



## Mathematics HCC SW – West Loop Center

Math 1324: Finite Mathematics with Applications

CRN 81036 – Mini Spring/2014

Room C257 | 9 am – 12 pm | MTuWThF

3 hour lecture course / 48 hours per semester / 4 weeks

Textbook: Mathematics with Applications; 10th ed.; Lial, Margaret L

ISBN-13: 9780321334336

**Instructor:** Hien Nguyen

**Instructor Contact Information:** [Hient.nguyen@hccs.edu](mailto:Hient.nguyen@hccs.edu) | 713-718-2440

**Office location and hours:** 8:30 – 9:00 AM

### Course Description

MATH 1324: Finite Mathematics with Applications. A survey of finite mathematics and its application to problems of business and the natural and social sciences. Topics include set theory, probability, an introduction to matrices, linear programming, and an introduction to statistics.

### Prerequisites

A grade of C or better in Math 1314 or the equivalent.

### Course Goal

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

### Course Student Learning Outcomes (SLO):

1. Solve business / financial problems by the use of systems of equations, systems of inequalities, and matrices.
2. Formulate and solve linear programming problems by graphing and the Simplex Method.
3. Analyze information and make conclusions based on set data.
4. Comprehend, analyze, and synthesize statistical data in order to make predictions.

### Learning outcomes

Students will:

- 1.1 Be able to graph systems of linear equations in two variables.
- 1.2 Be able to solve systems of linear equations using Gauss-Jordan elimination.
- 1.3 Know how to add, subtract, and multiply matrices.
- 1.4 Be able to find the inverse of a square matrix.
- 1.5 Be able to graph systems of linear inequalities in two variables.
- 2.1 Know the graphical method for solving a linear programming problem.
- 2.2 Know the simplex method for solving standard maximization and standard minimization problems.
- 3.1 Be able to perform the basic set operations.
- 3.2 Be able to use the multiplication principle of counting.
- 3.3 Understand permutations and combinations.
- 3.4 Be able to use the basic counting techniques.
- 4.1 Understand conditional probability.
- 4.2 Be able to use Bayes' Formula.
- 4.3 Be able to find expected values.
- 4.4 Be able to find the standard deviation of a set of values.
- 4.5 Be able to find the binomial distribution and the normal distribution of a set of data.

## Student Assignments

### Major Exams

Three exams will be given. Each exam will cover material presented in class and in the textbook. If an exam is missed, it is to be replaced with the final exam score. All exams are multiple choice; four scantrons will be needed.

### Final Exam

The Final Exam is comprehensive and will be given on Wednesday, January 8 from 9 - 11 AM. Grades will be available on the HCCS website the following day.

### MyMathLab Homework

Homework will be completed using MyMathLab. An access code may be purchased in the bookstore or online at [www.coursecompass.com](http://www.coursecompass.com). After accessing the course, a class code will be needed. The courseID is **nguyen45564**. One homework grade will be dropped.

### Grading policy:

Exam 1	17%
Exam 2	17%
Exam 3	17%
Homework	24%
Final Exam	25%

**Grading formula:**  $\text{Final average} = 0.24(\text{HW avg.}) + 0.51(\text{Exam Avg.}) + 0.25(\text{Final exam})$

## HCC Policy Statement - ADA

### Services to Students with Disabilities

Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the Disability Services Office at his or her respective college at the beginning of each semester. Faculty members are authorized to provide only the accommodations requested by the Disability Support Services Office. Persons needing accommodations due to a documented disability should contact the ADA counselor for their college as soon as possible. For questions, please contact Donna Price at 713.718.5165. To visit the ADA Web site, please visit [www.hccs.edu](http://www.hccs.edu) then click Future students, scroll down the page and click on the words Disability Information.

### 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 **MUST** contact a HCC counselor or your professor prior to withdrawing (dropping) the class for approval and this must be done **PRIOR** to the withdrawal deadline to receive a

“W” on your transcript. \*\*Final withdrawal deadlines vary each semester and/or depending on class length, please visit the online registration calendars, HCC schedule of classes and catalog, any HCC Registration Office, or any HCC counselor to determine class withdrawal deadlines. ***Remember to allow a 24-hour response time when communicating via email and/or telephone with a professor and/or counselor. Do not submit a request to discuss withdrawal options less than a day before the deadline.*** If you do not withdraw before the deadline, you will receive the grade that you are making in the class as your final grade. **The last day to withdraw 01/02/2014**

**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**

You are expected to behave like an adult. Your attitude in the classroom will affect your final class grade. The following are not allowed during class and will affect your final class grade negatively:

- 1) Talking
- 2) Texting
- 3) Leaving the classroom to answer your phone.
- 4) Walking-in late
- 5) Leaving early
- 6) Sleeping

**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

**Grading Scale**

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

**Personal Communication Device Policy:**

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

**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.

**Course Outline:** Instructors may find it preferable to cover the course topics in the order listed below. However, the instructor may choose to organize topics in any order, but all material must be covered.

<b>APPROXIMATE TIME</b>	<b>TEXT REFERENCE</b>
<b>UNIT I</b>	<b>Review (3 hours)</b> Introduction to the course 2.1 Graphs 2.2 Equations of Lines 2.4 Linear Inequalities
<b>UNIT II</b>	<b>Systems of Linear Equations (8 hours)</b> 6.1 Systems of Linear Equations 6.2 The Gauss-Jordan Method 6.3 Basic Matrix Operations 6.4 Matrix Products and Inverses 6.5 Applications of Matrices (Omit Code Theory and Routing)
<b>Exam 1</b>	<b>Covers chapter 2 and 6</b>
<b>UNIT III</b>	<b>Linear Programming (9 hours)</b> 7.1 Graphing Linear Inequalities in Two Variables 7.2 Linear Programming: The Graphical Method 7.3 Applications of Linear Programming 7.4 The Simplex Method: Maximization 7.5 Maximization Applications 7.6 The Simplex Method: Duality and Minimization
<b>UNIT IV</b>	<b>Sets and Probability (8.5 hours)</b> 8.1 Sets 8.2 Applications of Venn Diagrams
<b>Exam 2</b>	<b>Covers chapter 7 and 8.1-8.2</b>

- 8.3 Introduction to Probability
- 8.4 Basic Concepts of Probability
- 8.5 Conditional Probability and Independent Events

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**UNIT V      Counting, Probability Distributions, and Further Topics in Probability (7.5 hours)**

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

**Exam 3      Covers chapter 8 & 9**

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**UNIT VI      Introduction to Statistics (6 hours)**

- 10.1 Frequency Distributions and Measures of Central Tendency
- 10.2 Measures of Variance
- 10.3 Normal Distributions
- 10.4 Normal Approximation to the Binomial Distribution

**Final Exam      Comprehensive final exam covers chapter 2 – 10.**

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## To register for MATH 1324 MINI SPRING 2014:

1. Go to [pearsonmylabandmastering.com](http://pearsonmylabandmastering.com).
2. Under Register, click **Student**.
3. Enter your instructor's course ID: [nguyen45564](#), and click **Continue**.
4. Sign in with an existing Pearson account or create an account:
  - If you have used a Pearson website (for example, MyITLab, Mastering, MyMathLab, or MyPsychLab), enter your Pearson username and password. Click **Sign in**.
  - If you do not have a Pearson account, click **Create**. Write down your new Pearson username and password to help you remember them.
5. Select an option to access your instructor's online course:
  - Use the access code that came with your textbook or that you purchased separately from the bookstore.
  - Buy access using a credit card or PayPal.
  - If available, get 14 days of temporary access. (Look for a link near the bottom of the page.)
6. Click **Go To Your Course** on the Confirmation page. Under MyLab & Mastering New Design on the left, click **MATH 1324 MINI SPRING 2014** to start your work.

## Retaking or continuing a course?

If you are retaking this course or enrolling in another course with the same book, be sure to use your existing Pearson username and password. You will not need to pay again.

## To sign in later:

1. Go to [pearsonmylabandmastering.com](http://pearsonmylabandmastering.com).
2. Click **Sign in**.
3. Enter your Pearson account username and password. Click **Sign in**.
4. Under MyLab & Mastering New Design on the left, click **MATH 1324 MINI SPRING 2014** to start your work.

## Additional Information

See **Students > Get Started** on the website for detailed instructions on registering with an access code, credit card, PayPal, or temporary access.