

# Calculus for the Life Sciences II

## MATH – 23200

### Course Syllabus

#### General Information

<b>Text:</b>	Marvin L. Bittinger, Neal Brand, John Quintanilla Calculus for the Life Sciences Addison Wesley, 2006
<b>Calculator</b>	A scientific calculator. Graphing calculators are not allowed
<b>Prerequisites:</b>	Math 23100

Additional information can be found on the Math Home Page

<http://www.math.iupui.edu>

#### Course Objective

The objective of Math 23200 is to provide a solid, practical, working knowledge of calculus and its applications to various scientific and technical fields. Particular attention is focused on applications in the Life Sciences.

#### Course Outline

1. Matrices
2. Difference equations and applications
3. Functions of several variables
4. Optimization
5. Differential equations
6. Solutions of differential equations
7. Stability of solutions of differential equations
8. Numerical solutions of differential equations
9. Systems of Linear differential equations
10. Matrices and solution curves
11. Applications to population biology