Multivariable Calculus I (Math 272) — Winter, 2012

Location and Time: 11:00-11:50 am, MTWThF, 210 Bouillon

Instructor: Dr. Dan Curtis

Office: 107a Bouillon

Office Hours: MTWThF 10:00-10:50 am and 1:00-1:50 pm. Actually, you can come by my office at any time and, unless I am occupied, I will be happy to talk with you.

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Final Exam: Wednesday, March 14, 8:00-10:00 am

Textbook: **Thomas' Calculus: Early Transcendentals** by G. B. Thomas, et al, Eleventh Edition. **The textbook is required.**

Calculator: A graphing calculator will be useful for this course. Some more advanced calculators can now do both differentiation and integration. However, in this course you will learn methods for doing things by hand and will have to do them by hand on exams.

Course Content: The course will cover material from chapters 11, 12, 13, and 14 of the text. You should read the book. The examples in the text will supplement those given in class and the discussion and examples given in the text will provide reinforcement for material presented in class.

Classwork and Homework: You are expected to attend class daily. **Homework** will be assigned but not graded. Some time will be available during class to discuss the homework problems and your instructor is available during office hours. Use will be made of graphing calculators during class, on homework, and on exams (but note the comment made above).

Course Prerequisites: Calculus I and II are formal prerequisites for this course. You must know the basic rules for differentiation: sum rule, product rule, quotient rule and chain rule. You also need to know the basic techniques of integration, including substitution, integration by parts and the basics of improper integrals.

Learner Outcomes: Upon successful completion of this course, the student will be able to:

- explain what is meant by convergence of a sequence and of an infinite series;
- identify a series as being geometric decide whether such a series converges;
- compute the sum of a convergent geometric series;
- use vectors in two and three dimensions and use them to give vector equations for lines and planes.
- describe motion of a particle in two or three dimensions using vector parametric representation.
- compute and interpret the meaning of partial derivatives of functions of several variables;
- compute the gradient of a function and use it to understand behavior of a function at a point.
- find and classify critical points of a function of two variables;

Grading: Your course grade will be determined by the following:

1. Three 100-point in-class exams counting for up to 300 points.
2. A comprehensive final exam worth 100 points.

A perfect score on each of the above categories would result in a total of 400 points. Your course grade will be determined by the percentage p of these points you earn, according the following scale.

$90 \le p$	A	$65 \le p < 77.5$	C
$89 \le p < 90$	A-	$64 \le p < 65$	C-
$87.5 \le p < 89$	B+	$62.5 \le p < 64$	D+
$80 \le p < 87.5$	B	$50 \le p < 62.5$	D
$79 \le p < 80$	B-	$p < 50$	F
$77.5 \le p < 79$	C+		

Note: If you must miss an exam you should let me know in advance. If there is a compelling reason for missing the exam a makeup may be given. (Desire to take a vacation during the quarter is <u>not</u> a compelling reason!)

Class Schedule (46 class days)

Date	Class Activity	Date	Class Activity
01/02		02/13	
01/03		02/14	
01/04	Classes begin	02/15	
01/05		02/16	
01/06		02/17	
01/09		02/20	HOLIDAY: Presidents Day
01/10		02/21	
01/11		02/22	
01/12		02/23	
01/13		02/24	
01/16	HOLIDAY: MLK Day	02/27	
01/17		02/28	
01/18		02/29	
01/19		03/01	
01/20	Exam 1	03/02	Exam 3
01/23		03/05	
01/24		03/06	
01/25		03/07	
01/26		03/08	
01/27		03/09	Last day of classes
01/30		03/12	Prof. Dev./ Student Study Day
01/31		03/13	
02/01		03/14	Final Exam (8:00-10:00 am)
02/02		03/15	
02/03		03/16	
02/06			
02/07			
02/08			
02/09			
02/10	Exam 2		