MATH-1325
Business Calculus
Department of Mathematics and Statistics
FALL 2015

A. COURSE INFORMATION
   Course number/section: MATH-1325-003
   Class meeting time: MWF 11:00 – 11:50 AM
   Class location: CI-107
   Course Website: www.bb9.tamucc.edu

B. INSTRUCTOR INFORMATION
   Instructor: NENE COULIBALY
   Office location: EN-314D
   Office hours: W 1:00 – 4:00 PM & TR 11:00 – 12:00 PM
   Telephone: 361-825-2219
   E-mail: Nene.Coulibaly@tamucc.edu
   Appointments: To schedule an appointment, please email me in advance.

C. COURSE DESCRIPTION
   This class is intended to develop the fundamentals of calculus and optimization using technology. The topics to discuss include Graphing Functions, Trend Lines, Demand, Revenue, Cost and Profit, Differentiation (Rate of Change) and its applications, Using Solver, Integration (Area under the curve) and its applications, Normal Distributions, Simulating Normal Random Variables, Hospital Administration.

D. PREREQUISITES AND COREQUISITES
   Math 1324 Business Mathematics or placement into Math 1325.

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES
   MyLabsPlus access kit is required for homework and quizzes. You will need to purchase an access code, either through the campus bookstore or directly from the publisher. Historically, the publisher has been less expensive, I recommend checking both sources before buying. 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 quiz and examination. A TI-83/84 calculator or similar is recommended but not required (it may make this class more manageable).

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 calculus to solve business, economics, and social sciences problems.
2. Apply appropriate differentiation techniques to obtain derivatives of various functions, including logarithmic and exponential functions.
3. Solve application problems involving implicit differentiation and related rates.
4. Solve optimization problems with emphasis on business and social sciences applications.
5. Determine appropriate technique(s) of integration.
6. Integrate functions using the method of integration by parts or substitution, as appropriate.
7. Solve business, economics, and social sciences applications problems using integration techniques.

G. INSTRUCTIONAL METHODS AND ACTIVITIES
- 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,
- Use of MyLabsPlus which includes electronic copy of the book, videos, examples, and study hints.
H. MAJOR COURSE REQUIREMENTS AND GRADING

Final course standing will be based upon several Homework & Quizzes, four semester Exams (with the lowest one being dropped) and a Final Exam.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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<tbody>
<tr>
<td>Semester Exams</td>
<td>55</td>
</tr>
<tr>
<td>Quizzes</td>
<td>10</td>
</tr>
<tr>
<td>Homework</td>
<td>15</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20</td>
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Final grades will be assigned as follows

<table>
<thead>
<tr>
<th>Weighted average in %</th>
<th>LETTER GRADE</th>
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<tbody>
<tr>
<td>90 - 100</td>
<td>A</td>
</tr>
<tr>
<td>80 – 89.99</td>
<td>B</td>
</tr>
<tr>
<td>70 -79.99</td>
<td>C</td>
</tr>
<tr>
<td>60 – 69.99</td>
<td>D</td>
</tr>
<tr>
<td>Bellow 60</td>
<td>F</td>
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I. COURSE CONTENT/SCHEDULE

- See the class Blackboard page for more details.

  Suggested Chapter/ Topics for the Textbook

10.1 Introduction to Limits
10.2 Infinite Limits and Limits at Infinity
10.3 Continuity
10.4 The Derivative
10.5 Basic Differentiation Properties
10.6 Differentials
10.7 Marginal Analysis in Business and Economics
11.2 Derivatives of Exponential and Logarithmic Functions
11.3 Derivatives of Products and Quotients
11.4 The Chain Rule
11.5 Implicit Differentiation
11.6 Related Rates
12.1 First Derivative and Graphs
12.2 Second Derivative and Graphs
12.3 L’Hopital’s Rule
12.5 Absolute Maxima and Minima
12.6 Optimization
13.1 Antiderivatives and Indefinite Integrals
13.2 Integration by Substitution
13.3 Differential Equations; Growth and Decay
13.4 The Definite Integral
13.5 The Fundamental Theorem of Calculus
14.1 Area Between Curves
14.2 Applications in Business and Economics
14.3 Integration by Parts & 14.4 Other Integration Methods (Optional)
Supplemental Materials (Probability and Calculus) (Optional)

**Important Dates**

<table>
<thead>
<tr>
<th>DATE (BY DAY OR WEEK)</th>
<th>TOPIC</th>
<th>CHAPTER(S)</th>
<th>ASSIGNMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday Sept. 7\textsuperscript{th}</td>
<td>NO CLASS – LABOR DAY HOLIDAY</td>
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</tr>
<tr>
<td>Monday Sept. 21\textsuperscript{st}</td>
<td>Exam 1</td>
<td>Chapter 10 (All Sections)</td>
<td>See MyLabsPlus</td>
</tr>
<tr>
<td>Friday Oct. 9\textsuperscript{th}</td>
<td>Exam 2</td>
<td>Chapter 11 (All sections except 11.1)</td>
<td>See MyLabsPlus</td>
</tr>
<tr>
<td>Friday Oct. 30\textsuperscript{th}</td>
<td>Exam 3</td>
<td>Chapter 12 (All sections)</td>
<td>See MyLabsPlus</td>
</tr>
<tr>
<td>Friday Nov. 6\textsuperscript{th}</td>
<td>Deadline for Dropping a Course with a Grade of W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monday Nov. 16\textsuperscript{th}</td>
<td>Exam 4</td>
<td>Chapter 13 (All Sections)</td>
<td>See MyLabsPlus</td>
</tr>
<tr>
<td>Friday December 4\textsuperscript{rd} 11:00 – 1:30 PM</td>
<td>Final Exam</td>
<td>Comprehensive exam (covers all materials)</td>
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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. 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.

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.

Laptop Use
Students are welcome to use their laptops in class only if it is intended for learning purposes like log in to the class blackboard page, or mylabsplus website.

Missed Exam
There will be no makeup for a missed semester test unless for special circumstances.

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

Others
• Students are expected to read the PowerPoints materials in Blackboard, view videos and other multimedia available in MyLabsPlus, and work assignments before the due dates.
• Homework is assigned online regularly through MyLabsPlus that can be accessed at tamucc.mylabsplus.com (you need to buy an access code) and due as specified. Late homework will result a 20% deduction for every questions not done on time. If you have problems to access the system you have to let me know as soon as possible.
• There is an online quiz immediately after each chapter is finished.
• Two semester tests will be administered during class times. The dates will be announced in class and posted on Blackboard under class Schedule. 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 material 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.

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)
  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 the Office of the University Registrar for the Course Drop Form
that must be 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.
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I. **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.

• **Help:** CASA has many quality tutors to help you while you need someone beside my office hours. Welcome to visit those tutors at the second floor of library. Please find out their schedule first before you make a plan to go for this semester. I will be happy to work with you anytime during my office hours and also email me for your special needs. Good luck to everyone in the class.

**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.