

Math 165: Honors Calculus	Syllabus	Fall 1994
Aug. 31 I2, I3.2–4 Axioms for real numbers	#1,p.19:4,5,8,9,10, p.22:2,4,5,9,10	
Sep. 1 I3.6–7 Inductive sets, Integers, Rationals		
2 I4.1–2 Induction	#2,p.35:1–6,9,12	
5 I4.6 Summation notation	#3,p.40:3,4,5,6,8,11	
7 I4.8 Absolute value and triangle inequality	#4,p.43:1,2 + suppl.	
8 Quiz 1		
9 I4.10 Pascal's triangle, binomial theorem		
12 1.1–4 Functions	#5,p.56:5,6,8,10,11	
14 1.4,1.8 Polynomials, ordinate sets	#6,p.63:1–4	
15 Quiz 2		
16 1.9–10 Partitions and step functions	#7,p.70:1,2,3,4,6a,11	
19 1.12–13 Integrals for step functions	#8, read I3.8–11 + suppl.	
21 Sup and inf		
22 Quiz 3		
23 1.16–17 Upper & lower integrals		
26 1.20-1.21 Monotonic functions and integrability	#9,p.83:1-4,10,16,20,21–23,25	
28 1.22–23 Calculation of integrals, $\int x^p dx$		
29 Quiz 4		
30 1.24-25 Properties of integrals, polynomials	#10,p.94:1–7,11,15,17	
Oct. 3 2.2 Area between curves		
5 2.2 More area	#11,p.104:1–5,8,9,14,15	
6 Quiz 5		
7 2.5–7 Trig functions		
10 2.16 Average value of a function	#12,p.119:1–4,11,18,19+20 = 'a' only	
12 2.18 Integral as function	#13,p.124:1,3,5,7	
13 Exam 1		
14 Go over Exam		
17 3.1 Limits	#14, suppl.	
19 3.2 More limits		
20 Quiz 6, 3.3 Continuity		
21 3.4 Continuity	#15,p.138:1–5,8–12,15,20–23,32	
22–30 Midsemester Break		
31 3.4 More continuity		
Nov. 2 3.5 Basic Limit Theorems	#16,p.142:1–21 (ans. to 20 is 2)	
3 Quiz 7, 3.7 Composite functions		
4 3.9 Bolzano's Theorem	#17,p.145:1–6 (omit 2bc)	
7 3.10 Intermediate Value Theorem		
9 3.12 Inverse functions	#18,p.149: 1–5 + suppl.	
10 Quiz 8		
11 3.13–14 Properties of inverses		
14 3.16 Boundedness Theorem, Extreme Value Theorem	#19 suppl.	
16 3.17–18 Small Span Thm, Integrability of cont. fns.	#20,p.155:1–3,6–8	
17 Quiz 9		
18 3.19 Mean Value Theorem, Derivatives		
21 4.1–4 Derivatives	#21, suppl. (p.105 in notes)	
23 4.5 Power rule, higher derivatives	#22,p.167:3–12,16–23,25–38	
24 Thanksgiving		
28 4.6–10 Tangent line, chain rule	#23,p.173: 1–5,7,9,14,15	
30 4.11 Implicit derivatives	#24,p. 179:1–19odd	
Dec. 1 Exam 2		
2 4.11 Related rates	#25,p.180:20–24,30–34	
5 4.13 Extreme values	#26,p.186:1–9	
7 4.14 Mean Value Theorem for Derivatives	#27,p.191:1–14	
8 Quiz 10, 4.17 2nd derivative test		
9 4.17 Convexity	(#28,p.194:1–19odd)	
12 Extrema problems, review, student evaluations		
14 Study Day		
Mon. 19 Final Exam, 1:45–3:45		