONS {Bitt 1.1 – 1.8} (3 hours)
This unit presents an introduction to algebra and the real number system. The instructor should emphasize addition, subtraction, multiplication and division of real numbers and the properties of real numbers. This unit concludes with simplifying expressions and the order of operations. Listed below are the subtopics covered in this unit:

    1.1   Introduction to Algebra
    1.2   The Real Numbers and the Number Line
    1.3   Addition and Subtraction of Real Numbers
    1.4   Multiplication and Division of Real Numbers
    1.5   Properties of Real Numbers
    1.6   Simplifying Expressions; Order of Operations

PROBABILITY AND STATISTICS **(8 hours)**

This unit includes sets and simple operations on sets, counting techniques, circle graphs, pictographs, bar graphs, line graphs, mean, mode, median, and probability. Listed below are the subtopics covered in this unit:

    2.1   Sets and Set operations {Bitt Appendix D and E}
    2.2   The counting techniques {Lial Appendix 10-1, 10-2}
    2.3   Introduction to Probability {Lial Appendix 11-1}
    2.4   Organizing data {Lial Appendix 12-1}
    2.5   Circle Graphs and Pictographs {Lial Appendix 7-2}
    2.6   Bar Graphs and Broken-Line Graphs {Lial Appendix 7-2}
    2.7   Statistical Measures (Mean, Mode, Median) {Lial Appendix 12-2}

RECOMMEND EXAMINATION I: COVERS Course sections 1 and 2 *(1.5 to 2 hours)*

LINEAR EQUATIONS AND INEQUALITIES IN ONE VARIABLE (4 hours)

The major emphasis of this chapter is to teach solving linear equations and inequalities. A mastery of this chapter requires that the student have a thorough understanding of combining like terms and properties of equality and inequality. The skills necessary for solving equations is extended to include working with the equality of two fractions and solving inequalities in a single variable. Listed below are the subtopics covered in this unit:

3.1   Solve Linear Equations by Addition Principle, Multiplication Principles, and Both {Bitt 2.1–2.3}

3.2   Translating Sentences into equations {Lial 1.3 objectives 1, 2 and 3 only}

3.3   Applications of Linear Equations {Bitt 2.6}

3.4   Linear Inequalities {Bitt 2.7}

3.5   Compound and Absolute Value Inequalities {Lial 1.6 (Only Compound Inequalities) and 1.7}

INTRODUCTION TO EQUATIONS AND PERCENT   (4 hours)

This unit presents an introduction to equation and percent applications. The instructor should emphasize on solutions of equations, solving percent equations and applications, solving proportions, percent of increase and decrease, markup and discount, and simple interest.

4.1   Proportions {Lial Appendix 7-3}

4.2   Percent and basic percent equations {Lial Appendix 6-6}

4.3   Percent of increase and percent of decrease {Lial Appendix 6-6}

4.4   Markup, Discount, Sales {Lial Appendix 6-7}

4.5   Simple Interest {Lial Appendix 6-8}

RECOMMEND EXAMINATION 2: COVERS Course sections 3 & 4   (1.5-2 HOURS)

GRAPHS OF LINEAR EQUATIONS AND INEQUALITIES   (5 hours)

This unit introduces plotting ordered pairs in the rectangular coordinate system, rates of change (slopes), and sketching linear equations, parallel and perpendicular lines, and linear inequalities. Listed below are the subtopics covered in this unit: **{Bitt 3.1 – 3.4 and 3.7}**

5.1   The Rectangular Coordinate System

5.2   Graphs of Linear Equations

5.3   The slope of a Line and x- and y-intercepts

5.4   Finding Equations of Lines

5.5   Inequalities in Two Variables

SYSTEMS OF LINEAR EQUATIONS IN TWO VARIABLS   (4 hours)

This unit covers systems of linear equations in two variables and matrices. Instructor should emphasize in teaching how to solve systems of equations by graphing, substitution, and addition methods and use the systems to solve simple applications. Listed below are the subtopics covered in this unit:

6.1   Solving Systems of Linear Equations by Graphing {Lial 3.1}

6.2   Solving Systems of Linear Equations by Substitution Method {Lial 3.1}

6.3   Solving Systems of Linear Equations by Addition Method {Lial 3'1}

6.4   Introduction to Matrices and Simple Matrix operations {Lial Extension- Matrix Row Operations}

RECOMMEND EXAMINATION 3: COVERS Course sections 5 & 6   (1.5-2 HOURS)

POLYNOMIALS   (3 hours)

This unit begins with polynomials and operations on polynomials. The topics include rules for exponents, definition of polynomials, adding and subtracting polynomials, and multiplying and dividing polynomials. Instructor should emphasize the rules for exponents. Listed below are the subtopics covered in this unit:

7.1   Introduction to polynomials and integer exponents {Bitt 4.1 and 4.3}
7.2   Addition and Subtraction of polynomials {Bitt 4.4}
7.3   Multiplication of polynomials and Division of Monomials {Bitt 4.5 and 4.8}

INTRODUCTION TO FUNCTIONS AND MODELS   (4 hours)

Topic include: linear functions, quadratic functions, exponential functions and applications. The major emphasis of this unit is to teach students to evaluate function values and use functions to model applications. Listed below is the subtopic covered in this unit:

8.1   Functions (defn. relations and functions, function notation, and evaluating functions) {Lial 2.5}
8.2   Linear functions and models {Lial 2.6}
8.3   Basic Quadratic functions and models {Lial 8.5 and 8.6}
8.4   Basic Exponential functions and models {Lial 9.2}

RECOMMEND EXAMINATION 4: COVERS Course sections 7 & 8   (1.5-2 HOURS)

RECOMMEND FINAL EXAMINATION: COVERS Course sections 1 – 8   (2 HOURS)

Instructional Methods & Instructor Requirements
Students should enter the course willing and prepared to learn in an engaging classroom. Students are expected to be attentive in class and participate by asking and answering questions freely. Math 0310 is a lecture course; instructor will solve many exercise problems to demonstrate concepts presented in class. The adage "practice makes perfect" is particularly relevant in mathematics. Students are encouraged to solve all chapter review and chapter test questions in the textbook for practice, in addition to the MyMathLab assignments. This is the best way to build confidence in your understanding of the material and maximize your chances to excel in the course.

Classroom Behavior
Students should not engage in disruptive activities while in the classroom. It is our shared responsibility to develop and maintain a positive learning environment for everyone. As a fellow learner, you are to respect the learning needs of your classmates and assist your instructor achieve this critical goal. Any conduct that is deemed detrimental to the academic atmosphere, such as cell phone use or consistently

talking during instructional delivery, will not be tolerated. Any student found guilty of such conduct will be asked to leave the classroom until further notice.

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).

CALENDAR

Exam #1	Sections 1 & 2	Thursday, October 13, 2018
Exam #2	Sections 3 & 4	Thursday, October 27, 2018
Exam #3	Sections 5 & 6	Thursday, November 10, 2018
Exam #4	Sections 7 and 8	Thursday. December 1, 2018
Final Exam	Comprehensive (sections 1 – 8)	Exact date to be announced
Last Day to Drop Classes (Withdrawal)		Monday, November 12, 2018

Student's Assessments/ Instructor's Grading Criteria:
 Four Exams, 15% each (60%), Lab/Homework (15%) and Final Exam (25%); for a total of 100%. Least exam score is replaceable with the Lab/Homework score to improve student's performance, where applicable.

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 IP   …0 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.

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 0314 for the 1st time. The "F" grade will be awarded to those students who are repeating Math 0314.

> 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.

HCC Policy Statement - Students with disabilities

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 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/support-services/disability-services/

Ability Services Contact Information

Central College	713-718-6164	
Coleman College	713-718-7376	
Northeast College	713-718-8322	
Northwest College	713-718-5422	713-718-5408
Southeast College	713-718-7144	
Southwest College	713-718-5910	
Adaptive Equipment/Assistive Technology	713-718-6629	713-718-5604
Interpreting and CART services	713-718-6333	

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 more than 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.

The last day to withdraw 11/12/2018

Basic Needs Security Statement

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is 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.

Campus Carry statement:
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/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 a developmental math course 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 based on 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 academic support to our diverse student population by creating an open atmosphere of learning for all students enrolled at HCC. Using a variety of tutoring techniques, we assist students across academic disciplines, addressing their individual needs in a constructive, safe, and welcoming environment. Our emphasis is on maximizing academic potential while promoting student success and

retention. We are committed to helping students achieve their educational, personal, and career goals by empowering them to become confident, independent, lifelong learners.

Tutoring for individual subjects is offered at specific times throughout the week on various campuses. There is no need to make an appointment. If you need a tutor, please refer to our website: http://www.hccs.edu/findatutor for times and locations. For more information about tutoring at HCC, please go to http://www.hccs.edu/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, an HCC tutor or faculty answers posted questions within 24 hours (usually under 6 hours). In addition, you can find several online math resources through an internet search. You may also find information on the Learning Web site accessible through your specific HCCS campus website.

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.