MATH 2130Q-001 Alexander Teplyaev
Fall 2015 Syllabus

date	sections	topics	HW
M, Aug 31	12.1, 12.2	3D, Vectors in three dimensions	all odd
W, Sept 2	12.3	Dot product	1--51 odd
F, Sept 4	12.4	Cross product	1--41 odd
M, Sept 7		no class, Labor Day	
W, Sept 9	12.5	Lines and planes in space	1--75 odd
F, Sept 11	12.6	Cylinders and quadric **surfaces t.nb t.html**	1--35 odd
M, Sept 14		review	
W, Sept 16		**Test 1 based on the HW given above and examples in the textbook. One hand written page of notes is allowed. There will be 5 problems out of this list of 12 questions.**	
F, Sept 18	13.1	Curves **curves.nb curves.html curves-tangent.nb curves-tangent.html**	1--27 odd
M, Sept 21	13.2	Derivatives and integrals	9--25 and 33-39 odd
W, Sept 23	13.3	Arc Length and Curvature	1--29 odd
F, Sept 25	13.4	Motion in space: velocity and acceleration	3--15 odd, and **37, 39, 41** **review ## 9, 11, 17**
M, Sept 28		**Test 2 based on the HW given above and examples in the textbook. One hand written page of notes is allowed. There will be 5 problems out of this list of questions.**	
W, Sept 30	14.1 14.2	Functions of several variables Limits and continuity **Plot3D.nb Plot3D.html**	14.1 ## 7--29 odd 14.1## 5--21 odd
F, Oct 2	14.3 14.4	Partial derivatives Tangent planes and linear approximations **Plot3D-tangent.nb Plot3D-tangent.html**	11, 15-59 odd 1--19 odd

The Text.

The required text for the course is *Multivariable Calculus, 7th,* by James Stewart, which is made up of chapters 10–17 of *Calculus: Early Transcendentals, 7th* by the same author.

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M, Sept 5	review of sections 14.1--14.4		
W, Oct 7	14.5 14.6	The chain rule Directional derivatives and the gradient vector	1--11 and 27--33 odd 5--33 odd
F, Oct 9	14.7	Max and Min **Plot3D-maxmin.nb Plot3D-maxmin.html**	1--19 and 29--35 odd
M, Oct 12	review		
W, Oct 14	14.8	Lagrange Multipliers	3--19 odd
F, Oct 16		review	
M, Oct 19		**Test 3** based on the HW for sections 14.3-14.8 and examples in the textbook. One hand written page of notes is allowed. There will be **5 problems out of this list of questions.**	
W, Oct 21	15.1, 15.2	Double and iterated integrals	15.1 ## 1,3,5 15.2 ## 3,15,27,31,35
F, Oct 23	15.3	2D integrals	1--27 and 39--49 odd
M, Oct 26	15.4	Polar coordinates	1--11 odd
W, Oct 28	15.5, 15.6	Applications, surface integrals	15.5 ## 1--11 odd, 27, 29 15.6 ## 1--11 odd
F, Oct 30	15.7	Triple integrals	15.7 ## 1--21 odd
M, Nov 2	15.8, 15.9	Cylindrical and Spherical coordinates	15.7 ## 3,5,7,9,11,17,25 15.8 ## 3,5,7,9
W, Nov 4	15.10	Change of variables	1--19 odd
F, Nov 6		review, pages 1074--1076	1--31, 45--51 odd
M, Nov 9		**Test 4 based on the HW for Chapter 15 and examples in the textbook. One hand written page of notes is allowed. There will be 5 problems out of this list of questions.**	

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W, Nov 11	16.1, 16.2	**Vector fields**, **Line integrals**	16.1 ## 1--17 odd 16.2 ## 1--15 odd
F, Nov 13	16.3	FTLI (FTC)	3--9 and 15--21 odd
M, Nov 16	16.4	Green's theorem	1--11 and 17--21 odd
W, Nov 18	16.5	Divergence and curl	1--7 and 15--25 odd, 30, 31 (also 12, 33, 38)
F, Nov 20	16.6	Parametric surfaces and their areas	37--43
		Thanksgiving Break	
M, Nov 30	16.7	Surface integrals	7--11, 19--27 odd
W, Dec 2	16.8	Stokes' theorem	1--19 odd
F, Dec 4	16.9	Divergence theorem	1--9 odd
M, Dec 7	16.10	Review	all odd questions
W, Dec 9		**Test 5** based on the **HW for Chapter 16** and **examples in the textbook**. One hand written page of notes is allowed. There will be **5 problems out of this list of questions.**	
F, Dec 11		review	
***** FINAL EXAM *** Wednesday December 16, 1:00am--3:00pm ??? Five hand written pages of notes are allowed.**			

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