Homework assignments
Math 105, Spring 1999

Page numbers refer to the textbook *Calculus and its Applications*, 7th edition, by Goldstein, Lay, and Schneider. "Supplementary set" refers to the supplementary problems I distributed at the start of the semester.

Number	Assignment	Topic
1	p. 29 # 1–5, 15–18	linear functions, graphs
2	p. 63 # 22, 23, 25, 26	linear cost, revenue and profit
3	p. 81 # 4–8, 13, 15–18, 22, 23, 25	points and slopes
4	p. 18 # 13, 14, 17, 18, 21, 22	function notation
5	p. 66 # 33-36; Supplementary set # 1–3	non-linear cost and revenue
6	Supplementary set # 4–7	quadratic functions
7	p. 19 # 23–26	natural domain of a function
8	Supplementary set # 8	asymptotes
9	p. 53 # 1, 2, 8–10, 12–15, 17–20, 77–84; Supplementary set # 9	powers and roots
10	p. 20 # 53, 54, 56; Supplementary set # 10, 11	multi-line functions and continuity
11	p. 54 # 85–90, 94	simple and compound interest
12	p. 344 # 5, 6, 8, 11	continuously compounded interest
13	p. 310 # 1–8, 13–18, 21–23; Supplementary set # 12–16	basic exp–log relation
14	p. 336 # 15–18; Supplementary set # 17–19	growth and decay problems
15	p. 345 # 10, 13, 14	growth of an investment
16	p. 89 # 10–12, 13–18	slope of a curve — general idea
17	p. 90 # 22, 23, 25–27	slope and tangent of parabola
18	Supplementary set # 20	slope and tangent by secant approximation
19	Supplementary set # 21	derivative from definition
20	p. 126, # 4–6, 13–15, 29, 32; Supplementary set # 22	derivative from formulas
21	p. 126 # 39, 41, 42	slope and tangent via derivative formulas
22	p. 148 # 31(a,b,d,e), 33; Supplementary set # 23	velocity

Number	Assignment	Topic
23	p. 148 # 31(c), 34; p. 153, # 54, 55, 57	acceleration and second derivative
24	p. 146 # 23–26	marginal cost, revenue and profit
25	p. 146 # 18, 35, 38, 39, 40	linear approximation
26	Supplementary set # 24–27	derivative of $\ln x$
27	Supplementary set # 28–30	derivative of e^x
28	Supplementary set # 31–34	derivatives of other exponentials
29	Supplementary set # 35, 36	Newton's law of cooling
30	p. 336 # 19–21	Carbon dating
31	p. 257 # 1, 3; p. 304 # 22, 25, 27; p. 314 # 4, 7, 16, 17	product rule
32	p. 257 # 13, 15, 32, 36, 37; p. 304 # 23, 29; p. 314 # 14	quotient rule
33	p. 265 # 11, 33, 34, 45, 46, 47, 49; p. 304 # 5, 11, 14; p. 314 # 3, 6, 11, 12, 25	chain rule
34	p. 281 # 13, 14, 21–26, 50, 51; p. 322 # 20, 21, 26, 50, 51, 59, 60; Supplementary set # 37, 38	miscellaneous derivative problems
35	Supplementary set # 39–42; p. 184 # 37, 38; p. 315 # 26, 28	critical points and first derivative test
36	p. 180 # 1–6, 39, 40; p. 244 # 3–6	second derivative and concavity
37	p. 195 # 2, 5, 9, 11, 17–20; p. 304 # 35, 37, 38	second derivative test
38	p. 246 # 33, 35, 36, 41, 42, 43; p.305 # 51, 52; p. 323 # 31, 33, 65, 66	curve sketching
39	p. 226 # 1, 2, 4, 5, 6 (Note: read examples 1, 2 and 3 on pages 218–222.)	optimization
40	p. 240 # 3, 5, 7, 8, 9, 11, 13	economics and business problems
41	p. 382 # 1–6, 24, 25, 28, 34, 36, 47, 49, 50	antiderivatives
42	p. 410 # 23–26, 28, 29, 31	area and antiderivative