



Catalog Description:

Calculus topics including limits, differentiation, integration, optimization, and approximation with an emphasis on building mathematical intuition, problem solving ability and using appropriate technology to find solutions.

Prerequisite: A grade of C- or above in 1148 and 1149, or in 1144, 1150, or 150, or Math Placement L

Exclusions:

Not open to students with credit for any course 2153 or above, or for any quarter-system class 254.xx or above.

Follow-up Course:

Math 1155

Text:

None. Class notes will cover all the important ideas and formulas.

Topics List:

I. Exam 1

1. Lines, regression
2. Derivatives and integrals in physics
3. Vectors and parametrization
4. Limits, definition of derivative
5. Derivatives and graphs
6. Definition of definite integral

II. Exam 2

7. Calculus of polynomials
8. Fundamental Theorem of Calculus
9. Initial value problems
10. Area between curves
11. Derivative rules
12. Calculus of trigonometric functions
13. Circular motion, harmonic motion
14. Calculus of exponentials and logarithms
15. Damped oscillation

III. Exam 3

15. Substitution
16. Volumes of revolution
17. Integrals for physical quantities
18. Maxima and minima, optimization
19. Linear programming
20. Least squares regression
21. Related rates

