MATH 1324 - Mathematics for Business and Social Sciences
Department of Mathematics and Statistics
FALL 2017

A. COURSE INFORMATION

Course number/section: MATH-1324-006
Class meeting time: TR 12:30 – 1:45 PM
Class location: IH - 162
Course Website: www.bb9.tamucc.edu

B. INSTRUCTOR INFORMATION

Instructor: NENE COULIBALY
Office location: EN-314D
Office hours: MW 9:55 – 10:55 AM & T 9:30 - 12:30 PM
Telephone: 361-825-2219
E-mail: Nene.Coulibaly@tamucc.edu
Appointments: To schedule an appointment, please email me in advance.

C. COURSE DESCRIPTION

Catalog Course Description
Students will learn how the properties and language of mathematics can be used in business and real-world problem solving and understand the techniques and applications of finance problems, basic matrix operation, basic counting principles, and probability analysis in modeling real-world scenarios.

Extended Course Description
Topics include 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.

D. PREREQUISITES AND COREQUISITES

Prerequisites
Prerequisite: MATH 1314 or placement beyond MATH 1314.

Corequisites
None

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required Textbook(s)
MyLabsPlus access kit is required for homework. You will need to purchase an access code, either through the campus bookstore or directly from the publisher. I will discuss how you access and use MyLabsPlus during the first class meeting. An electronic version of the textbook, College Mathematics for Business, Economics, Life Sciences, and Social Sciences, 13th Edition by Barnett, is included inside the MyLabsPlus system.

Optional Textbook(s) or Other References
Supplies
A calculator is required for every homework, quiz and examination. A TI-83/84 calculator or similar is required.

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 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

- Presentation of new material and concepts.
- Class discussion and problem solving analysis using critical thinking techniques.
- Use of MyLabsPlus, which includes electronic copy of the book, videos, examples, and study hints.

H. MAJOR COURSE REQUIREMENTS AND GRADING

The student learning outcomes described in Section F will be measured via progress on homework, quizzes, semester exams and the final exam. Doing your homework and assignments will strengthen your performance on quizzes and exams. It is strongly recommended that you complete the MLP homework before the exam for that particular section. The final exam is comprehensive exam covering all materials learned during the semester.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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<tbody>
<tr>
<td>Three Semester Exams</td>
<td>45</td>
</tr>
<tr>
<td>MLP Homework</td>
<td>15</td>
</tr>
<tr>
<td>Quizzes</td>
<td>15</td>
</tr>
<tr>
<td>Final Exam</td>
<td>25</td>
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Grades will be assigned according to the following scale.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<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>
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## I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>DATE (BY WEEK)</th>
<th>CONTENTS</th>
<th>TOPIC(S)</th>
<th>ASSIGNMENTS</th>
</tr>
</thead>
</table>
| 1             | Syllabus discussion  
1.1 Straight Lines  
1.2 Linear Functions  
1.3 Intersection of Straight Lines | Topic 1 | MLP and Labs |
| 2             | 1.4 Linear Regression  
2.1 Systems of Linear Equations: Introduction | Topics 1 & 2 | MLP and Labs |
| 3             | 2.2 Applications of Systems of Linear Equations  
2.3 Introduction & Application of Matrices | Topic 2 | MLP and Labs |
| 4             | **EXAM 1***  
3.1 Linear and Systems of Linear inequality in two variables | Topic 3 | MLP and Labs |
| 5             | 3.2 Linear Programming in Two Dimensions: A Geometric Approach  
4.1 Simple Interest | Topics 3 & 4 | MLP and Labs |
| 6             | 4.2 Compound Interest  
Continuous Compound Interest | Topic 4 | MLP and Labs |
| 7             | 4.3 Future Value of an Annuity & Sinking Fund  
4.4 Present Value of an Annuity &Amortization | Topic 4 | MLP and Labs |
| 8             | 4.4 Present Value of an Annuity &Amortization | Topic 4 | MLP and Labs |
| 9             | 5.1 Sets & Sets Operations  
5.2 The Addition Principle | Topic 5 | MLP and Labs |
| 10            | **EXAM 2**  
5.3 The Multiplication Principle  
5.4 Permutations & Combinations | Topic 5 | MLP and Labs |
| 11            | 6.1 Sample Spaces, Events, and Probability  
6.2 Rules of Probability & Odds | Topic 6 | MLP and Labs |
| 12            | 6.3 Conditional Probability & Independent Events  
6.4 Bayes’ Formula | Topic 6 | MLP and Labs |
| 13            | 6.4 Bayes’ Formula | Topic 6 | MLP and Labs |
| **Thanksgiving Holidays** | | | |
| 14            | 7.1 Distributions of Random Variables  
7.2 Expected Value, Variance & Standard Deviation | Topic 7 | MLP and Labs |
| 15            | **EXAM 3***  
Final Review | No new material | MLP and Labs |
**Important Dates**

LABOR DAY, Monday, September 4th – NO CLASS

**Deadline for Dropping a Course with a Grade of W, Monday, November 27th**

THANKSGIVING HOLIDAY, Wednesday, November 22nd - 24th – NO CLASS

* Exam 1 – Thursday, September 21 – covers Topics 1 & 2

** Exam 2 – Tuesday, October 23 – covers Topics 3 & 4

*** Exam 3 – Tuesday, December 5th – covers Topics 5, 6, & 7

**** Final Exam – Tuesday December 12th @ 11 AM

MyLabsPlus due dates for homework and quizzes:
- Topic 1 September 18 @ 8:00 am
- Topic 2 September 25 @ 8:00 am
- Topic 3 October 2 @ 8:00 am
- Topic 4 October 23 @ 8:00 am
- Topic 5 November 6 @ 8:00 am
- Topic 6 & 7 December 4 @ 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. **COURSE POLICIES**

**Attendance/Tardiness**

Attendance will be taken each class and each absence after 3 times will result in one letter grade lower (5th absence will result in two-letter grade lower). Please save absences for emergencies. 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.

**Homework & Quizzes**

MyLabsPlus homework and quizzes will have a 20% penalty after the due date. There will be no makeup for a missed exam. Please see section below regarding the exams policy.

**Extra Credit**

If an extra credit work is assigned, or extra points are given, the total score should not exceed 100%. No points will be “saved” toward the next examination.

**Cell Phone Use**

Cell phone using is prohibited in any circumstances. Students using their cell phones in class will be ask to leave the class and will be counted as absent for that day.

**Laptop Use**

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

**Semester Exams and Final Exam**

- 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 and it cannot be shared. Cell phones cannot be used as calculators.
• The final exam will be a comprehensive examination over all materials covered during the semester. **Absolutely no early final examination, so make travel arrangements accordingly.** Without taking final exam, it will be an “F” for the semester grade regardless.

• There will be no makeup for a missed exam unless for special circumstances.

**Participation**
Students are encouraged to participate in class discussions and problem solving skills.

**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.

- **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.