Syllabus and Problems
Mathematics 151, Calculus I, Sections 13, 14, 15
Spring Semester 2005

Text: *Calculus, Early Transcendentals*, Stewart, 5th Edition, Brooks-Cole Publishing Co.

Lecture	Date	Reading	Topics
1	1/19	Appendices A,B,D, 1.1–1.5	Review of real numbers, absolute value, inequalities, lines, functions, exponential and trigonometric functions
2	1/24	Appendix D, 1.6	Inverse functions, logs and inverse trigonometric functions
3	1/26	2.1, 2.2	Tangents and velocity, limits
4	1/31	2.3, 2.4	Limit laws and definition of limit
5	2/2	2.5	Continuity, Intermediate Value Theorem
6	2/7	2.6	Infinity, asymptotes
7	2/9	2.7, 2.8, 2.9	Rates of change, derivatives
8	2/14	3.1, 3.2	Differentiation formulas, derivatives of exponential functions
9	2/16	3.3, 3.4	Rates of change, derivatives of trigonometric functions
10	2/21	3.5, 3.6	The chain rule, implicit differentiation
11	2/23	First exam	Usual class time and place
12	2/28	3.6, 3.7, 3.8	Derivatives of logs and inverse trigonometric functions, higher derivatives
13	3/2	3.10	Related rates
14	3/7	3.11, 4.9	Linear approximation, Newton's Method
15	3/9	4.4	L'Hôpital's Rule
16	3/21	4.1, 4.2	Max and min; the Mean Value Theorem
17	3/23	4.3	$f'(x)$, $f''(x)$ and the graph of f
18	3/28	4.5, 4.6	Sketching graphs
19	3/30	4.7	Applied max/min
20	4/4	4.10	Antiderivatives
21	4/6	5.1, Appendix E	Area, distance, sigma notation
22	4/11	Second exam	Usual class time and place
23	4/13	5.2	The definite integral
24	4/18	5.3, 5.4	The Fundamental Theorem of Calculus
25	4/20	5.5	Substitution rule
26	4/25	6.1	Computation of areas
27	4/27	5.6	Logarithm defined as an integral
28	12/13	Catch up and review for final exam	

Note: This is an approximate syllabus only and because of differences in weekly schedules, some variations are to be expected.

Final Examination: May 5, Thursday, 4–7 pm.

Suggested Homework Problems
Mathematics 151

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