Math 1324.004 Business Mathematics  
Department of Mathematics & Statistics  
Spring 2020

A. COURSE INFORMATION

Course Number/Section: Math 1324.004  
Class Meetings Time: MWF 9:00 AM – 9:50 AM  
Class Location: CI - 112  
Course Website: www.bb9.tamucc.edu

B. INSTRUCTOR INFORMATION

Instructor: Dr. Nicolas Curiel, Jr.  
Office Location: CI - 314  
Office Hours: MWF (10:00 AM – 11:20 AM)  
Telephone: NA  
e-mail: nicolas.curiel@tamucc.edu  
Appointments: Scheduled in advance via e-mail

C. COURSE DESCRIPTION

The course continues the development of mathematical skills with problems in business, economics, and the social sciences. Part 1 includes the review of elementary/common linear algebraic functions, systems of linear equations, and matrices. Part 2 includes mathematics of finance (simple and compound interest, annuities, and amortization of loans); linear algebra (graphs of system of linear inequalities, and linear programming); sets and set operations; counting (permutations and combinations); and probability (sample space, conditional probability, Bayes’ formula, and expected value).

D. PREREQUISITES AND COREQUISITES

Prerequisites  
Math 1314 (College Algebra) or placement beyond Math 1314  
Corequisites  
None

E. TEXT AND OTHER SUPPLIES REQUIRED

Required Textbook(s)  
WebAssign access code. It’s available as a bundle with the textbook or separately as a standalone access code at the bookstore.

Optional Textbook(s) or Other References  
*Finite Mathematics for the Managerial, Life, and Social Sciences* – 12th edition, by Tan. When you purchase the access code, it includes an electronic version of the textbook. Therefore, you are not required to buy the hardcopy version of the textbook unless you prefer to do so.
A TI-83/ TI-84 plus or TI equivalent is required for the course. Other models may be used but will NOT be supported by the instructor.

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course’s student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below. By collecting data and sharing it with students on how well they are accomplishing these learning outcomes students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

By the end of this course, students should be able to:

1. Apply elementary linear functions, and systems of linear equations to solving real-world problems.
2. Apply basic matrix operations to solve application problems.
3. Solve mathematics of finance problems, including the computation of interest, annuities, and amortization of loans.
4. Use linear programming methods to solve real-world problems.
5. Use sets, set operations, and basic counting principles to build mathematical functions.
6. Demonstrate fundamental probability techniques and application of those techniques, including rules of probability, Bayes Theorem, and expected value, to solve problems.
7. Apply probability analyses to model applications to solve real-world problems.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

The instructional method is a combination of lectures and student activities. Students will be shown models of solutions and will work independently or in groups to demonstrate mastery. Students will use WebAssign independently to complete homework and quiz assignments. At the end of the semester, students will show competency by passing all assignments, tests, and the final exam with an overall score of 60% or better.

H. MAJOR COURSE REQUIREMENTS AND GRADING

Student learning outcomes, described in Section F, will be measured via progress on homework, quizzes, semester exams, and final exam. Every homework assignment must be completed by the due date, as shown in WebAssign. The final exam is comprehensive and is written by the Mathematics and Statistics Department. All students must take the final exam. I do expect you to remember all concepts that I teach as noted on this syllabus.
### ACTIVITY | % of FINAL GRADE
--- | ---
Three Semester Exams | 45
WA Homework | 20
WA Quizzes | 15
Final Exam (Comprehensive) | 20

Grades will be assigned according to the following scale.

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Percentage Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90% - 100%</td>
</tr>
<tr>
<td>B</td>
<td>80% - 89.99%</td>
</tr>
<tr>
<td>C</td>
<td>70% - 79.99%</td>
</tr>
<tr>
<td>D</td>
<td>60% - 69.99%</td>
</tr>
<tr>
<td>F</td>
<td>below 60%</td>
</tr>
</tbody>
</table>

I. COURSE CONTENT/SCHEDULE (Tentative)

<table>
<thead>
<tr>
<th>DATE (BY WEEK)</th>
<th>CONTENTS</th>
<th>TOPIC(S)</th>
<th>ASSIGNMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Syllabus discussion and Pre-algebra review (QUIZ 0). 1.R (1.1/1.2) Coordinate System and Straight Lines</td>
<td>Topic 1</td>
<td>QUIZ 0 WA HW</td>
</tr>
<tr>
<td>2</td>
<td>1.3 Linear Functions 1.4 Intersection of Straight Lines</td>
<td>Topic 1</td>
<td>WA HW</td>
</tr>
<tr>
<td>3</td>
<td>QUIZ 1 2.1 System of Linear Equations – Introduction 2.2 System of linear Equations – Unique Solutions</td>
<td>Topic 2</td>
<td>QUIZ 1 WA HW</td>
</tr>
<tr>
<td>4</td>
<td>2.4 Matrices: Basic Operations 2.5 Matrix Multiplication</td>
<td>Topic 2</td>
<td>WA HW</td>
</tr>
<tr>
<td>5</td>
<td>2.6 Inverse of a Square Matrix **EXAM 1 ** (1.1 – 2.6) QUIZ 2</td>
<td>Topic 2</td>
<td>WA HW QUIZ 2</td>
</tr>
<tr>
<td>6</td>
<td>5.1 Simple, and Compound Interest 5.2 Future Value of Annuity; Sinking Funds</td>
<td>Topic 3</td>
<td>WA HW</td>
</tr>
<tr>
<td>7</td>
<td>5.3 Present Value of an Annuity; Amortization **EXAM 2 ** (5.1 – 3.3) QUIZ 5</td>
<td>Topic 3</td>
<td>WA HW QUIZ 5</td>
</tr>
<tr>
<td>8</td>
<td>Spring Break</td>
<td></td>
<td></td>
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<tr>
<td>9</td>
<td>3.1 System of Linear Inequalities in Two Variables 3.2/3.3 Linear Programming in Two Dimensions: A Graphical Approach</td>
<td>Topic 4</td>
<td>WA HW</td>
</tr>
<tr>
<td>10</td>
<td><strong>EXAM 3</strong></td>
<td>Topic 4</td>
<td>QUIZ 3 WA HW</td>
</tr>
<tr>
<td>11</td>
<td>**EXAM 2 ** (5.1 – 3.3) 6.1 Sets and Set Operations</td>
<td>Topic 5</td>
<td>WA HW QUIZ 6</td>
</tr>
<tr>
<td>12</td>
<td>6.2/6.3 Basic Counting Principles 6.4 Permutations and Combinations <strong>EXAM 6</strong></td>
<td>Topic 5</td>
<td>WA HW</td>
</tr>
<tr>
<td>13</td>
<td>7.1/7.2 Sample Spaces, Events, and Probability 7.3/7.4 Unions, Intersections, and Complement of Events: Odds</td>
<td>Topic 6</td>
<td>WA HW</td>
</tr>
<tr>
<td></td>
<td>7.5/7.6 Conditional Probability, Intersection, and Independence; Bayes’ Formula</td>
<td>Topic 6</td>
<td>WA HW</td>
</tr>
</tbody>
</table>
14 8.1/8.2 Random Variable, Probability Distribution, and Expected Value Topic 7 WA HW
15 ****EXAM 3**** (6.1 - 8.2) Final Exam Review

FINAL EXAM – MONDAY – May 11th @ 8:00 AM

Note: Changes in this course schedule may be necessary and will be announced to the class by the Instructor. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.

J. CLASS POLICIES

Attendance/Tardiness
Attendance will be taken each class. Talking during class time and tardiness are often disruptive to the whole class and are not appreciated. If you are delayed and arrive late please do so quietly. Excessive tardiness, disruptive talking, disruptive behavior or performing activities not related to the class will be counted as absences. The instructor is NOT responsible for informing absent students what was covered in previous classes, homework or any other announcements.

Late Work and Make-up Exams
There will be no makeup for a missed semester exam, unless for special circumstances. There will be no makeup for a missed final exam. Final exam must be taken per schedule.

Extra Credit
If an extra credit work is assigned, or extra points are given, the total scores shall not exceed 100.

Cell Phone Use
Use of cell phone IS prohibited in all circumstances. Students using their cell phones in class will be asked to leave the class and will be counted as absent for that day. Cell phones should not be used as calculators.

Laptop/Tablet Use
Laptops, and Tablets ARE NOT allowed in the classroom during lectures and exams. Any use of cell phone or wireless device during an exam carries the presumption of cheating. A grade of ZERO will be awarded for that assignment for using a cell phone or wireless device.

Food in Class
Food and/or beverages are not allowed in class.

Participation
Students are required to participate in class discussions and problem solving. Students who are absent will not receive credit for participation.
Others

1. Students are expected to read the PowerPoint materials in Blackboard/WebAssign, view videos and other multimedia available in WebAssign, and work assignments before the due dates.

2. Homework and quizzes are assigned online regularly through WebAssign, which can be accessed through Blackboard (you need to buy an access code) and is due as specified. If you have problems accessing the system you have to let me know as soon as possible.

3. Three semester tests will be administered during class times. The dates will be announced in class. These dates may be changed with due notice announced during class time. Bring your own calculators. Calculators cannot be shared. Cell phones cannot be used as calculators.

4. The final exam will be comprehensive covering all material covered during the semester.

K. COLLEGE AND UNIVERSITY POLICIES

- Academic Integrity (University)
  University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade.

- Classroom/Professional Behavior
  Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

- Statement of Civility
  Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high-quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

- Deadline for Dropping a Course with a Grade of W (University)
  I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please consult with your academic advisor, the Financial Aid Office, and me, before you decide to drop this course. Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Please consult the Academic Calendar (http://www.tamucc.edu/academics/calendar/) for the last day to drop a course.
• **Grade Appeals (College of Science and Engineering)**
   As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at [http://www.tamucc.edu/provost/university_rules/index.html](http://www.tamucc.edu/provost/university_rules/index.html), and the College of Science and Engineering Grade Appeals webpage at [http://sci.tamucc.edu/students/GradeAppeal.html](http://sci.tamucc.edu/students/GradeAppeal.html). For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

• **Disability Services**
   The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116.

   If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

   [http://disabilityservices.tamucc.edu/](http://disabilityservices.tamucc.edu/)

• **Statement of Academic Continuity**
   In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

**L. OTHER INFORMATION**

• **Academic Advising**
   The College of Science & Engineering requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. Meetings are by appointment only; advisors do not take walk-ins. Please call or stop by the Advising Center to check availability and schedule an appointment. The College’s Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.
• Student Responsibilities

1. You are responsible for the information contained in the university ACADEMIC CALENDAR – 2020. You are responsible for dropping the class if needed.

2. You are responsible for contacting me, if you miss a due date.

3. You are responsible for seeking help from the Center for Academic Student Achievement (CASA), a private tutor, coming to my office hours, or attending a student study group; if you have difficulty with a skill and/or concept.

M. IMPORTANT DATES

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday, January 20th</td>
<td>MLK Holiday</td>
</tr>
<tr>
<td>Tuesday, January 21st</td>
<td>Classes begin</td>
</tr>
<tr>
<td>Tuesday, January 28th</td>
<td>Last day to late register or add a class</td>
</tr>
<tr>
<td>Monday-Friday, March 9th - 13th</td>
<td>Spring Break</td>
</tr>
<tr>
<td>Friday, April 10th</td>
<td>Last day to drop a class</td>
</tr>
<tr>
<td>Thursday, April 16th</td>
<td>Last day to apply for Spring graduation</td>
</tr>
<tr>
<td>Tuesday, May 5th</td>
<td>Last day to withdraw from the University</td>
</tr>
<tr>
<td>Wednesday, May 6th</td>
<td>Last Day of classes</td>
</tr>
<tr>
<td>Thursday, May 7th</td>
<td>Reading Day – No classes</td>
</tr>
<tr>
<td>Sunday, May 10th (End of Day)</td>
<td>Last Day to Submit Course Work</td>
</tr>
<tr>
<td>Monday, May 11th (8:00 AM - 10:30 AM)</td>
<td>Final Exam</td>
</tr>
</tbody>
</table>

GENERAL DISCLAIMER

I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.