MATH 1100-070
BUSINESS CALCULUS
SPRING 2018 SYLLABUS

INSTRUCTOR: John Nordstrom, Associate Instructor, Continuing Education

TIME & PLACE: MW 5:30 PM-07:00 PM – Room 107 Sandy Campus
10011 Centennial Parkway, Suite 100, Sandy, UT 84070, 801-587-2520

TEXT: *Mathematical Applications for the Management, Life and Social Sciences*, 8th Edition, by Harshbarger & Reynolds

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OFFICE HOURS: Being adjunct faculty, I don't have a University office; not having an office, I don't have office hours. I generally try to be available both before and after class to answer any questions you have. I can also be reached by any of following methods (email is preferred):

    Phone: 801-918-3974   (between 9:00 AM and 9:00 PM)
    Email: nordstro@math.utah.edu   (anytime) *Note the missing 'm' in my name!*
    Website: Canvas

PREREQUISITES: At least a C grade in Math1090 (Business Algebra) OR Math1050 (College Algebra) OR in Math1080 (Precalculus) OR Math1210 (Calculus 1) OR an Accuplacer score of 80 on the College Level Math (CLM) test OR at least an ACT Math score of 28 OR at least SAT Math score of 630.

COURSE DESCRIPTION: Differentiation, maximization and minimization of functions, marginal analysis and the optimization of constrained functions, integration and applications. Not for students who have completed more than one semester of calculus.

EXPECTED LEARNING OUTCOMES: Upon successful completion of this course, a student should be able to:

- Have a basic conceptual understanding of limits.
- Know how to differentiate and integrate polynomial, rational, logarithmic, and exponential functions.
- Use derivatives to gather information about the shape of the curve and use that information to graph the curve $y = f(x)$, for polynomial, logarithmic, exponential and simple rational functions.
- Understand how to use differentiation to optimize functions for business applications, such as maximizing profit examples.
- Use integration to find area under curves and for business examples such as average value.
- Take partial derivatives of basic functions of two variables.

COURSE STRUCTURE: The class schedule lists this class as being a lecture course, and that is true as far as it goes. But like any mathematics course, this course will require your active participation to be effective. You will have to do much of the heavy lifting yourself,

both in and out of class. You are expected to do the assigned homework, not for any points you might earn, but because:

> You *learn* math by *doing* math.

We will spend the first part of every class going over questions from the homework; if you haven't done the homework you won't know what questions to ask. I will expect you to be active participants in the class, working problems and asking questions.

Please don't be afraid to ask questions, either in or out of class. If there is something you do not understand, you can be assured there are other students who are also lost and will appreciate your question.

APPROXIMATE GRADING:

Daily Questions:	5%
Homework:	10%
Weekly Quizzes:	10%
Three Midterms:	45%
Comprehensive Final:	30%

Please note that this is the *approximate* weight given to each of the components you will be graded on. In particular, I typically give more weight to your final if you do particularly well on it. I will weigh the best of your three midterms at 20% of your grade, your next best at 15%, and your worst at 10%.

My grading scale is the standard one as follows:

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E
>93%	90-93%	87-90%	83-87%	80-83%	77-80%	73-77%	70-73%	67-70%	63-67%	60-63%	<60%

I find that I rarely need to curve grades. If I find I need to I will simply shift the scale by a point or two. Note that you must receive at least a 50% or higher on the final exam to receive a grade of 'C' or better for the course.

Note that unusual circumstances may dictate that we deviate from either the planned number of tests, or the grading and scoring guidelines as described. Any changes will be announced and discussed in class.

TESTING:

There will be three one-hour midterms and a comprehensive two-hour final exam. These tests will be taken in class on the days listed in the Exam Schedule at the end of this syllabus. As mentioned above, the midterms will be weighted so that your best midterm counts for more of your grade than your worst. Don't count on this weighting to dramatically change your grade; at most it can improve a student's grade by 1/3 of a letter grade, and often not even that. You really need to aim to do your best on all of the midterms.

WEEKLY QUIZZES:

There will be a total of 14 weekly online Canvas quizzes, which means you'll have a quiz every week of classes, even test weeks. The weekly quiz will cover the material presented that week in class. The quizzes will open on Wednesdays at 5:00 a.m. and close on Sundays at 11:59 p.m. The quizzes will be timed, so you need to complete them in one sitting. **Your lowest two quiz scores will be dropped**.

HOMEWORK:

I will be assigning a lot of homework, but only completely grading a small portion of it. I will collect homework on Monday of each week. This will include all of the homework assigned from both days of the previous week. The homework assigned from each day will be worth 10 points. Your homework score is divided into two parts:

- You will earn up to 5 points for attempting every problem, including showing work. I will not be grading for correctness for this half of the homework grade, so it is your responsibility to understand the problems and their solutions.
- The other 5 points will be given for complete and correct solutions for a few problems from each homework set. You will not know ahead of time which problems will be graded for correctness.

The reasoning behind grading the homework in this manner is to motivate you to do the homework. There is absolutely no way that you can master this material without doing the homework. I cannot emphasize it enough:

> You *learn* math by *doing* math.

I will accept up to 10 late homework *days*, up to two weeks late, throughout the semester for full credit (remember, each time you are turning in homework on Monday, you are turning homework from two days).

DAILY QUESTIONS: If the portion of your grade from homework is designed to motivate you to do the homework, the daily questions are designed to motivate you to attend class. These will be questions will be given throughout the lecture to encourage you to pay attention to the material being presented. There is no fixed amount of problems that will be given on any particular day. There will be no chance for making up missed problems.

CALCULATORS: You may find it helpful to have a graphing calculator for your own personal use. However, if I allow calculators on exams or quizzes, I will only allow scientific calculators (no graphing or programmable calculators will be allowed ever). Most of the time, you will not have use of a calculator on exams and quizzes. This will be discussed more in class with each quiz and test.

ONLINE GRADES: I will put your scores online in Canvas. I do my best to update the grades on a regular basis and keep everything accurate. However, I would advise you to check your grades often to make sure there were no data entry mistakes. I'm always happy to correct any mistakes I've made. You just need to let me know. Please realize that while Canvas is pretty good at giving you an average of how you are doing, it always just presenting you with a snapshot of your scores up to that point in time. Each exam, especially the final, can cause major shifts in how you are doing.

If you are new to Canvas, please let me know and I can assist you in logging onto the system.

GETTING HELP: You may find that you need some extra help beyond what the class can provide. The math department has a free tutoring center located on campus in the T. Benny Rushing Mathematics Center (www.math.utah.edu/ugrad/tutoring.html). For more personalized attention, the ASUU Tutoring Center (www.sa.utah.edu/tutoring) provides both individual and group tutoring at reasonable rates.

RESPONSIBILITIES: All students are expected to maintain professional behavior in the classroom setting, according to the Student Code, spelled out in the Student Handbook. You have specific rights in the classroom as detailed in Article III of the Code. The Code also specifies proscribed conduct (Article XI) that involves cheating on

tests, collusion, fraud, theft, etc. Students should read the Code carefully and know you are responsible for the content. According to Faculty Rules and Regulations, it is the faculty responsibility to enforce responsible classroom behaviors, beginning with verbal warnings and progressing to dismissal from class and a failing grade. Students have the right to appeal such action to the Student Behavior Committee.

All students are expected to maintain adult and professional behavior in the classroom. Please respect your classmates by not engaging in distracting behavior, such as:

- excessive talking with your friends (even about math);
- using your phone for <u>anything</u> (voice, text, camera, games…);
- playing with other toys (electronic or otherwise);
- eating and drinking (particularly noisy food);
- talking with your friends (there is a reason this bullet is repeated).

ACCOMMODATION: The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Union Building, 581-5020 (V/TDD). CDS will work with you and me to make arrangements for accommodations. All information in this course can be made available in alternative format with prior notification to CDA.

If you have any special needs or requests, please let me know. There is a good chance that we find a solution that meets your needs. Please let me know, discreetly, if you have any sort of phobia, anxiety disorder, TBI, PTSD, C-PTSD, or other challenge that would cause psychological harm to be called on in class. While I want students to feel mentally stretched during class, especially while working on problems as a large group, I definitely don't want to cause any human being harm. So, please tell me if that is the case for you and I will confidentially accommodate your request.

CLASSROOM SOCIAL EQUITY: I strive to be ethical, kind, fair, inclusive, and respectful in my classroom and expect students to behave similarly. Please let me know if there is a name you prefer to be called by. Likewise, please inform me of whichever pronouns you prefer me to use for you. I will put great effort into honoring your request and ask that you correct me if I do happen to make a mistake.

I would greatly appreciate if you would let me know if I inadvertently offend you in any way. I will take corrective action immediately. While I want this semester to be a challenging semester, I do not want it to be a painful semester for anyone.

COURSE OUTLINE: The following is a brief outline of the topics that will be covered in this class.

Chapter 9 (9.1 – 9.9)	Derivatives
Midterm 1	
Chapter 10 (10.1 – 10.5)	Application of Derivatives
Chapter 11 (11.1 – 11.5)	Derivatives Continued
Midterm 2	
Chapter 12 (12.1 – 12.4)	Indefinite Integrals
Chapter 13 (13.1 – 13.4, 13.7)	Definite Integrals
Midterm 3	
Chapter 14 (14.1 – 14.2)	Functions of Two or More Variables
Final	

If time permits, we might also cover section 13.6.

IMPORTANT DATES: Be sure to consult the official Academic Calendar for other important dates and to make sure there are no changes from these dates.

First class ....Monday, January 8

Martin Luther King Jr. Day (no class)...Monday, January 15

Last day to add/drop ....Friday, January 19

Presidents' Day (no class) ....Monday, February 19

Last day to withdraw ....Friday, March 2

Spring Break (no class)..........................March 18 – 25

Last class..Monday, April 23

EXAM SCHEDULE: Please note that the dates for the midterms is somewhat tentative. There is a good chance that these dates may change slightly.

Midterm 1 ....Wednesday, February 7

Midterm 2 ....Wednesday, March 7

Midterm 3 ....Wednesday, April 11

Final (comprehensive) ....Monday, April 30
(from 6:00 – 8:00 PM)