

Math 5B Suggested Syllabus

(Based on 29 lectures)

Text: *Biocalculus, Calculus for the Life Sciences*, Stewart and Day, 2nd Edition

Lecture	Section	Topic
1	5.1	Areas, distances
2	5.2	Definite integral
3	5.3	Fundamental theorem of Calculus
4	5.4	Substitution rule
5	5.5	Integration by parts
6	5.6	Partial fractions
7	5.7,5.8	Integration using tables; Improper integrals
8	6.1	Areas between curves
9	6.2,6.4	Average values; Volumes
10	6.4	Volumes (continued)
11	7.1	Modeling with differential equations
12	7.2	Phase plots, equilibria, stability
13	7.3	Direction fields and Euler's method
14		Review
15		Midterm
16	7.4	Separable equations
17	7.5	Systems of differential equations
18	7.6	Phase plane analysis
19	8.1	Coordinate systems
20	8.2	Vectors
21	8.3	Dot product
22	9.1	Functions of several variables
23	9.2	Partial derivatives
24	9.3	Tangent planes and linear approximations
25	9.4	The chain rule
26	9.5	Directional derivatives and the gradient vector
27	9.6	Maximum and minimum values
28		Final Review
29		Final Review