

Syllabus for Math 203, Analytic Geometry and Calculus III

Prereq: C or higher in Math 20200

Text: Stewart, *Essential Calculus*

(Text changed from Smith-Minton, effective Spring 2011)

Section	Topics	Suggested lecture hours
10.1	Coordinates in space	1
10.2	Vectors in space	1
10.3	Dot product	1
10.4	Cross product	1.5
10.5	Lines and planes	1.5
10.6	Cylinders and Quadric surfaces	2
10.7	Curves in space, tangent vectors	1
13.6	Parametric surfaces (examples)	1
11.1	Functions of several variables	1.5
11.2	Limits and continuity	1.5
11.3	Partial derivatives	1.5
11.4	Tangent planes, differentials	2.5
11.5	Chain rule	1
11.6	Directional derivative, gradient	1.5
11.7	Extrema	2.5
12.1	Double integrals over rectangles	1
12.2	Double integrals over general regions	2
12.3	Double integrals in polar coordinates	1.5
12.4	Applications of double integrals	1
13.6	Parametric surfaces and surface area	1
12.5	Triple integrals	2
12.6	Triple integrals in cylindrical	1
12.6	Triple integrals in spherical	1.5
8.1	Sequences	1.5
8.2	Series	2
8.3	Integral test, comparison test	3
8.4	Other tests for convergence	3
8.5	Power series	2
8.6	Representing functions as power series	1.5
8.7	Taylor series, Maclaurin series	2
8.8	Applications of Taylor polynomials	2

Course format: 5 contact hours per week. 4 hours per week will be in traditional lecture/recitation style. One hour per week will meet in the Artino computer lab, with no more than two students per computer. Students will be expected to turn in computer assignments, at a rate of roughly one each week, that demonstrate knowledge of the computer algebra/graphics package and how to apply it to multivariable calculus.

Total: 50 hours of lecture time and 14 hours of computer lab time. There are usually