

# Math 11 (index.php) (Fall 2016)

Multivariable calculus for first-year students with two terms of AP credit

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## Syllabus

The following is a **tentative** syllabus for the course.

Day	Lectures	Sections in Text	Brief Description
1	12 Sep (M)	12.1, 12.2	Coordinates and vectors in $\mathbf{R}^3$ , spheres
2	14 Sep (W)	12.3, 12.4	Dot and cross products
3	16 Sep (F)	12.5	Lines and planes
4	19 Sep (M)	13.1, 13.2	Space curves
5	21 Sep (W)	13.3 (pp. 901-903), 13.4 (pp. 910-913, 916-917)	Arclength (no curvature, no normal/binormal vectors) and kinematics (no tangential and normal components of acceleration)
6	23 Sep (F)	14.1, 14.2	Functions of two variables
7	26 Sep (M)	14.3	Partial derivatives
8	28 Sep (W)	14.4	Tangent planes and linear approximations
9	30 Sep (F)	14.5	Chain rule (no implicit function theorem)
10	3 Oct (M)	14.6	Directional derivative and gradient
11	5 Oct (W)	14.7	Maxima and minima
	<b>5 Oct (W)</b>		<b>Exam 1: covers through 12.1-14.5</b>
12	7 Oct (F)	14.8	Lagrange multipliers
13	10 Oct (M)	15.1	Double integrals over rectangles
14	12 Oct (W)	15.2	General planar domains
15	14 Oct (F)	15.6	Triple integrals

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16	17 Oct (M)	15.3, 15.7	Polar and cylindrical coordinates
17	19 Oct (W)	15.8	Spherical coordinates
18	21 Oct (F)	15.9	Change of variable, Jacobians
19	24 Oct (M)	16.1, 16.2	Vector fields, scalar line integrals
20	26 Oct (W)	16.2	Vector line integrals
	<b>26 Oct (W)</b>		<b>Exam 2: covers 14.6-15.9</b>
21	28 Oct (F)	16.3	Fundamental theorem of line integrals
22	31 Oct (M)	16.4	Green's theorem
23	2 Nov (W)	16.5	Divergence and curl
24	4 Nov (F)	16.6	Parametrized surfaces
25	7 Nov (M)	16.7	Surface integrals
26	9 Nov (W)	16.8	Stokes's theorem
27	11 Nov (F)	16.9	Divergence theorem
28	14 Nov (M)	16.10	Wrap up
	<b>18 Nov (F)</b>		<b>Final Exam: comprehensive</b>

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