MATH V1201: CALCULUS III

Lecture	Date	Topic/Section	Homework
1	9/2	Conic sections (10.5)	
2	9/4	Coordinate systems in 2- and 3-dimensions (10.3, 12.1, first parts of 15.8, 15.9)	10.5: 4, 7, 15, 24, 30, 33, 40, 45, 52, 55 10.3: 4, 5 12.1: 3, 6, 15, 22 15.8: 1, 3, 8, 9 15.9: 1, 3, 7, 8 Due 9/11 (hmwk 1)
3	9/9	Vectors (12.2)	
4	9/11	The dot product (12.3)	12.2: 3, 4, 7, 16, 21, 25, 26, 27, 43, 46, 48 12.3: 1, 4, 9, 13, 19, 24, 28, 44, 48, 54, 64 Due 9/18 (hmwk 2)
5	9/16	The cross product (12.4)	
6	9/18	Equations of lines and planes (12.5)	12.4: 6, 13, 15, 19, 26, 35, 38, 43, 45, 53 12.5: 1, 5, 12, 15, 20, 24, 32, 37, 55, 64, 79 Due 9/25 (hmwk 3)
7	9/23	Cylinders and quadric surfaces (12.6)	12.6: 3, 5, 9, 14, 15, 19, 21-28, 33, 46 Due 10/2 (hmwk 4)
8	9/25	Review	Practice Problems (this is not hmwk) 10.5: 29, 42, 48, 54 10.3: 3, 13, 17, 22, 65 12.1: 17, 40, 41 15.8: 4, 5, 6, 7 15.9: 4, 5, 6, 7 12.2: 8, 26, 43 12.3: 27, 47, 53, 54 12.4: 30, 46, 53 12.5: 16, 21, 31, 38, 39, 67, 68, 75, 76 12.6: 6, 20, 34, 45, 49
9	9/30	Midterm I	
10	10/2	Vectors functions (13.1)	13.1 2, 5, 7, 14, 15, 21-26, 29, 47, 48 Due 10/9 (hmwk 5)
11	10/7	Derivatives and integrals of vector functions (13.2) [last day to drop class]	

12	10/9	Arc length and curvature (13.3)	13.2: 5, 9, 15, 17, 21, 24, 28, 33, 35, 41, 49, 54 13.3: 2, 3, 13, 15, 17, 19, 21, 33a, 47 Due 10/16 (hmwk 6)
13	10/14	Motion in space: velocity and acceleration (13.4)	
14	10/16	Functions of several variables, limits, continuity (14.1, 14.2)	13.4: 4, 8, 11, 16, 19, 22, 27, 36, 39, 40 14.1: 17, 25, 28, 32, 59-64 14.2: 7, 10, 13, 14, 15, 18, 31, 37 Due 10/23 (hmwk 7)
15	10/21	Partial derivatives (14.3)	
16	10/23	Tangent planes and linear approximations (14.4)	14.3: 25, 29, 34, 43, 50, 52, 54, 61, 67, 71, 75, 93 14.4: 3, 5, 13, 19, 25, 31 Due 10/30 (hmwk 8)
17	10/28	Review	Suggested Practice Problems (this is not hmwk) 13.1: 29, 48 13.2: 14, 18, 27, 34 13.3: 6, 14, 22 13.4: 13, 38 14.1: 21, 36 14.2: 9, 11, 12, 16, 38 14.3: 26, 33, 49, 51, 65, 72 14.4: 2, 4, 14, 21, 32, 33, 42
18	10/30	Midterm II	
19	11/4	University Holiday: Election Day	
20	11/6	The chain rule (14.5)	14.5: 5, 9, 13, 20, 23, 27, 33, 50 Due 11/13 (hmwk 9)
21	11/11	Directional derivatives and the gradient vector (14.6)	
22	11/13	More on directional derivatives (14.6)	14.6: 5, 7, 10, 12, 15, 17, 21, 24, 28, 35, 42, 45, 54, 59, 63 Due 11/20 (HW 10)
23	11/18	Maxima and minima (14.7)	
24	11/20	Maxima and minima (14.7)	14.7: 1, 5, 9, 12, 13, 17, 29, 31, 34, 36, 39, 41, 43, 46, 56 Due Monday 12/1 (hmwk 11)
25	11/25	Lagrange multipliers (14.8)	14.8: 4, 7, 9, 17, 21, 43 Due 12/4 (hmwk 12)
26	11/27	University Holiday: Thanksgiving	
27	12/2	Complex numbers (Appendix H)	Appendix H: 3, 7, 15, 23, 29, 35, 39, 45 (not a hmwk, but will be on the final)

28	12/4	Review	Practice Problems (not a hmwk) 10.5: 41, 47 10.3: 16, 20 12.1: 12, 40 15.8: 2, 7, 10 15.9: 2, 7, 8 12.2: 29, 44 12.3: 26, 45,53, 64 12.4: 37, 44, 46 12.5 16, 32, 35, 40, 57, 78 12.6: 44, 46 13.1: 30, 47 13.2: 22, 28, 35 13.3: 5, 13, 19, 23 13.4: 15, 19, 25, 35, 42 14.1: 17, 45, 59-64 14.2: 11, 13, 17, 18, 37, 38 14.3: 30, 34, 52, 77 14.4: 15, 18, 19 14.5: 12, 24, 34, 48, 51 14.6: 8, 16, 22, 27, 29, 44, 55, 57, 64a 14.7: 14, 32, 35, 39, 44 14.8: 6, 16, 19, 42, 44b Appendix H: 22, 32, 36, 38, 44

Textbook: James Stewart, *Calculus: Early Transcendentals*, 7th edition.

Help Room: 333 Milbank Hall, Barnard Campus