

**BRONX COMMUNITY COLLEGE of the City University of New York**  
**DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE**

**SYLLABUS: MTH 13 – TRIGONOMETRY and COLLEGE ALGEBRA (3 credits, 4 hours)**

**PREREQUISITE: MTH 06 or equivalent**

**TEXTBOOK: “BASIC TECHNICAL MATHEMATICS with CALCULUS”, 8<sup>th</sup> edition  
by Allyn J. Washington (ISBN: 0-321-13194-0)  
Publisher: Pearson/Addison Wesley**

**Note to Student: The Casio CFX 9850G or any TI series graphing calculator is recommended.**

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SECTIONS	TOPICS	SUGGESTED EXERCISES
<b>CHAPTER 9: VECTORS and OBLIQUE TRIANGLES (≈ 4 hours)</b>		
9.1	Introduction to Vectors	p. 262 #1-43 odd
9.2	Components of Vectors	p. 265 #1-21 odd
9.3	Vector Addition by Components	p. 271 #1-27 odd
9.4	Applications of Vectors	p. 259 #1-29 odd
<b>CHAPTER 12: COMPLEX NUMBERS (≈ 8 hours)</b>		
12.1	Basic Definitions	p. 343 #1-59 odd
12.2	Basic Operations with Complex Numbers	p. 346 #1-47 odd
12.3	Graphical Representation of Complex Numbers	p. 348 #1-33 odd
12.4	Polar Form of a Complex Number	p. 351 #1-39 odd
12.5	Exponential Form of a Complex Number	p. 354 #1-33 odd
12.6	Products, Quotients, Powers, and Roots Of Complex Numbers	p. 360 #1-41 odd
<b>CHAPTER 3: FUNCTIONS and GRAPHS (≈ 4 hours)</b>		
3.1	Introduction to Functions	p. 84 #1-27 odd
3.2	More about Functions	p. 88 #1-37 odd
3.4	The Graph of a Function	p. 96 #7-57 odd
<b>CHAPTER 13: EXPONENTIAL AND LOGARITHMIC FUNTIONS (≈ 8 hours)</b>		
13.1	Exponential Functions	p. 372 #1-31 odd
13.2	Logarithmic Functions	p. 376 #1-61 odd
13.3	Properties of Logarithms	p. 380 #1-55 odd
13.5*	Natural Logarithms	p. 367 #1-51 odd
13.6	Exponential and Logarithmic Equations	p. 370 #1-47 odd

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\* The Common Logarithms in Section 13.4 can be reviewed briefly.

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**CHAPTER 10: GRAPHS OF THE TRIGONOMETRIC FUNCTIONS ( $\approx 4$  hours)**

10.1	Graphs of $y = a \sin x$ and $y = a \cos x$	p. 296 #1-35 odd
10.2	Graphs of $y = a \sin bx$ and $y = a \cos bx$	p. 299 #1-59 odd
10.3	Graphs of $y = a \sin (bx + c)$ and $y = a \cos (bx + c)$	p. 302 #1-39 odd
10.4	Graphs of $y = \tan x$ , $y = \cot x$ , $y = \sec x$ , $y = \csc x$	p. 306 #1-23 odd
10.5	Applications of the Trigonometric Graphs	p. 308 #1-13 odd

**CHAPTER 20: ADDITIONAL TOPICS IN TRIGONOMETRY ( $\approx 10$  hours)**

20.1	Fundamental Trigonometric Identities	p. 530 #7-579 odd
20.2	The Sum and Difference Formulas	p. 535 #1-45 odd
20.3	Double-Angle Formulas	p. 539 #1-45 odd
20.4	Half-Angle Formulas	p. 543 #3-37 odd
20.5	Solving Trigonometric Equations	p. 548 #1-41 odd
20.6	The Inverse Trigonometric Functions	p. 554 5-59 odd

**CHAPTER 5: SYSTEMS OF LINEAR EQUATIONS; DETERMINANTS ( $\approx 5$  hours)**

5.5	Solving Systems of Two Linear Equations in Two Unknowns by Determinants	p. 1601 #1-35 odd.
5.6	Solving Systems of Three Linear Equations in Three Unknowns Algebraically	p. 164 #1-19 odd
5.7	Solving Systems of Three Linear Equations in Three Unknowns by Determinants	p. 170 #1-31 odd