

MATH215: VECTOR CALCULUS – FALL 2006

Instructor: Dr. Harbir Lamba
Phone: 993 1489
E-mail: hlamba@gmu.edu (no Microsoft/WORD attachments please!)
Office: Science and Technology I, Room 239
Office Hours: Tuesday and Thursday 5.00–5.50 or by appointment.
Webpage: <http://math.gmu.edu/~harbir/m215/>

Textbook: James Stewart, *Thomas' Calculus, Early Transcendentals*, 11th edition, Addison-Wesley, 2006.

The Course: We will cover vectors and vector-valued functions, partial differentiation, multiple integrals, and surface integrals amongst other things. This material is the majority of Chapters 12–16.

Homework problems will be set after each class. See the attached sheet for a complete list of the homework questions for the semester. These will not be collected or graded but you are **STRONGLY** advised to study them and write out your solutions as if they would be. You are encouraged to discuss these problems amongst yourselves and to make use of the office hours. I will go through each homework in the following class and you will only benefit from this if you have attempted them properly beforehand.

The course will be evaluated with 3 (1 hour long) in-class exams on Tuesday September 19th, Thursday October 26th and Thursday November 30th. Your 2 best results (relative to the class average for that test) will each contribute 25% towards the evaluation and the remaining 50% will come from a (cumulative) final exam on Thursday December 14th. I shall explain the grading system in more detail in the first lecture. If you miss more than one of the in-class exams then you will need to provide very good (and well-documented) reasons for missing EACH of them. There will be no make-up tests or 'extra-credit' assignments. You are expected to abide by the University Honor Code and all suspected violations will be reported to the Honor Committee. No outside materials will be allowed during any of the examinations.

Chapter	Section	Homework Questions
Chapter 12	Vectors and the geometry of space	
	12.1	11,17,23,33,37,47
	12.2	7,11,13,23,29,39,45
	12.3	7,15,19,25,29,31,37,45,51
	12.4	9,13,21,27,31,33,37,43
	12.5	7,17,25,31,37,43,47,57
	12.6	17,23,27,33,39,43
Chapter 13	Vector-valued functions and motion in space	
	13.1	3,5,7,13,23,27,35,41,45
	13.2	3
	13.3	7,13,18
	13.4	3,5a,13
	13.5	7,11,17,18,19,23
Chapter 14	Partial derivatives	
	14.1	11,13–18,29,45
	14.2	9,13,19,29,33,41,45,59
	14.3	13,25,37,47,55,57,61,65,69
	14.4	5,9,25,29,35,39,47,49
	14.5	5,13,21,25,29
	14.6	9,13,23,31,37,47
	14.7	9,23,33,41,47,49
Chapter 15	Multiple integrals	
	15.1	9,13,23,29,33,43,65
	15.3	3,21,33,37
	15.4	15,21,25
	15.6	5,9,23,29,37
	15.7	3,7,15,17
Chapter 16	Integration in vector fields	
	16.1	7,15,21
	16.2	3,7,21,25,39
	16.3	5,9,17,25,31
	16.4	3,11,15,19,23,27,33,35,39
	16.5	7,17,25,39
	16.6	7,11,21,29,37,53
	16.7	3,7,15,22,23,24
	16.8	1–5,17,31