MTH 33, Analytic Geometry and Calculus III, Spring 2020

Bronx Community College, CUNY.

Section E01, MW 6:00pm-8:35pm, Polowczyk Hall 308

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Office Hours: Monday/Wednesday 4:00pm-5:00pm or by appointment.
Textbook: *Calculus*, by James Stewart, Brooks/Cole, Pub. 8^{th} ed.

Syllabus:

This is the third course in a three-semester calculus sequence. It is a one semester course designed to present the standard materials of sequences and series and multivariable Calculus. The topics we will cover are Chapters 11-15 of the text, skipping a few sections along the way. Additional topics will be covered if time permits.

Prerequisites:

Students enrolled in this course must have either taken MATH 32 or an equivalent.

Website:

CUNY Blackboard.

Grading:

Homework assignments will be assigned are to be turned in. *Your lowest Homework will be dropped.* Homework assignments will assist in understanding the material but will NOT be sufficient to learn this material well. You should be doing many more problems. Calculators are NOT permitted for tests and exams.

Term Tests :
There will be two in-class term tests. If you miss a test, you must contact me within 24 hours should you wish to have your absence excused. A doctor's note is needed to justify illness. Any student with a *justified* absence during a test will be given a make up exam. You are responsible for the material in the course readings in addition to any material and announcements made during lecture, regardless of whether or not you were in attendance.

Homework	25%
Test 1	20%
Test 2	20%
Final Exam	35%

Resources:

Math Tutoring Lab: CP 303.

SECTION	TOPIC	PAGE/SUGGESTED EXERCISES
11.1	Sequences	744 /3-55 odd
11.2	Series	755/ 1-4, 6, 8, 15, 17-26, 27-48 odd
11.3	The Integral Test	765/ 1-26 odd, 33
11.4	The Comparison Tests	771/ 15-32 odd, 41, 43, 45
11.5	Alternating Series	776/ 1-20 odd, 23, 27, 33
11.6	Absolute Convergence	782/ 3-37 odd
11.7	Strategy for Testing Series	786/ 2, 5, 6, 8, 10, 12, 14, 15-38 odd
11.8	Power Series	791/ 5 - 28 odd, 30, 31, 33, 37, 39, 41
11.9	Representations of Functions as Power Series	797/ 5-41 odd
11.10	Taylor and MacLaurin Series	811/ 1, 2, 4, 6, 8, 10, 13-20 odd, 30-38 odd, 48, 51, 55, 63-70 even
11.11	Applications of Taylor Polynomials	820/ 3, 5, 10, 13, 18-20, 23, 30
	Review	825/1-56, odd
12.1	Three Dimensional Coordinate Systems	836/ 1-13 odd, 17, 19, 21, 23-34 odd
12.2	Vectors	845/ 5-29 odd, 30, 33, 43, 47
12.3	The Dot Product	852/ 3-10 odd, 15-47 odd, 51, 54
12.4	The Cross Product	861 /1-43 odd
12.5	Equations of Lines and Planes	871/1, 5-39 odd, 51, 55, 59, 67
	Review	882/ 1-13 odd
13.1	Vector Functions and Space Curves	893/ 1-30 odd
13.2	Derivatives and Integrals of Vector Functions	900/ 3-28, odd
13.3	Arc Length and Curvature	908/ 1-11 odd, 17, 18, 21, 25, 30
	Review	922/ 1-5 odd, 9-17 odd
14.1	Functions of Several Variables	939/ 1, 3, 9-22 odd
14.2	Limits and Continuity	950 / 5-22 odd, 31, 35, 37
14.3	Partial Derivatives	964/ 2, 15-40 odd, 43-70 odd, 76, 81
14.4	Tangent Planes and Linear Approximations	974/ 1-6 odd, 11-18 odd, 25, 28, 31, 34
14.5	The Chain Rule	983/ 1-34 odd
14.6	Directional Derivatives and the Gradient Vector	997/ 4-26 odd, 31, 33, 44, 46, 51, 58
14.7	Maximum and Minimum Values	1007/ 2, 5-17 odd, 29-36 odd, 39, 43
	Review	1022/ 1-45 odd
15.1	Double Integrals over Rectangles	1039/ 1-5, 11, 14
15.2	Double Integrals over General Regions	1048/ 3-10 odd, 13, 19, 21, 29, 31
15.3	Double Integrals in Polar Coordinates	1054/ 7-27 odd
15.6	Triple Integrals	1077/ 1, 3, 9, 11, 15
	Review	1102/ 3, 7, 9, 13, 15, 21, 29, 41, 47

Complaint Procedure:

If you have any problems with the course, please come and talk to me. Most issues can be resolved with a straightforward discussion.