MATH-1325.W01
Business Calculus
Department of Mathematics and Statistics
Summer 2015

A. COURSE INFORMATION
Course number/section: MATH-1325-W01
Class meeting time: ONLINE
Class location: ONLINE
Course Website: www.bb9.tamucc.edu

B. INSTRUCTOR INFORMATION
Instructor: Dr. Mufid Abudiab
Office location: CI 306
Office hours: By appointment ONLINE
Telephone: 361-825-2219
E-mail: mufid.abudiab@tamucc.edu

C. COURSE DESCRIPTION
This fully online course is taught via the Web at a distance and is available at http://Bb9.tamucc.edu. This class is intended to develop the fundamentals of calculus and optimization using technology. The topics to be discussed include Limits and the Derivative, Additional Derivative Topics, Graphing and Optimization, Integration, Additional Integration Topics, and Probability and Calculus.

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**

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**

Independent study and 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, three semester Exams, three Mini Projects and a Final Exam.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester Exams</td>
<td>40</td>
</tr>
<tr>
<td>Quizzes</td>
<td>15</td>
</tr>
<tr>
<td>Homework</td>
<td>15</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30</td>
</tr>
</tbody>
</table>

Final grades will be assigned as follows

<table>
<thead>
<tr>
<th>Weighted average in %</th>
<th>LETTER GRADE</th>
</tr>
</thead>
<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>
</tr>
</tbody>
</table>
I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>Date</th>
<th>Sections/ Chapter Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.1</td>
<td>Introduction to Limits &amp; 10.2 Infinite Limits and Limits at Infinity</td>
</tr>
<tr>
<td>10.3</td>
<td>Continuity</td>
</tr>
<tr>
<td>10.4</td>
<td>The Derivative</td>
</tr>
<tr>
<td>10.5</td>
<td>Basic Differentiation Properties</td>
</tr>
<tr>
<td>10.6</td>
<td>Differentials</td>
</tr>
<tr>
<td>10.7</td>
<td>Marginal Analysis in Business and Economics</td>
</tr>
<tr>
<td>11.2</td>
<td>Derivatives of Exponential and Logarithmic Functions</td>
</tr>
<tr>
<td>11.3</td>
<td>Derivatives of Products and Quotients</td>
</tr>
</tbody>
</table>

EXAM #1

| 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 |

EXAM #2

| 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 |

FINAL EXAM

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.
J. COLLEGE AND UNIVERSITY POLICIES

- **Academic Integrity (University)**
  It is expected that university students will demonstrate a high level of maturity, self-direction, and ability to manage their own affairs. Students are viewed as individuals who possess the qualities of worth, dignity, and the capacity for self-direction in personal behavior.
  See Full University Policy at:  
  [http://catalog.tamucc.edu/content.php?catoid=10&navoid=313#Academic_Integrity](http://catalog.tamucc.edu/content.php?catoid=10&navoid=313#Academic_Integrity)

- **Classroom/Professional Behavior**
  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 by **Friday, June 19th, 2015**. No student is eligible to receive a W without completing the official drop process by this deadline. Visit the Office of the University Registrar for the Course Drop Form that must be submitted. After **Friday, June 19th, 2015**, a student will not be allowed 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
Disability Services (DS) is the hub for coordinating services and accommodations to ensure accessibility and utilization of all programs for all Texas A&M University-Corpus Christi students with disabilities. Our services are designed to meet the unique educational needs of enrolled students with documented permanent or temporary disabilities. DS provides intake and consultation services to students seeking to register with our office. DS reviews an individual’s documentation of disability and assesses eligibility for services and the determination of reasonable accommodations. For more information visit the Disability Services Office at 116 Corpus Christi Hall or go to http://disabilityservices.tamucc.edu/

K. OTHER INFORMATION
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.

L. Related Issues
Online courses require time management and planning on your part. You cannot afford to get behind since many topics and assignments are based on the skills and products of previous assignments; there is no meaningful way to "cram.” Contact me if you are having any problems with assignments.
There is a reliance on technologies in this course that impacts the need to have assignments done on time. Having sufficient time to complete an assignment will be the responsibility of the student. It is also the student's responsibility to find solutions to technical problems with sufficient time to complete the required tasks. Do not wait until a due date is near to discover/report lack of access to software, inability to connect to a network, etc. While the instructor will help wherever possible, it is the students' responsibility to maintain his or her network. However, technical problems can originate on the TAMU-CC campus, in which case you will not be responsible to complete work that you cannot complete due to TAMU-CC network or software problems. You are responsible for contacting me as soon as you detect a problem so that we can arrange a way

Technical Support and Requirements
Blackboard Learning System Help: http://iol.tamucc.edu
“Help” At the bottom of the Blackboard Course Management Control Panel in the course menu on the left hand column of the course interface. Phone: Help Desk (361) 825-2825
Phone: (888) 883 – 1299

**Island Online Student Resources Webpage:**
[https://distance-education.tamucc.edu/student_resources.html](https://distance-education.tamucc.edu/student_resources.html)

**Getting Technical Help**
If you are having difficulties accessing course materials from your home computer, first let your instructor know, then contact the IOL Helpdesk at (361)825-2692 or submit a request via email to
[iol.support@tamucc.edu](mailto:iol.support@tamucc.edu)

**Technology Requirements**
To prepare your computer for using Blackboard 9.1, go to [https://iol.tamucc.edu/techreq.php](https://iol.tamucc.edu/techreq.php) for computer requirements.

- To view flash (.flv) files from sites such as You Tube, download the Flash player at [http://get.adobe.com/flashplayer/](http://get.adobe.com/flashplayer/)

**Navigating Blackboard 9.1**
Once you are in the course, read the “Announcements” on the home page. Check this each time you enter your course. You will see a Course Menu on the left of the page. The menu is a list of links that connect to materials and tools associated with the course. Blackboard has several features and tools for communicating content delivery that you should use almost daily. Links to information about how to use these tools include: Bb Help, which contains a complete guide to learning how to use the many tools and features in Blackboard, and Bb Video Tutorials, which links to a page with videos to show you how to do tasks such as submitting an assignment.

**Online Course Guidelines**
Students will practice respect and responsibility as a part of this learning community. Here are some things you can do to exhibit an attitude of respect and responsibility:

- Reach out through email Blackboard Messages, and Discussions, to support each other. If you have good info/tips on what is working for you/resource ideas, please share with your classmate so we can help each other out.
Respect other classmates by watching what you say.

Add your opinions to/participate in the discussions.

Check the assignments every week. Don’t wait until the last minute.

Be helpful to other students

Don't get behind. If you get behind in an online course it is harder to get back on track than it is in a traditional course.

Stay focused and stay connected.

Keep up with your assignments and your grades. It is not the teacher's responsibility to tell you what you have or haven't turned in. Your grades will be available in Blackboard so all you have to do is regularly check to make sure you have grades posted for all work.

In general terms, students are expected to "demonstrate a high level of maturity, self-direction and ability to manage their own affairs" and to "conduct themselves in accordance with the highest standards of academic honesty." Instances of plagiarism will be handled in accordance with Texas A&M University-Corpus Christi General Academic Policies and Regulations as listed in the current catalog.

Delivery of instructor feedback –

During the week (exclude weekends), Instructor response to online requests usually occurs within a 24-hour period, but you can expect a response within 2 days.

Student login expectations –

Students are required to login often – once every day at a minimum. It is recommended that students check daily for announcements and updates.

Faculty availability to support students –

I maintain a consistent web presence and am available to meet online in the Blackboard asynchronous or synchronous environment or via phone.

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.