Mathematics  
HCC Central College  
Math 1324: Math for Business and Social Sciences  
CRN 10502 SS Fall 2018  
Class location: SAJC 249 | Meeting days: M/W 2:00 – 3:50PM  
3 hour lecture course / 48 hours per semester/ 12 weeks  
Textbook: Mathematics with Applications; 12th ed.; Margaret Lial, Thomas Hungerford, 
MyMathLb course ID: ariyaratna90636  
Instructor: Rajamanthri Ariyaratna  
Instructor Contact Information: raj.ariyaratna@hccs.edu; Phone: 713 718 6603  
Office location and hours: SAJAC Room 369: M/W 11:30 – 12:30 PM ; T/TH 11:00 AM – 12:30 PM  
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 0312 or its equivalent or meet TSI college-readiness standard for Mathematics.  
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.

### CALENDAR

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Units</th>
<th>Hours</th>
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<tbody>
<tr>
<td>2</td>
<td>2.1,2.2</td>
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<tr>
<td>3</td>
<td>3.4,3.7</td>
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<tr>
<td>4</td>
<td>4.1,4.3,4.4</td>
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<td>5</td>
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<td>6</td>
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<td>6</td>
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<tr>
<td>9</td>
<td>9.1-9.4</td>
<td>6</td>
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### Examinations

<table>
<thead>
<tr>
<th>Examination</th>
<th>Chapters</th>
<th>Date</th>
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<tbody>
<tr>
<td>1</td>
<td>2+3+4 (7 units)</td>
<td>10/08/2018</td>
</tr>
<tr>
<td>2</td>
<td>5+6 (8 units)</td>
<td>10/31/2018</td>
</tr>
<tr>
<td>3</td>
<td>7 (5 units)</td>
<td>11/14/2018</td>
</tr>
<tr>
<td>4</td>
<td>8+9 (9 units)</td>
<td>12/05/2018</td>
</tr>
<tr>
<td>Final Exam</td>
<td>5+6+7+8+9 (22 units)</td>
<td>12/12/2018</td>
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Instructional Methods

**Homework:**
The course is incorporated with MyMathLab and eagle online Canvas. There is a homework assignment in MYMathLab for every chapter unit in the syllabus. Each assignment has about 10 questions. You are strongly advised to do these assignments before each in-class chapter test. They are graded instantly and you can repeat them until you get the perfect score.

**Student Assignments**

Exams and Quizzes:
All the exams are given in class according to the schedule. They can be changed due to reasons beyond our control. All the quizzes are based on chapter units. They are given on Canvas (access is free). You must do them before the cutoff date and you can do them from your home computer.

**Assessments:** (Grading formula)

Course Average = 0.45(Chapter Test Avg.)+0.20(Quiz Avg)+0.1(MML HW Avg)+0.25(Final Exam)

= 45% of chapter test avg + 20% of Quiz Avg + 10% of MML homework avg + 25% of final

**Grading Scale**
90 - 100 = A; 80 - 89 = B; 70 - 79 = C; 60 - 69 = D; Below 60

**Calculator Policy:** Non-graphing scientific calculator is allowed.

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 |
| Southeast College | 713-718-7144 |
| Southwest College | 713-718-5910 |
| Adaptive Equipment/Assistive Technology | 713-718-6629 |
| 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 https://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 means 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 11/12/2018**

**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**

**Attendance:**

Daily attendance will be taken. Students are encouraged to attend the classes regularly. You should not miss a class unless it is beyond your control. Students are responsible for the class notes and the announcements (absence is not an excuse). You will be subjected to administrative withdrawal of the course for excessive absences (Must be less than or equal to 12.5%. See the student handbook). **The student will be dropped from the course after 6 hours of absences.**

**Classroom Maintenance**

Please try your best to keep the classroom clean. After your class move chairs up to the tables/keep the desk in orderly manner, and remove any papers from the table or chair. Do not write on the tables.

**Classroom Discipline**

All students are treated as adults and will be responsible for their actions. Kindly observe the following rules for proper progress of the class.

1. Please respect your neighbor’s right to learn in a quite atmosphere. Kindly refrain from all unwanted chattering and random irrelevant comments. You should actively involve in the lesson by taking notes and asking questions to clarify doubts.
2. Try your best to be in the class on time. If you have to come late for some reason, please enter the classroom as quietly as possible without disturbing others.
3. Please do not leave the classroom early. You are responsible for all the announcements I make in the class. If you have some reason to leave early, please do it as quickly and discretely as possible, but do not forget to inform me in advance.
4. The cell phone should be turned off and you are not allowed to listen (music) using during the class time.

**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**
You are expected to attend the classes regularly, and complete the assignments in a timely manner, in order to prepare for the unit exams.

Personal Communication Device Policy:

Resources:

Any student enrolled in Math 2412 at HCCS has access to the Academic Support Center where they may get additional help in understanding the theory or improving their skill. The Center is staffed with mathematics faculty and student assistants, and offers tutorial help. A Chapter Tests preparation video CD comes with the text. A Student's Solution Manual and MyMathLab are also available.

Free tutoring is available in room 385, San Jacinto building. 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 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.

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

<table>
<thead>
<tr>
<th>Chair of Math</th>
<th>Susan Fife</th>
<th>SW Campus</th>
<th>713-718-7241</th>
<th>Stafford, Scarcella, N108</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Admin. Assistant</td>
<td>Tiffany Pham</td>
<td>SW Campus</td>
<td>713-718-7770</td>
<td>Stafford, Scarcella, N108</td>
</tr>
<tr>
<td>- Admin. Assistant</td>
<td>Christopher Cochran</td>
<td>SW Campus</td>
<td>713-718-2477</td>
<td>Stafford, Scarcella, N108</td>
</tr>
<tr>
<td>Math Assoc. Chair</td>
<td>Jaime Hernandez</td>
<td>CE Campus</td>
<td>713-718-7772</td>
<td>San Jacinto Building, Rm 369</td>
</tr>
<tr>
<td>Math Assoc. Chair</td>
<td>Ernest Lowery</td>
<td>NW Campus</td>
<td>713-718-5512</td>
<td>Katy Campus Building, Rm 112</td>
</tr>
<tr>
<td>Math Assoc. Chair</td>
<td>Mahmoud Basharat</td>
<td>NE Campus</td>
<td>713-718-2438</td>
<td>Codwell Hall Rm 105</td>
</tr>
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<thead>
<tr>
<th>Chair of Dev. Math</th>
<th>Marisol Montemayor</th>
<th>SE Campus</th>
<th>713-718-7153</th>
<th>Felix Morales Building, Rm 124</th>
</tr>
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<tbody>
<tr>
<td>- Admin. Assistant</td>
<td>Carmen Vasquez</td>
<td>SE Campus</td>
<td>713-718-7056</td>
<td>Felix Morales Building, Rm 124</td>
</tr>
<tr>
<td>Dev. Math Assoc. Chair</td>
<td>Hien Nguyen</td>
<td>SE Campus</td>
<td>713-718-2440</td>
<td>Felix Morales Building, Rm 124</td>
</tr>
<tr>
<td>Dev. Math Assoc. Chair</td>
<td>Jack Hatton</td>
<td>NE Campus</td>
<td>713-718-2434</td>
<td>Northline Building, Room 321</td>
</tr>
</tbody>
</table>

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.