SYLLABUS FOR **MATH 2260**
Text: Hass, Weir, and Thomas, *University Calculus*
Fall, 2006

Section	Topics and Recommended Exercises	# Days
	Chapter 5: The Integration	
	Review definition of the integral, Fundamental Theorem of Calculus, area, and integration by substitution	4
	Chapter 6: Applications of Definite Integrals	
6.1	Volumes by Slicing and Rotation About an Axis	3
	§6.1: #1, 3, 7, 8, 11, 13, 15, 17, 19, 22, 23, 27, 28, 29, 35, 39, 41, 45, 49, 50, 51	
6.2	Volumes by Cylindrical Shells	2
	§6.2: #1, 3, 5, 7, 11, 15, 21, 23, 25, 28, 34, 39	
6.3–6.4	Lengths of Plane Curves, Areas of Surfaces of Revolution	2
	§6.3: #1, 3, 9, 11, 17, 27, 29, 33; §6.4: #9, 13, 14, 21, 29	
6.5	Exponential Change and Separable Differential Equations	3
	§6.5: #1, 3, 9, 11, 19, 21, 24, 29, 30, 35, 37, 41	
6.6	Work	2
	§6.6: #1, 3, 5, 6, 7, 8, 11, 12, 13, 14, 15, 19, 22, 23	
6.7	Moments and Centers of Mass	2
	§6.7: #1, 3, 11, 13, 21, 27	
	Additional and Advanced Exercises: #1, 6, 7, 11, 15	
	Chapter 7: Techniques of Integration	
7.1	Integration by Parts	2
	§7.1: #1, 4, 5, 7, 9, 11, 22, 29, 33, 35, 37, 43, 44, 48	
7.2	Trigonometric Integrals	2
	§7.2: #1, 3, 7, 11, 15, 17, 23, 41, 43	
7.3	Trigonometric Substitutions	2
	§7.3: #1, 3, 5, 7, 13, 16, 19, 21, 29, 39, 41	
7.4	Integration of Rational Functions by Partial Fractions	2
	§7.4: #1, 3, 9, 11, 15, 19, 21, 29, 30, 35, 37, 43, 49	
———	Miscellaneous integration problems	1
	Practice Exercises, p. 499: #69–98 (except 91), as needed	
7.6	Numerical Integration	2
	§7.6: #3, 9, 23, 25, 32	
7.7	Improper Integrals	2
	§7.7: #1, 3, 5, 7, 11, 15, 35, 37, 41, 47, 51, 53, 55, 63, 67, 68, 69, 70, 74	

	Additional and Advanced Exercises: #8, 10, 11, 12, 25, 27, 29, 30, 31, 32	

Chapter 8: Infinite Sequences and Series

8.1	Sequences	2
	§8.1: #7, 11, 13, 17, 19, 23, 25, 27, 33, 41, 43, 45, 49, 59, 66, [86], 93	
8.2	Infinite Series	2
	§8.2: #1, 3, 5, 7, 11, 15, 23, 25, 27, 29, 35, 37, 39, 41, 42, 43, 45, 47	
8.3	The Integral Test	1
	§8.3: #1, 2, 3, 4, 5, 6, 9, 10, 19, 20, 23, 27, 33, [41]	
8.4	Comparison Tests	1
	§8.4: #1, 3, 4, 5, 8, 9, 10, 17, 19, 20, 25	
8.5	The Ratio [and Root] Tests	1
	§8.5: #2, 3, 5, 9, 15, 19, 21	
8.6	Alternating Series, Absolute and Conditional Convergence	1
	§8.6: #1, 2, 3, 5, 11, 13, 15, 19, 27	
8.7	Power Series	2
	§8.7: #1, 2, 3, 5, 9, 11, 13, 33, 35, 36, 37, 39, 40, 41	
8.8	Taylor and Maclaurin Series	1
	§8.8: #1, 3, 5, 7, 9, 11, 13, 21	
8.9	Convergence of Taylor Series	3
	§8.9: #1, 4, 7, 8, 9, 13, 19, 22, 23, 25, 29, 31, 32, 33, 35	
	Additional and Advanced Exercises: #5, 15, 27, 28, 29, 30, 31	

Chapter 10: Vectors and the Geometry of Space

10.1–10.2	Three-Dimensional Coordinate Systems, Vectors	2
	§10.1: #1, 5, 9, 19, 23, 27, 37, 41, 45, 49; §10.2: #5, 12, 13, 19, 23, 25, 33, 37, 41, 43, 45, 47, 49, 51, [52]	
10.3	The Dot Product	1.5
	§10.3: #1, 3, 13, 16, 17, 18 or 19, 21, 24, 29, 33	
10.4	The Cross Product	1.5
	§10.4: #1, 6, 13, 15, 17, 21, 25, 27, 33, 41	
10.5	Lines and Planes in Space	3
	§10.5: #1, 3, 9, 21, 23, 25, 27, 31, 35, 39, 47, 53, 73, [74]	
	Additional and Advanced Exercises: #5, 8, 10, 11, 16, 20, 21, 22, 23	

This syllabus allows 7 days for tests and review (based on a 60-day semester). Problems listed in brackets are best saved for the better students, as are the recommended "Additional and Advanced Exercises."