Mathematics
Stafford
Math 1324: Math for Business and Social Sciences
CRN 15111 – Spring 2019(Reg)
Online
3 hour lecture course / 48 hours per semester/ 16 weeks

Textbook: **Mathematics with Applications In the Management, Natural, and Social Sciences**;
12th ed.; Margaret Lial, Thomas Hungerford, John Holcomb, Jr., Bernadette Mullins. ISBN-13: 978-0134767628

INSTRUCTOR:	Mini Mathew
CONTACT INFORMATION:	mini.mathew@hccs.edu 713-718-5572
My Mathlab Course ID	mathew55688

Office location and hours:
Stafford Campus, L. Hub, 303.3
> **Tu- Th: 2:00pm – 3:00pm(By appointment only)**
> **M-W: 12:30pm – 2:00pm, (By appointment only)**

Course Description
MATH 1324: Finite Mathematics with Applications. The application of common algebraic functions, including polynomial, exponential, logarithmic, and rational, to problems in business, economics, and the social sciences are addressed. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices; linear programming; and probability, including expected value.

Prerequisites: A grade of C or better in Math 0310 or a grade of C or better in MATH 0314 (or its equivalent) or meet TSI college-readiness standard for college-level mathematics.

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

Course Goal

This course is intended for students majoring in liberal arts and secondary education.

Course Student Learning Outcomes (SLO):

Upon successful completion of this course, students will:

1. Apply elementary functions, including linear, quadratic, polynomial, rational, logarithmic, and exponential functions to solving real-world problems.

2. Solve mathematics of finance problems, including the computation of interest, annuities, and amortization of loans.

3. Apply basic matrix operations, including linear programming methods, to solve application problems.

4. Demonstrate fundamental probability techniques and application of those techniques, including expected value, to solve problems.

5. Apply matrix skills and probability analyses to model applications to solve real-world problems.

Objectives:
Students will:
1. Be able to graph systems of linear equations in two variables.
2. Be able to solve systems of linear equations using Gauss-Jordan elimination.
3. Be able to add, subtract, and multiply matrices.
4. Be able to find the inverse of a square matrix.
5. Find simple and compound interest.
6. Find the future value of a given annuity.
7. Find the monthly payment and the total interest for a given simple interest amortized loan.
8. Be able to graph systems of linear inequalities in two variables.
9. Use the graphical method for solving a linear programming problem.
10. Use the simplex method for solving standard maximization and standard minimization problems.
11. Be able to perform the basic set operations.
12. Be able to use the multiplication principle, permutations and combinations in counting arguments.
14. Calculate basic probabilities using classical methods.
15. Calculate conditional probabilities.
16. Use expected values in real-world applications.
17. Use the binomial distribution to model and analyze probability experiments.

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.

Students enrolled in this core curriculum course will complete a research project or case study designed to cultivate the following core objectives:

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.

Instructional Methods

As an instructor, I want my students to be successful. I feel that it is my responsibility to provide you with knowledge concerning the field of mathematics, modeling good analytical problem solving strategies, and organizing and monitoring the success of each student with homework that allows you to connect the information that you learn in this course to applications in other course work and life in the real world. 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, and enjoy yourself while experiencing the real world of mathematics.

Student Assignments

Assignments have been developed that will enhance your learning. To better understand a topic, you will be given assignments on key information that you will need to remember for your success in your career. Students will be required to successfully complete the following

Homework:

Online Homework is in MyMathLab. Go to mymathlab.com to register to do the homework. You need an access code which you can buy online or buy from the book store. You need to enter a course code for this class which is also on the first page of this syllabus (MyMathLab Course Code – Mathew16189). You may buy the access code for doing the homework only or for accessing the e-book along with homework. Homework has to be done regularly. Do not wait for the last hour to finish the homework.

Exam Policy: **There will be 5 exams including a final exam. The first exam and the final exam must be taken at HCC(cannot be taken at home). Also the first exam will be a paper n Pencil exam(not a multiple choice). The final Exam will be a multiple choice exam.**

A scientific calculator is required for this class. Graphing calculator is NOT allowed on any exams including the final exam.
Also please remember computer glitches are NO excuses.

Make-up Exams: **There is no makeup exam.**

Final Examination: Final Exam will be taken in person at one of the Houston Community College testing location. The final examination is comprehensive . The problems cover all the material required in the course. It is mandatory. If you do not take the final exam you do not pass the course.

Final course grade will be calculated as following.

(Sum of Exam 2, Exam 3, Exam 4) *.15 + (Exam 1) *.20 + Homework *.10 + Final Exam *.25

The final exam is worth 25% of the final grade, Exam 1 is worth 20%, H.W is 10%, Exam 2, Exam 3 and Exam 4 together is worth 45% of the final grade.

Test Schedule:

Test	Chapters Covered on Test	Exam dates
Exam 1 (Paper n Pencil exam at HCC testing location)	Sections: 2.1,2.2, 3.4, 3.6, 4.1, 4.3, 4.4	Friday, **February 15 ,** @ Central Campus, San Jacinto building 4:00 pm – last admit 6 :50pm **or** Saturday, **February 16,** @ Spring branch campus 10:00 am – last admit 12:50pm
Exam 2 (in Canvas)	Chapters 6 and 7	Opens on Friday, **March 8,** @ 10:00 AM and closes on Saturday, **March 9,** @ 10:00 PM (1 attempt)

Exam 3 (in Canvas)	Chapters 8 and 9	Opens on Friday, **April 5,** @ 10:00 AM and closes on Saturday, **April 6,** @ 10:00 PM (1 attempt)
Exam 4 (in Canvas)	Chapter 5 (sections 5.1, 5.2, 5.3, 5.4)	Opens on Friday, **April 26,** @ 10:00 AM and closes on Saturday, **April 27,** @ 10:00 PM (1 attempt)
Final Exam (at HCC Central Campus)	*Comprehensive*	**Thursday, May 2, or Friday May 3, 10:00 AM-6:50 PM @ central campus, SanJac building** (1 attempt)

Grading Scale
90 - 100 = A
80 - 89 = B
70 - 79 = C
60 - 69 = D
00 - 59 = F
Note: The instructor cannot assign a grade of W.

APPROXIMATE TIME   **TEXT REFERENCE**

UNIT I   Review (2 hours)

1 hour   2.1 Graphs
1 hour   2.2 Equations of Lines

UNIT II Nonlinear Functions (12 hours)

2 hours   3.4 Quadratic Functions and Applications
2 hours   3.6 Rational Functions
2.5 hours   4.1 Exponential Functions
2.5 hours   4.3 Logarithmic Functions
3 hours   4.4 Logarithmic and Exponential Equations

UNIT III   Systems of Linear Equations (8 hours)

1.5 hours   6.1 Systems of Two Linear Equations in Two Variables
2 hours   6.2 Larger Systems of Linear Equations
2 hours   6.3 Applications of Systems of Linear Equations
1 hour   6.4 Basic Matrix Operations
1.5 hours   6.5 Matrix Products and Inverses

UNIT IV   Linear Programming (8.5 hours)

1 hour   7.1 Graphing Linear Inequalities in Two Variables
1.5 hours   7.2 Linear Programming: The Graphical Method
2 hours   7.3 Applications of Linear Programming
2 hours   7.4 The Simplex Method: Maximization
2 hours   7.5 Maximization Applications

UNIT V   Sets and Probability (6 hours)

1 hour   8.1 Sets
                8.2 Applications of Venn Diagrams and Contingency Tables (**Optional**)

1.5 hours	8.3 Introduction to Probability
1.5 hours	8.4 Basic Concepts of Probability
2 hours	8.5 Conditional Probability and Independent Events

UNIT VI **Counting, Probability Distributions, and Further Topics in Probability (6 hours)**

1.5 hours	9.1 Probability Distributions and Expected Value
1.5 hours	9.2 The Multiplication Principle, Permutations, and Combinations
1.5 hours	9.3 Applications of Counting
1.5 hours	9.4 Binomial Probability

UNIT VII **Mathematics of Finance (5.5 hours)**

1 hour	5.1 Simple Interest and Discount
1 hour	5.2 Compound Interest
1.5 hours	5.3 Annuities, Future Value, and Sinking Funds
2 hours	5.4 Annuities, Present Value, and Amortization

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 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/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	

HCC Policy Statement: Title IX:
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**
Phone number: 713-718-8271

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/

HCC Policy Statement: Academic Honesty
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 should contact a HCC advisor prior to withdrawal. The withdrawal must be done **PRIOR** to the Last Day to Withdraw 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 advisor to determine class withdrawal deadlines. If you plan to discuss withdrawal options with an advisor or your professor, then please allow at least a 24-hour response time when communicating via email or telephone*. If you do not withdraw before the deadline, you will receive the grade that you are making in the class as your final grade*. The last day to withdraw 04/01/2019**
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

It is our shared responsibility to develop and maintain a positive learning environment for everyone. As your instructor, I take this responsibility very seriously and will inform members of the class if their behavior makes it difficult for him/her to carry out this task. As a fellow learner, you are to respect the learning needs of your classmates and assist your instructor achieve this critical goal.

Misuse of Electronic Devices in the Classroom

The use of electronic devices by students in the classroom is up to the discretion of the instructor. Any use of such devices for purposes other than student learning is strictly prohibited unless authorized as an appropriate ADA accommodation from the ADA Counselor.

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).

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	Susan Fife	SW Campus	713-718-7241	Stafford, Scarcella, N108
- Admin. Assistant	Tiffany Pham	SW Campus	713-718-7770	Stafford, Scarcella, N108
- Admin. Assistant	Christopher Cochran	SW Campus	713-718-2477	Stafford, Scarcella, N108
Math Assoc. Chair	Jaime Hernandez	CE Campus	713-718-7772	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	Marisol Montemayor	SE Campus	713-718-7153	Felix Morales Building, Rm 124
- Admin. Assistant	Carmen Vasquez	SE Campus	713-718-7056	Felix Morales Building, Rm 124
Dev. Math Assoc. Chair	Hien Nguyen	SE Campus	713-718-2440	Felix Morales Building, Rm 124
Dev. Math Assoc. Chair	Jack Hatton	NE Campus	713-718-2434	Northline Building, Room 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.