MATH 1324.003
Department of Mathematics and Statistics
Spring 2016

A. COURSE INFORMATION
Course number/section: Math 1324.003
Class meeting time: MWF:1:00-1:50
Class location: CS115
Course Website: bb9.tamucc.edu

B. INSTRUCTOR INFORMATION
Instructor: Archana Krishnagiri
Office location: CI-351
Office hours: MW 10-10:50, 12-12:50, TTR:12:45-2:30
Telephone: 361-825-2430
Email: archana.krishnagiri@tamucc.edu
Appointments:

C. COURSE DESCRIPTION:
This course is designed specifically for students majoring in business. The course shows students how to apply the language of mathematics to business problems. The course will provide students with communication skills, creative problem solving skills, and the ability to work independently. The course is centered on two significant business problems and the tools.

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. Counts as the mathematics component of the University Core Curriculum. Prerequisite: MATH 1314 or placement beyond MATH 1314.

D. PREREQUISITES AND COREQUISITES:
MATH 1314 or placement beyond MATH 1314.

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

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:

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.

G. INSTRUCTIONAL METHODS AND ACTIVITIES:

Methods and activities for instruction include:
- Instructional presentation of new material and concepts,
- Class discussion and problem solving analysis using critical thinking techniques,
- Individual written assignments to enhance understanding of new concepts,
- Discovery method techniques supported by a graphing utility to view the effects of shifting and translation concepts on the functions,

H. MAJOR COURSE REQUIREMENTS AND GRADING

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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<tbody>
<tr>
<td>Exam 1</td>
<td>15%</td>
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<td>Exam 2</td>
<td>15%</td>
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<tr>
<td>Exam 3</td>
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<tr>
<td>Final Exam</td>
<td>25%</td>
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<tr>
<td>Homework</td>
<td>10%</td>
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<tr>
<td>Quizzes</td>
<td>20%</td>
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A = 90% – 100%
B = 80% - 89%
C = 70% - 79%
D = 60% - 69%
F = Below 60%
I. COURSE CONTENT/SCHEDULE:

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Work/Assignment</th>
<th>Spring 2016</th>
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<tbody>
<tr>
<td>1</td>
<td>Ch. 2 Quadratic functions, polynomial and rational functions, Ch. 2 Exponential and Logarithmic functions</td>
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<tr>
<td>3</td>
<td>Ch. 3 Simple, compound and continuous compound interest, Ch. 3 Future and Present value of an annuity and Test 1</td>
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<td>5</td>
<td>Ch. 4 Systems of Linear Equations and Matrices, Ch. 4 Inverse of a square matrix and matrix equations and system equations</td>
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<td>7</td>
<td>Ch. 5 Linear inequalities in two variables, Ch. 5 Linear programming</td>
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<td>10</td>
<td>Ch. 6 Maximization with mixed problem constraints, Ch. 6 Minimization with mixed problem constraints and Test 2</td>
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<tr>
<td>12</td>
<td>Ch. 7 Logic, Sets Basic Counting Principles, Permutation and Combinations, Ch. 8 Sample spaces, events, probability, Union, Intersection and complement of events</td>
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<tr>
<td>13</td>
<td>Ch. 8 Conditional probability, intersection and independence and Bayes’ formula</td>
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<tr>
<td>14</td>
<td>Ch. 8 Random variable, probability distribution, and expected value and Test 3, Final exam review and final exam</td>
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J. COURSE POLICIES

Attendance/Tardiness
1. I expect each student to attend all classes. Attendance is mandatory by Texas A&M University. Please save absences for emergencies.
2. If you are more than 15 minutes tardy you are considered absent.

Late Work and Make-up Exams
NO MAKEUPS WILL BE GIVEN FOR HOMEWORK OR QUIZZES.

No Make-up for final test

Extra Credit
NONE

Cell Phone Use
Cell phone must be turned off

Laptop Use
laptops, or any form of a new technology device is NOT allowed in the classroom during lecture and exam.

Missed Exam
No make-ups will be given without written evidence of an official University excused absence. For an absence to be considered excused, the student must notify his or her instructor in writing (acknowledged e-mail message is acceptable) prior to the date of absence if such notification is feasible. In cases where advance notification is not feasible (e.g. accident or emergency) the student must provide notification by the end of the second working day after the absence. In the case of illness or injury, students are required to obtain a confirmation note from a health care professional affirming date and time of a medical office visit regarding the illness or injury.
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.

- Student 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)
  The grade of W will be assigned to any student officially dropping a course. Please consult with the instructor before you decide to drop to be sure it is the best thing to do. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Should dropping the course be the best course of action, visit of the Office of the University Registrar for the Course Drop Form that must submitted. No student is eligible to receive a W without completing the official drop process by this deadline. 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, and the College of Science and Engineering Grade Appeals webpage at 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/

- 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 and appointment. The College’s Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.

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.