University of North Texas at Dallas
Spring 2016
SYLLABUS

MATH 1190: Business Calculus 3Hrs

Department of	Mathematics and Information Sciences	Division of Mathematics
Instructor Name:	Ms. Hanan Kuzat	
Office Location:	Adjunct Faculty office, DAL2-3rd Floor	
Email Address:	Hanan.Kuzat@untdallas.edu	
Office Hours:	TR:7:00-8:00 PM	
Classroom Location and time:	TR: 5:30-6:50am in DAL2-242	

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
- Supplements of the book: **WileyPLUS;** www.wileyplus.com
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 www.wileyplus.com/class/477458 **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.

Week	Tuesday	Thursday	Topic
Week # 1 1/19			Syllabus, BlackBoard, & WileyPLUS presentation Chapter 1. Functions and Change (sections 1.1, 1.2, & 1.3)
Week # 2 1/26		Quiz	(sections 1.4, 1.5, & 1.6)
Week # 3 2/2			Chapter 2. Rates of Change: The Derivative (sections 2.1, 2.2)
Week # 4 2/9		Quiz	(sections 2.3, 2.4, & 2.5)
Week # 5 2/16			Chapter 3. Short-Cuts to Differentiation (sections 3.1 & 3.2)
Week # 6 2/23		Quiz	(sections 3.3 & 3.4)
Week # 7 2/30			(section 3.4 & 3.5)
Week # 8 3/8	Practice Review Quiz	Midterm Exam	Practice Review for Midterm Exam
Spring Break **3/14 – 3/18**	**Spring Breack**	**Spring Breack**	
Week # 9 3/22	Quiz	Project Lecture	Chapter 4. Using the Derivatives (sections 4.1, 4.2, 4.3) Project Lecture
Week # 10 3/29		Quiz	(sections 4.4 &4.5)
Week # 11 4/5		5.3	Chapter 5. Accumulated Change: The Defined Integral (sections 5.1 & 5.3)
Week # 12 4/12		Quiz	(sections 5.4 & 5.5)
Week # 13 4/19	Project Due		Chapter 6. Using The Defined Integral (section 6.1& 6.2) The due date for project submission is **Tuesday April 19th, 2015**
Week # 14 4/20		Quiz	(section 6.3 & 6.4)
Week # 15 11/30-12/2 5/3		Practice Review for the Final Exam	Practice Review for the Final Exam
5/10/2015	**Final Exam: Monday, May 12, 2016 Time: 5:00PM – 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**
<div align="center">Final Exam : Monday, December 07, 2015, Time: TBA</div>

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.

Chapter Online Homework Assignments (from WileyPlus):
There is an online supplement to your textbook called WileyPLUS (For guidance go to 'WileyPLUS Registration' link which is under 'Getting Started' folder on your course home page in your Business Calculus course Blackboard account). There will be an online homework assignment in WileyPlus for each chapter covered in the course. It will contain problems from each section and they will be labeled with their section numbers. You will have an unlimited number of attempts to complete an assignment by the due date given and your highest grade will be recorded. **The Class section URL is** www.wileyplus.com/class/477458 Completing Online Chapter Homework Assignments is a necessary pre-condition for taking an upcoming Mid-Term exam. The Chapter Online Homework Assignments is to be included in calculating the course total score. Please, take a look at the Grading Matrix below.
- Each Homework Assignment will include at least 10 problems which will have students exercise more on combining two or more concepts and use them to solve those real-world problems.
- Each Homework Assignment will include at least 10 problems that will have students exercise on how to combine two or more different methods then use them to solve these homework problems.
- An introductory lecture will be presented about the graphical and mathematical (algebraic) representation of a function and/or data set and how to extract information from those representations. There will be at least three graphical and analytical questions assigned to each chapter homework to have students practice and learn these methods more effectively.
- Each Homework Assignment will include at least three challenging calculus problems.

Course Project:
In order to meet the Core Objective 2 (Communication Skills: to include effective development, interpretation and expression of ideas through written, oral, and visual communication,) each student will complete a project during the Fall 2015 semester. The project questions will be announced (you can see the project questions list from the BlackBoard). You are strongly advised to work on your project seriously.

Doing a mathematical project not only will it enable you to test your understanding of the material you saw in class - you will understand mathematics through trying, failing, and eventually succeeding in solving a math problem. When you work on your project, first try to do it by yourself. After that, you may discuss it with others. You will learn from talking about mathematics. However, do not copy any solutions from any internet sources or from others. You are supposed to understand the problem (either through own research or discussion) and then formulate the solution in your own words.

Discussing a project with a classmate (or your instructor), understanding it, and then formulating it in your own words are allowed. Copying a solution from others is NOT allowed. The due date for all projects submission is November 14th 2015. The project worth 70 points for the semester.

- An example of a project will be presented in the class and the difference between a project question and a homework assignment question will be emphasized. Written guidance on better writing and presenting a project will be given.

Grading Matrix

The following grading matrix for Math 1190 course of Fall 2015 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 (08/24/2015) of Fall 2015 semester and last day of class (12/07/2015) of Fall 2014 semester. The Final exam is the last grading instrument of the course; the date of the Final Exam is Final Exam: Monday, December 7, 2015, time: TBA. 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 and Online Quizzes	The best 10 in-class quizzes at 18 points each	180
On-line HW Assignments	10 assignments at 10 points each	100
Course project	One project for the semester at 70 points	70
Mid-term Exams	one mid-term exams at 200 each	400
Final Exam	One comprehensive final exam at 250 points	250
Total		1000

Grade Determination:

A = 900 – 1000 pts; i.e. 90% or better / **B** = 800 – 899 pts; i.e. 80 – 89 % / **C** = 700 – 799 pts; i.e. 70 – 79 % / **D** = 600 – 699 pts; i.e. 60 – 69 % / **F** = 599 pts or below; i.e. less than 60%

Email Policy: Use your **Blackboard** email account to contact me. You should check your email account on the Blackboard every day. You are responsible for any information that I send out via email. Due to privacy rights, I will not discuss grades over the phone. I will only answer emails from your **Blackboard** account.

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/untdallas/policies/Chapter%2007%20Student%20Affairs,%20Education,%20and%20Funding/7.002%20Code%20of%20Acade mic_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%20 Student%20Rights %20Responsibilities%20and%20Conduct.pdf

Spring 2016 Important Deadlines

Registration begins	Friday, October 16
• Last Day for Regular Registration	Thursday, January 14
• Late Registration Deadline If you register, or add, during late registration, payment is due the same day you register. ***Students will be charged a $50 late fee.***	Wednesday, January 20
Spring 2016 - 1st 8-Week Term (including final exams)	
• Classes Begin	Tuesday, January 19
• Census Day	Tuesday, January 26
• Classes End	Friday, March 11
Spring 2016 - 2nd 8 Week Term (including final exams)	
• Classes Begin	Monday, March 21
• Census Day	Monday, March 28
• Classes End	Friday, May 13
Spring 2016 - Full Term	
• Classes Begin	Tuesday, January 19
Last Day to Add	Friday, January 22

• Census Day	Wednesday, February 3
Drop and Withdrawal Deadlines	
• Last Day to Drop a Class without a W	Wednesday, February 3
• Last Day to Request Pass/No Pass Course Status	Friday, February 26
• Last day to withdraw from a course with a grade of W *(Written Consent of Instructor Required)*	Friday, April 8
• Last day a student may withdraw from all classes for the semester	Friday, April 22
Midterm Exams	**Monday, March 7 – Friday, March 11**
• Midterm Grades Due/Viewable Online (Midterm grades are submitted online)	Saturday, March 19
Last Day of Classes	**Thursday, May 5**
Reading Day (Study day prior to final exams)	**Friday, May 6**
Final Exams	**Monday, May 9 – Friday, May 13**
University Closings/No Classes	
• Martin Luther King Day	Monday, January 18
• Spring Break	Monday, March 14 – Sunday, March 20