

THE UNIVERSITY OF AKRON
The Department of Theoretical and Applied Mathematics

3450:223

Calculus III

Fall 2005

Prerequisites: 3450:222

Course Description: Prerequisites: 3450:222. Vector algebra, cylindrical, spherical coordinates, vector-valued functions, curvature; functions of several variables, limit, continuity, partial derivatives, differentials, directional derivatives, maxima and minima, multiple integrals, Divergence Theorem.

Text: Calculus, Fifth Edition, by James Stewart.

Instructor: Dr. D. P. Story

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Class Format: Informal combination of lecture and problem solving.

Grading: The course grade is based on 550 points, **Grading Scale:** Grades will be assigned according to the following percentages:

3 tests @ 100 pts each	= 300 pts	A: 90–100%
Quizzes	= 50 pts	B: 80– 89%
Homework	= 50 pts	C: 70– 79%
Final Examination	= 150 pts	D: 60– 69%
Total	= 550 pts	F: 0– 59%

Homework: Homework problems will be of two types: (1) exercises from the textbook that should be routinely done to practice mechanical skills and to reinforce basic concepts; (2) homework problems to be handed in for credit. At least for the problems of type (2), it is *expected* that each student do his or her own homework; *discussing* ideas with fellow students is permitted, but copying solutions is *not*.

Quizzes: Each friday, with some exceptions, a 10 point quiz will be given over the topics discussed during the week.

Other Policies:

1. Make-up of a test will only be given to those students that have a valid excuse. *You must have a letter from a person in authority: medical doctor, lawyer, judge, etc.*
2. Plus/minus grades will be given on the final grade sheet to those students who are close to grade cutoffs.
3. Final week to process withdrawals is November 14-18, 2005. For more info on withdrawal dates, go to <http://www.uakron.edu/registrar/>, and click on the **Dates** link in the left margin.

Tentative Course Outline:

Test	Sections Covered
#1	13.1–13.7; 14.1–14.4
#2	15.1–15.8
#3	16.1–16.6
Final	Part A (100 pts) 16.7–16.9; 17.1 - 17.9 (as time permits) Part B (50 pts) Comprehensive Review

The following are regular exercises that should be done on a daily basis. The problems illustrate the ideas and techniques of the course, and reinforce your mathematical skills.

Test #1				Test #3			
#	Section	Page	Exercises	#	Section	Page	Exercises
1	13.1	833	3-21(O)	22	16.1	1026	11,13
2	13.2	841	5-27(O)	23	16.2	1030	1-17(O)
3	13.3	848	3-9(O); 15-33(O)	24	16.2		23-29(O)
4	13.3	848	35-43(O)	25	16.3	1038	1,5; 7-17(O)
5	13.4	856	1-9(O); 15; 25-29(O)	26	16.3		19-25(O); 33-43(O)
6	13.5	865	3-9(O); 9,11,15,17	27	16.4	1044	7-13(O); 15,17; 19-23;
7	13.5	866	19-29(O); 35,37; 41,43; 49; 59, 61	28	16.5	1054	3,5,9,11
8	13.6	873	3,5,7; 9-19(O); 29-35(O)	27	16.6	1058	1,3,5,9,11
9	13.7	878	3-31(O); 49-55(O)				
10	14.1	891	3-19(O)	Test #4			
11	14.2	897	3-25(O)	#	Section	Page	Exercises
12	14.3	905	1,3; 9; 11-17(O); 21,23; 33,35	28	16.7	1066	3-35(O)
13	14.4	914	3-15(O); 29, 31	29	16.8	1073	1-23(O); 33,35
				30	16.9	1084	1-15(O); 19, 21
				31	17.1	1096	1,3,5;15,17;21,23
				32	17.2	1107	1-15(O); 19,21; 31; 39
				33	17.3	1117	3-9(O); 13-17(O);19,21
				34	17.4	1125	1,3; 7-13(O); 19
							and beyond ...
Test #2							
#	Section	Page	Exercises				
14	15.1	933	11-19(O); 23-27(O); 57,59				
15	15.2	944	5-19(O); 28,31				
16	15.3	955	11-21(O); 24; 31; 39, 41; 47; 55-61				
17	15.4	966	1,3,5; 11,13; 23,25,27; 31,33, 37				
18	15.5	974	1-11(O); 15,17; 19,21; 25-31(O)				
19	15.6	986	3-9(O);11,15,17; 21,23,25;31;37-41(O)				
20	15.7	997	5-13(O); 27-33(O); 37, 39, 45, 49				
21	15.8	1006	3-17(O);				