

VECTOR CALCULUS
MATH 21D
Fall Quarter, 2008

TEXT: *Thomas' Calculus: Early Transcendentals*, Weir, Hass, Giordano

INSTRUCTOR: Blake Temple, 3148 MSB, 752-2214

Lecture: MWF 8:00-8:50am, 1001 Giedt

Office Hours: MWF 1:30-2:30pm or by appt.

e-mail: temple@math.ucdavis.edu

Web Page: <http://www.math.ucdavis.edu/~temple/MAT21A/>

Midterm-I: Wednesday, October 22, (in class)

Midterm-II: Wednesday, November 19, (in class)

Final Exam: Thursday, December 11, 3:30-5:30pm

Lead TA: Brandon Barrette **Office:** 3137 MSB

bppbarrette@math.ucdavis.edu (Many nice things here!)

DISCUSSION SECTIONS:

A01: 184 Young, Tuesday 8:10-9:00pm, (CRN69486)

TA: Andrew Port: Off Hrs MW 1:30-3

A02: 2016 Haring, Tuesday 5:10-6:00pm, (CRN69487)

TA: Carlos Barrera-Rodriguez: Off Hrs W 9-12

A03: 2016 Haring, Tuesday 6:10-7:00pm, (CRN69488)

TA: Carlos Barrera-Rodriguez: Off Hrs W9-12

A04: 184 Young, Tuesday 7:10-8:00pm, (CRN69489)

TA: Andrew Port: Off Hrs MW 1:30-3

A05: 223 Olson, Tuesday 5:10-6:00pm, (CRN83748)

TA: Brandon Barrette: Off Hrs MTR 3-4

PREREQUISITE: MAT 21C

GRADING: Midterm-I=100pts, Midterm-II=100pts, Final =200pts, Total=400pts. Homework will not be collected, but there will be a weekly homework quiz in each Tuesday discussion section covering the homework assignment the preceding Wed, Fri, Mon. I will use the final total homework score to (at most) adjust a grade by a + or -, according to my judgement. Homework solutions will appear on my webpage following the Tuesday homework quiz.

COURSE OUTLINE: This course describes the calculus of functions whose inputs or outputs depend on more than one unknown. Chapter 15 covers multiple integration for scalar functions of two and three variables, with application to finding centers of mass and moments of inertia. Integration in polar, cylindrical and spherical coordinates will be covered, as well as the general formula for changing variables of integration. Chapters 13 and 16 cover vector valued functions. Applications include curves, line integrals, conservative vector fields, potential functions, Green's Theorem, the Divergence Theorem and Stokes Theorem. The latter four involve different ways to generalize the Fundamental Theorem of Calculus to vector valued functions.

****Note:** Due to overcrowding, you may ONLY attend the discussion section you are registered in. However, anyone not attending the discussion section may take the homework quiz on Tuesday between 3:00 and 4:30pm in room 3137 MSB.

REVISED-SYLLABUS/HOMEWORK ASSIGNMENT

DAY	SECTION	HOMEWORK
FR – Sept 26	Introduction/15.1	§15.1 : 1, 5, 7, 13, 17
MO – Sept 29	15.1	§15.1 : 23, 27, 33, 41, 51
WE – Oct 1	15.2	§15.2 : 3, 5, 11, 17, 21, 27, 29, 35
FR – Oct 3	15.3	§15.3 : 1, 7, 11, 19, 23, 25, 30
MO – Oct 6	15.3	§15.3 :
WE – Oct 8	15.4	§15.4 : 1, 7, 17, 23, 25, 29
FR – Oct 10	15.5	§15.5 : 3, 5, 13, 17
MO – Oct 13	15.6	§15.6 : 1, 3, 7, 11, 17
WE – Oct 15	15.6	§15.6 : 21, 33, 39, 59
FR – Oct 17	15.7	§15.7 : 1, 7, 15
MO – Oct 20	Review/Catch up	
WE – Oct 22	Midterm	
FR – Oct 24	13.1	§13.1 : 1, 5, 11, 21, 33
MO – Oct 27	13.3	§13.3 : 1, 5, 11, 15
WE – Oct 29	13.4	§13.4 : 1, 9, 11
FR – Oct 31	16.1	§16.1 : 1, 3, 9, 15, 19, 23
MO – Nov 3	16.2	§16.2 : 1, 3, 7, 15
WE – Nov 5	16.2	§16.2 : 17, 21, 25, 37
FR – Nov 7	16.3	§16.3 : 1, 3, 7, 9, 13, 19
MO – Nov 10	16.4	§16.4 : 1, 5, 7
WE – Nov 12	16.4	§16.4 : 15, 19, 21
FR – Nov 14	16.5	§16.5 : 1, 5, 9, 15
MO – Nov 17	16.5	§16.5 : 19, 23, 27
WE – Nov 19	Midterm	
FR – Nov 21	16.6	§16.6 : 9, 25, 31, 39
MO – Nov 24	16.7	§16.7 : 1, 5
WE – Nov 26	16.7	§16.7 : 9, 13, 17
FR – Nov 28	Thanksgiving	
MO – Dec 1	16.8	§16.8 : 1, 7
WE – Dec 3	16.8	§16.8 : 11, 15
FR – Dec 5	Review/Catch up	

(1)