Math 165: Honors Calculus I	**Course Overview**	**Fall 1999**
Aug. 25	I2 Introduction, Set Theory	#1 p.19:4,5,8,9,10, p.21:2,4,5,9,10
26	I3.2–4 Axioms for Real Numbers	
27	I3.6–7 Inductive Sets, Integers, Rationals	
30	I4.1–2 Induction	#2 p.35:1–6,9,12 (Due 9/1)
Sept. 1	I4.8 Summation, Absolute Value, Triangle Inequality	#3 p.40:3,4,5,6,8,11 (Due 9/3)
2	Quiz 1	
3	I4.10 Pascal's Triangle, Binomial Theorem	#4 p.43:1,2
6	1.1–4 Functions, Polynomials	#5 suppl.
8	1.8–9 Ordinate Sets, Partitions & Step Functions	#6 p.56:5,6,8,10,11
9	Quiz 2	
10	1.10,12 Integrals of Step Functions	#7 p.63:1–4
13	1.12–13 Properties of Integrals of Step Functions	#8 p.70:1,2,3,4,6a,11
15	1.16–17 Upper & Lower Integrals	
16	Quiz 3	
17	Sup & Inf	#9 read I3.8–11 + suppl.
20	1.20–21 Monotonic Functions and Integrability	#10 suppl.
22	1.22–23 Calculation of Integrals	#11 p.83:1-4,10,16,20–23,25
23	Quiz 4	
24	1.24-25 Properties of Integrals, Polynomials	
27	1.24-25 Properties of Integrals, Polynomials	
29	*Review*	
30	Exam 1	
Oct. 1	2.2 Area between Curves	#12 p.94:1–7,11,15,17
4	2.16 Average Value of a Function	#13 p.119:1–4,11,18a,19a,20a
6	2.5–7 Trig Functions	#14 p.104:1–5,8,9,14,15
7	Quiz 5	
8	2.18 Integral as Function	#15 p.124:1,3,5,7, graph $\int_0^x [t]dt$
11	3.1–2 Limits	#16 suppl.
13	3.3 One-sided Limits	
14	Quiz 6	
15	3.4 Continuity	#17 p.138:1–5,8–12,15,20–23,32
16–24	**Midsemester Break**	
25	Continuity of Sine, Cosine, Squeezing Principle	
27	3.5 Basic Limit Theorems	
28	Quiz 7, Composite Functions	#18 p.142:1–21 (ans. to 20 is 2)
29	3.9 Bolzano's Theorem	
Nov. 1	3.10 Intermediate Value Theorem	#19 p.145:1–6
3	3.12 Inverse Functions	#20 p.149: 1–5 + suppl.
4	Quiz 8	
5	3.13–14 Properties of Inverse Functions	
8	3.16 Boundedness Theorem, Extreme Value Theorem	#21 suppl.
10	*Review*	
11	Exam 2	
12	3.17–18 Small Span Thm, Integrability of Cont. Fns.	#22 p.155:1–3,6–8
15	3.19 Mean Value Theorem	
17	4.1–4 Derivatives	#23 p.167:3–12,16–23,25–38
18	Quiz 9	
19	4.5 Power Rule, Higher Derivatives, Tangent Line	
22	4.6–10 Tangent Line, Chain Rule	#24 p.173: 1–5,7,9,14,15
24	4.11 Implicit derivatives	#25 p.179:1–19odd
25	Thanksgiving	
29	4.11 Related Rates	#26 p.180:20–24,30–34
Dec. 1	4.13–14 Extreme values, Mean Value Theorem	#27 p.186:1–8
2	Quiz 10	
3	4.17 1st & 2nd Derivative Tests	(#28 p.191:1–14)
6	Convexity, Extremum problems (TCE)	(#29 p.194:1–19odd)
8	*Review*	
Wed. 15	Final Exam, 8:00–10:00 A.M., DBRT 119	