UCSB Department of Mathematics
Course Outline
MATH 34B: Calculus for the Social and Life Sciences

The following is a typical outline of MATH 34B at UCSB. Instructors will generally cover the content described here, but the pacing and structure of the course may vary.

(Parentheses indicate sections from the required textbook, Calculus and Mathematical Reasoning by Daryl Cooper)

Week 1:
• Review Derivatives (Chapter 8)
• Signed Area (9.1)
• Definite Integral (9.2)

Week 2:
• Indefinite Integral (9.3)
• Riemann Sums, Averages Using Integration (9.4, 9.5)
• Midterm 1

Week 3:
• Fundamental Theorem of Calculus (9.6)
• Word Problems (Chapter 11)
• Sine Waves: Frequency, Amplitude and Phase (12.1)

Week 4:
• Product Rule (12.2)
• Second Derivative Test (12.3)
• Midterm 2

Week 5:
• Orders of Smallness (12.4, 12.5)
• Power Series (12.6)
• Differential Equations (13.1, 13.2)

Week 6:
• Exponential Growth and Decay: $y' = ky$ (13.3)
• Exponential Decay: $y' = k(M-y)$ (13.7)
• Logistic Equation: $y' = ky(1-y/M)$ (13.8)

Week 7:
• Long Term Behavior and Graphing Solutions (13.4, 13.5)
• Isocline (13.6)
• Euler's Method (13.9)

Week 8:
• Word Problems (Chapter 11)
• Midterm 3
• Partial Derivatives (15.0)

Week 9:
• Planes in Space (15.1)
• Tangent Plane Approximation (15.3)
• Max/Min Problems in Two Variables, First Derivative Test Only (15.3)

Week 10:
• Max/Min Word Problems (15.3)
• Review
• Review