University of North Texas at Dallas
Spring 2015
SYLLABUS

MATH 1190D - 090: Business Calculus 3Hrs			
Department of	Mathematics and Information Sciences	**Division of**	Mathematics
Instructor Name:	*Dr. Johnny M. Moore*		
Office Location:	*TBA*		
Office Phone:	*TBA*		
Email Address:			
Office Hours:	***Office Hours*** ***Mon**. 6:50pm-7:50pm* ***Wed. 6:50pm-7:50pm***		
Virtual Office Hours:	*email*		
Classroom Location:	***DAL1 Room #308***		
Class Meeting Days & Times:	***Monday, Wednesday 05:30pm - 06:50pm***		
Course Catalog Description:	Differential and integral calculus with emphasis on applications to business. **Additional Description:** This course is designed for students in majors other than the natural sciences, especially business and economics. It introduces the basic concepts of differential and integral calculus and their applications to algebraic, exponential, and logarithmic functions that occur in economics and marketing situations. This course does not satisfy degree requirements for mathematics, science, or engineering majors, nor does it satisfy the prerequisite for MATH 1720 Calculus II. Students will not receive credit for both Calculus I and Business Calculus. Business Calculus includes the major ideas of calculus, but does not cover all topics in as much depth as Calculus I. Business Calculus emphasizes concepts and applications of calculus to the business world. Calculus I includes all of the topics in Business Calculus and requires a trigonometry or pre-calculus prerequisite. Business Calculus is also recommended for humanities and social science students planning to take the GRE.		
Prerequisites:	Two years of high school algebra and consent of department; or MATH 1100 or MATH 1180 with grade of C or better.		
Co-requisites:	N/A		
Required Text:	• the title and edition of the book: Applied Calculus, 4th edition • the author(s): Hughes-Hallett, Gleason, Lock, Flath, et al. • the publisher: John WILEY & Sons, Inc. • the ISBN: 978-0-470-17052-6 http://he-cda.wiley.com/WileyCDA/HigherEdTitle/productCd-0470170522.html • Supplements of the book: ***WileyPLUS*** **A suggestion about how to save money on purchasing a text book** use Student Information flyer for WileyPLUS distributed in class (check also BlackBoard Learn under the Getting Started folder for the flyer)		

	to purchase a WileyPLUS code for the course. [Then, use the URL link [**http://edugen.wileyplus.com/edugen/class/cls404701/**] **to enroll yourself in the WileyPLUS account for the course.]** Once you enroll yourself to the WileyPLUS, you can reach the electronic version of the textbook, so you do not have to purchase a hard copy of the text book. On your WileyPLUS account the *eBook* is printable.
Required Homework Assignment Service	*WileyPLUS is* online teaching and learning environment which integrates the entire digital textbook with the most effective student resources to fit every learning style. http://catalog.wileyplus.com/Section/Applied-Calculus-4th-Edition.id-402639.html
Access to Learning Resources:	UNT Dallas Library: phone: (972) 780-3625; web: http://www.unt.edu/unt-dallas/library.htm UNT Dallas Bookstore: phone: (972) 780-3652; e-mail: 1012mgr@fheg.follett.com UNT Dallas **Mathematics Lab**: DAL#1, 3rd floor

Core Objectives:

This course addresses the core objectives of **critical thinking skills, communication skills**, and **empirical and quantitative skills**

Core Objective 1: Critical Thinking
To include creative thinking, innovation, inquiry, analysis, evaluation, and synthesis of information.
Student Learning Outcomes Students will:

1. Explain a given problem, question, or issue;
2. Evaluate the logic and validity of arguments, and the relevance of data and information; and
3. Use investigative and analytical thinking skills to examine alternatives, explore complex questions, and solve challenging problems.

Core Objective 2: Communication Skills
To include effective development, interpretation and expression of ideas through written, oral, and visual communication.

Goal 1: Written Communication Student Learning Outcomes Students will:

1. Demonstrate an understanding of context, audience, purpose, and disciplinary conventions;
2. Demonstrate content development to convey understanding of ideas;
3. Demonstrate use of sources and evidence to support ideas; and
4. Use language that skillfully communicates meaning to readers.

Goal 2: Oral Communication
Student Learning Outcomes Students will:

1. Articulate a central message using supporting material (explanations, examples, illustrations, statistics, analogies, and quotations from relevant authorities);
2. Demonstrate an organized presentation structure to support ideas; and
3. Demonstrates effective verbal and nonverbal delivery.

	Goal 3: Visual Communication **Student Learning Outcomes Students will:** **1.** Present information in a clear and purposeful way that is clear to the audience. 2. Demonstrate command of visual conventions. 3. Present material using effective word choices in a clear and meaningful manner.
Learning Course Objectives/Outcomes: At the end of this course, the student will	
1	Define and describe the derivative algebraically, graphically, and contextually.
2	Approximate the derivative from a formula, table, or graph.
3	Interpret the meaning of the derivative in real-world contexts.
4	Compute the formula of the derivative of functions involving algebraic, exponential, and logarithmic functions.
5	Use first and second derivatives to describe graphs of functions and to describe real-world phenomena.
6	Apply differential calculus to real-world problem solving including optimization, marginal profit, and marginal cost.
7	Define and describe the definite integral of a function algebraically, graphically, and contextually.
8	Approximate the definite integral from a formula, table, or graph.
9	Interpret the meaning of the definite integrals in real-world contexts.
10	Compute the formulas for anti-derivatives of functions involving algebraic, exponential, and logarithmic functions.
11	Use the Fundamental Theorem of Calculus to evaluate definite integrals.
12	Apply integral calculus to real-world problem solving including areas, average value, consumer and producer surplus, present and future value, and probability.
General Education Outcomes: At the end of this course, the student will	
1a	Explore mathematics.
1b	Make connections between different areas of knowledge and different ways of knowing.
1c	Be able to locate, evaluate and organize information including the use of information technologies.
1d	Think critically and creatively, learning to apply different systems of analysis.
2a	Develop problem solving skills that incorporate multiple viewpoints and differing contexts in their analysis.
2b	Cultivate intellectual curiosity and self-responsibility, building a foundation for life-long learning.

Course Outline

Major Course Topics:

A. Functions and Change

B. Limits*

C. Definition and Interpretation of the Derivative

D. Shortcuts to Differentiation

E. Applications of Differentiation

F. Definition and Interpretation of the Definite Integral

G. Fundamental Theorem of Calculus

H. Applications of Integration

I. Finding and Applying Anti-derivatives

This schedule is subject to change by the instructor. Any changes to this schedule will be communicated by email and in-class announcements.

	Monday	Wednesday	Topics
Week #1 **Jan. 21**			Syllabus, Chapter 1. Functions and Change (sections 1.1 & 1.2)
Week #2 **Jan. 26 & Jan 28**			Chapter 1. Functions and Change (sections 1.2, & 1.3) Chapter 1. Functions and Change (sections 1.3, & 1.4)
Week 3 **Feb 2 & Feb 4**		Quiz	Chapter 1. Functions and Change (sections 1.4, 1.5, & 1.6) Chapter 2. Rates of Change: The Derivative (sections 2.1, 2.2)
Week 4 **Feb 9 & Feb 11**			Chapter 2. Rates of Change: The Derivative (sections 2.1, 2.2) Chapter 2. Rates of Change: The Derivative (sections 2.3, 2.4, & 2.5)
Week 5 **Feb 16 & Feb 18**		Quiz	Chapter 2. Rates of Change: The Derivative (sections 2.3, 2.4, & 2.5)
Week 6 **Feb 23 & Feb 25**		Quiz	Chapter 3. Short-Cuts to Differentiation (sections 3.1 & 3.2) Chapter 3. Short-Cuts to Differentiation (sections 3.3 & 3.4)
Week 7 **Mar 2 & Mar 4**	*Practice Review for Exam #1 & Quiz*	**Exam #1**	*Practice Review for Exam #1*
Week 8 **Mar 9 & Mar 11**			Chapter 3. Short-Cuts to Differentiation (sections 3.3 & 3.4) Chapter 3. Short-Cuts to Differentiation (section 3.4 & 3.5)
Week 9 **Mar 16 & Mar 18**	**SPRING BREAK**	**SPRING BREAK**	
Week 10 **Mar 23 & Mar 25**			Chapter 3. Short-Cuts to Differentiation (section 3.4 & 3.5)
Week 11 **Mar 30 & Apr 1**		Quiz	Chapter 4. Using the Derivatives (sections 4.1, 4.2)
Week 12 **Apr 6 & Apr 8**		Quiz	Chapter 5. Accumulated Change: The Defined Integral (sections 4.3, 4.4, and 4.5)
Week 13 **Apr 13 & Apr 15**		Quiz	Chapter 5. Accumulated Change: The Defined Integral (sections 5.1 & 5.3) Chapter 5. Accumulated Change: The Defined Integral (section 5.4 & 5.5)
Week 14 **Apr 20 & Apr 22**	*Practice Review for Exam #2 & Quiz*	**Exam #2**	*Practice Review for Exam #2*
Week 15 **Apr 27 & Apr 29**			Chapter 6. Using The Defined Integral (section 6.1, 6.2, 6.3, & 6.4)
Week 16 **May 4 & May 6**	Quiz	*Practice Review for the Final Exam*	Chapter 6. Using The Defined Integral (sections 6.1, 6.2, 6.3, & 6.4) *Practice Review for the Final Exam*
	Final Exam: **Monday, May 11, 2015 5:00-7:00pm**		

Course Evaluation Methods

This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course.

Exams – (***Two Mid-term Exams & a comprehensive Final Exam.)*** There will be two Mid-term exams. You will have a full class period (80 minutes) to complete each. The date for each exam is pointed in the schedule. See Make-up Policy section for more information on the Exams.

Final Exam (in class) *Comprehensive Final Exam.* The schedule for the quizzes, tests and exams is above. Absolutely NO MAKE – UPS

Final Exam: Monday, May 11, 2015 5:00 – 7:00 pm

In-class Quizzes – In-class Quizzes will be hold at the first 10 minutes of the Mondays' or Wednesday's class. The dates for each quiz are pointed on the schedule above. **There will be no make-ups for any missed in-class quizzes. Instead, at the end of the semester only the highest seven in-class quizzes will be considered.**

- **In some of the in-class quizzes in order to satisfy Core Objective 1 (Critical Thinking) some quizzes will have a question in which a student will explain a given problem or question, evaluate the logic and validity of arguments, and the relevance of data and information; and use investigative and analytical thinking skills to examine alternatives, explore complex questions, and solve challenging problems**

Grading Matrix:

The following grading matrix for Math 1190D-090 course of Spring 2014 presents how your total score is going to be calculated at the end of the semester for Math 1190. All the grading instruments are assigned between the first day of class (01/21/2015) of Spring 2015 semester and last day of class (05/06/2015) of Spring 2015 semester. The Final exam is the last grading instrument of the course. The student's grade is determined solely by his/her performance on the evaluation criteria and the grade assignments listed above. *Do not expect Extra Credit assignments!*

Instrument	Value (points or percentages)	Total
In-class Quizzes	The best 7 in-class quizzes at 10 points each	70
Mid-term Exams	2 Mid-term exams at 100 points each	200
Final Exam	One comprehensive final exam at 100 points	100
Total:		**370**

Grade Determination:

A = 370 – 333 pts; i.e. 90% or better
B = 296 – 332 pts; i.e. 80 – 89 %
C = 259 – 295 pts; i.e. 70 – 79 %
D = 222 – 258 pts; i.e. 60 – 69 %
F = 221 pts or below; i.e. less than 60%

Calculator Policy: A graphing calculator is required. The TI-84 or TI-83 (plus, silver, any edition) is recommended, and is sufficient for all course requirements. The TI-89, TI-92, or Voyage 2000 will not be allowed on exams. The only calculator programs allowed are those I give out during class. All other programs must be erased from the calculator. Using a calculator that is not approved or having programs (or notes) on the calculator will be considered a case of Scholastic Dishonesty and will be dealt with in that manner.

Formula sheet: Students are not allowed to use any type of formula sheet during any quizzes and exams.

University Policies and Procedures

Students with Disabilities (ADA Compliance):
The University of North Texas Dallas faculty is committed to complying with the Americans with Disabilities Act (ADA). Students' with documented disabilities are responsible for informing faculty of their needs for reasonable accommodations and providing written authorized documentation. Grades assigned before an accommodation is provided will not be changed as accommodations are not retroactive. For more information, you may visit the Student Life Office, Suite 200, Building 2 or call 972-780-3632.

Student Evaluation of Teaching Effectiveness Policy:
The Student Evaluation of Teaching Effectiveness (SETE) is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider the SETE to be an important part of your participation in this class.

Assignment Policy:
There will be no make-ups for any missed in-class quizzes. Instead, at the end of the semester only the highest seven in-class quizzes will be considered.

Exam Policy:
Exams should be taken as scheduled. No makeup examinations will be allowed except for documented emergencies (See Student Handbook). Specifically, in the case of injury or illness, you need to provide a note from a health care professional affirming date and time of a medical office visit regarding the injury or illness and stating that you should not be in class that day. You must notify me no later than the end of the second working day after the missed exam.

Academic Integrity:
Academic integrity is a hallmark of higher education. You are expected to abide by the University's code of Academic Integrity policy. Any person suspected of academic dishonesty (i.e., cheating or plagiarism) will be handled in accordance with the University's policies and procedures. Refer to the Student Code of Academic Integrity at http://www.unt.edu/unt-dallas/policies/Chapter%2007%20Student%20Affairs,%20Education,%20and%20Funding/7.002%20Code%20of%20Academic_Integrity.pdf for complete provisions of this code. In addition, all academic work submitted for this class, including exams, papers, and written assignments should include the following statement: **On my honor, I have not given, nor received, nor witnessed any unauthorized assistance that violates the UNTD Academic Integrity Policy.**

Bad Weather Policy:
On those days that present severe weather and driving conditions, a decision may be made to close the campus. In case of inclement weather, call UNT Dallas Campuses main voicemail number (972) 780-3600 or search postings on the campus website www.unt.edu/dallas. Students are encouraged to update their Eagle Alert contact information, so they will receive this information automatically.

***Attendance and Participation Policy**:*
The University attendance policy is in effect for this course. Class attendance and participation is expected because the class is designed as a shared learning experience and because essential information not in the textbook will be discussed in class. The dynamic and intensive nature of this course makes it impossible for students to make-up or to receive credit for missed classes. Attendance and participation in all class meetings is essential to the integration of course material and your ability to demonstrate proficiency. Students are responsible to notify the instructor if they are missing class and for what reason. Students are also responsible to make up any work covered in class. It is recommended that each student coordinate with a student colleague to obtain a copy of the class notes, if they are absent. ***Excessive absences (more than 3 classes) may result in being dropped from the course or receiving a WF for the course.***

For security measures *once a student signs an attendance sheet she/he cannot leave the class without professor's permission.*

- *If a student needs to leave the class earlier she/he should talk to the professor before the class; the student should leave the classroom quietly.*
- *If a student has to leave the class (for example in case of a family emergency or a similar situation) the student must invite the professor politely out of the classroom to explain the situation.*

Diversity/Tolerance Policy:

Students are encouraged to contribute their perspectives and insights to class discussions. However, offensive & inappropriate language (swearing) and remarks offensive to others of particular nationalities, ethnic groups, sexual preferences, religious groups, genders, or other ascribed statuses will not be tolerated. Disruptions which violate the Code of Student Conduct will be referred to the Center for Student Rights and Responsibilities as the instructor deems appropriate.

Copyright Policy:

The handouts used in this course are copyrighted. By "handouts," I mean all materials generated for this course, which include but are not limited to syllabi, lecture notes, quizzes, exams, in-class materials, review sheets, projects, and problems sets. Because these materials are copyrighted, you do not have the right to copy and distribute the handouts, unless I expressly grant permission.

Other Policy:

Classroom Etiquette:

Appropriate behavior is expected of all students taking this course.

- *Arrive to class promptly and do not leave until the scheduled ending time of the class.*
- *If you must arrive late or leave early, please do so as discreetly as possible and take a seat near the door.*
- *Turn off all non-medical electronic devices such as pagers, cell phones, laptops, etc. Take off the headphones.*
- *Do not read newspaper or work on unrelated assignments during class.*
- *I prefer that you not eat during class.*

Grade Assignment:

The student course grade is assigned according to the evaluation criteria and grading assignment stated on this syllabus.

- *The grade is completely objective and is determined solely by student performance on each of the evaluation criteria (in-term exams, in-class quizzes, on-line quizzes, and the final exam).*
- ***Do not expect extra credit work or bonus grade assignments.***

Student Behavior:

Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT.

- *Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Student Life Center to consider whether the student's conduct violated the Code of Student Conduct.*
- *The university's expectations for student conduct apply to all instructional forums, including university and electronic classroom, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at http://dallas.unt.edu/sites/default/files/page_level2/pdf/policy/7.001%20Code%20of%20Student%20Rights%20Responsibilities%20and%20Conduct.pdf*

Fall 2014 Important Deadlines

Date	Deadline
January 21	Classes Begin.
February 2	Census.
February 3	Beginning this date a student who wishes to drop a course must first receive written consent of the instructor.
March 2	Last day for student to receive automatic grade of W for nonattendance. Last day for change in pass/no pass status. Last day to drop a course or withdraw from the semester with a grade of W for courses that the student is not passing. After this date, a grade of WF may be recorded.
March 3	Beginning this date instructors may drop students with a grade of WF for nonattendance.
April 7	Last day to drop with either W or WF. Last day for a student to drop a course with consent of the instructor.
April 20	Beginning this date, a student who qualifies may request an Incomplete, with a grade of I.
April 24	Last day to withdraw (drop all classes). Last day for an instructor to drop a student with a grade of WF for nonattendance.
May 8	Reading Day (no classes).
May 9 - 15	Final Exams.
May 15	Last Day of Term.