Course Syllabus

Math Department website (http://math.berkeley.edu/courses/fall-2014-math-53-002-lec)

Prerequisites: 1B.

Syllabus: Parametric equations and polar coordinates. Vectors in 2- and 3-dimensional Euclidean spaces. Partial derivatives. Multiple integrals. Vector calculus. Theorems of Green, Gauss, and Stokes.

Office: 921 Evans

Office Hours: Wednesday 12-2

Required Text: James Stewart, **Multivariable Calculus, Early transcendentals for UC Berkeley** (http://calstudentstore.berkeley.edu/courselisting/index/loadMaterials)

Grading: There will be weekly quizzes, two midterms and a final

Homework: Homework will be assigned weekly, due Monday. GSIs (*Graduate Student Instructors*) will go

over the homework and answer questions about it in section.

Quizzes (20%): Wednesdays in section. Each quiz will consist of two problems from the homework

due the previous Monday.

Midterm 1 (20%): October 7, covering sections from Chapters 10, 12, 13, and 14 covered in lecture.

Midterm 2 (20%): November 18, covering sections from Chapters 15, 16.

Final (40%): December 18, 11:30 am - 2:30 pm. The final will be cumulative.

Grading policy: There will be no make-up quizzes or exams. If you need to miss a quiz

for a valid reason (letter from sports coach for student athletes, note from doctor for

illness, or family emergency), then notify the GSI ahead of time (if possible, or after in

the case of an emergency). The two lowest quiz scores will be dropped, except if

the quiz is missed for an unexcused absence. A missed midterm will count for zero, unless

a valid excuse is approved by the GSI, in which case the final score will replace the

missing midterm score.

Exam grades cannot be changed, unless there is an egregious error such as adding up points incorrectly.

(Please check as soon as you get your exam back: you must ask your GSI about any such error

immediately after the exam is returned during discussion to receive consideration; *if you ask later*

after taking the quiz or midterm away with you, your grade cannot be changed.)

If you don't understand *why* you lost points on a question, please ask; but

the *number* of points deducted cannot be changed, because we grade all the exams together according to

the same standards and regrading individual exams would be unfair to everyone else.

Solutions: Answers to questions will only receive credit if full work is shown.

You should write in grammatically complete sentences with plain English where appropriate,

in order to explain your work. Some questions will also require diagrams or

graphs for a complete answer. Correct answers without correct derivations or explanations
will only receive partial credit. If you have incorrect work, it should be crossed out.
Calculators will not be necessary for the quizzes and exams.

Sections: Activities during section will include worksheets, quizzes, homework discussion,
review for quizzes and exams, and discussion of solutions to quizzes and exams.

Disabled students requiring accommodations for exams must submit to the instructor a *"letter of
accommodation"* from the Disabled Students Program *at least two weeks in advance*. Due to delays in
processing, you are encouraged to contact the DSP office before the start of the semester.

Date	Topics	Book
Th 8/28	Parametric equations	§ 10.1, 10.2
Tu 9/2	Polar coordinates	§ 10.3, 10.4
Th 9/4	Vectors, dot product	§ 12.1, 12.2, 12.3
Tu 9/9	dot product, determinant, cross product	§ 12.3, 12.4
Th 9/11	Equations of lines and planes, quadrics	§ 12.5, 12.6
Tu 9/16	vector functions, derivatives	§ 13.1, 13.2
Th 9/18	Functions of several variables, limits, continuity	§ 14.1, 14.2
Tu 9/23	Partial derivatives, tangent planes	§ 14.3, 14.4
Th 9/25	Chain rule	§ 14.5
Tu 9/30	Gradient, directional derivative, Max-min problems	§ 14.6, 14.7
Th 10/2	Lagrange mulitpliers	§ 14.8
Tu 10/7	Midterm 1	
Th 10/9	Double integrals	§ 15.1, 15.2, 15.3
Tu 10/14	Double integrals in polar coordinates and applications	§ 15.4, 15.5
Th 10/16	Surface area	§ 15.6
Tu 10/21	Change of variables in double integrals	§ 15.10
Th 10/23	Triple integrals	§ 15.7, 15.8
Tu 10/28	Triple integrals in spherical coordinates	§ 15.9
Th 10/30	Vector fields and line integrals	§ 16.1, 16.2
Tu 11/4	Gradient fields, fundamental theorem for line integrals	§ 16.3
Th 11/6	Green's theorem	§ 16.4
Tu 11/11	Veteran's day	
Th 11/13	Curl and divergence, Surface area	§ 16.5, 16.6
Tu 11/18	Midterm 2	
Th 11/20	Surface integrals	§ 16.7
Tu 11/25	Stokes theorem	§ 16.8
Tu 12/2	The divergence theorem	§ 16.9
Th 12/4	Review	§ 16.10
Th 12/18	Final Exam, 11:30 am-2:30 pm	