

# Multivariable Calculus I (Math 272) — Spring, 2011

**Location and Time:** 9:00-9:50 am, MTThF, 106 Bouillon; W, 103 Bouillon

**Instructor:** Dr. Dan Curtis

**Office:** 107a Bouillon

**Office Hours:** MTWThF 11:00-11:50 am. Actually, you can come by my office at any time and, unless I am occupied, I will be happy to talk with you.

**CWU e-mail:** curtiswd@cwu.edu

**Web Page:** [www.cwu.edu/~curtiswd](http://www.cwu.edu/~curtiswd)

**Final Exam:** Thursday, June 9, 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.

**Mathematica Lab:** You will be learning how to do certain calculations which are part of this course using the *Mathematica* software package in the Bu103 computer lab. Software like Mathematica can facilitate calculations which are difficult to do by hand and can allow effective visualization of results.

**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:

- discuss the concept of definite integral and basic properties of integrals;
- discuss how integrals can be approximated by Riemann sums and by other numerical approximation schemes;
- formulate and solve problems involving the various interpretations of the integral as displacement, area, volume, work, density, center of mass, probability distributions and densities;
- use the concept of antiderivative and apply it to solving problems;
- use the Fundamental Theorem of Calculus
- use analytical methods for constructing antiderivatives, including integration by parts, various substitution methods, and the method of partial fractions;

**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.

$90 \leq p$	A	$65 \leq p < 77.5$	C
$89 \leq p < 90$	A-	$64 \leq p < 65$	C-
$87.5 \leq p < 89$	B+	$62.5 \leq p < 64$	D+
$80 \leq p < 87.5$	B	$50 \leq p < 62.5$	D
$79 \leq p < 80$	B-	$p < 50$	F
$77.5 \leq p < 79$	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 not a compelling reason!)

**Class Schedule (47 class days)**

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