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", 9th edition
           by Allyn J. Washington (ISBN-13: 978-0-13-814226-1;
                              ISBN-10: 0-13-814226-2)
           Publisher: Pearson/Prentice Hall

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

SECTIONS	TOPICS	SUGGESTED EXERCISES

CHAPTER 9: VECTORS and OBLIQUE TRIANGLES (≈ 4 hours)

9.1	Introduction to Vectors	p. 258 #1-47 odd
9.2	Components of Vectors	p. 261 #1-33 odd
9.3	Vector Addition by Components	p. 267 #1-33 odd
9.4	Applications of Vectors	p. 270 #1-33 odd

CHAPTER 12: COMPLEX NUMBERS (≈ 8 hours)

12.1	Basic Definitions	p. 336 #1-59 odd
12.2	Basic Operations with Complex Numbers	p. 339 #1-59 odd
12.3	Graphical Representation of Complex Numbers	p. 341 #1-33 odd
12.4	Polar Form of a Complex Number	p. 344 #1-43 odd
12.5	Exponential Form of a Complex Number	p. 346 #1-35 odd
12.6	Products, Quotients, Powers, and Roots Of Complex Numbers	p. 352 #1-51 odd

CHAPTER 3: FUNCTIONS and GRAPHS (≈ 4 hours)

3.1	Introduction to Functions	p. 83 #1-27 odd
3.2	More about Functions	p. 87 #1-47 odd
3.4	The Graph of a Function	p. 94 #7-53 odd

CHAPTER 13: EXPONENTIAL AND LOGARITHMIC FUNTIONS (≈ 8 hours)

13.1	Exponential Functions	p. 364 #1-37 odd
13.2	Logarithmic Functions	p. 368 #1-69 odd
13.3	Properties of Logarithms	p. 373 #1-55 odd
13.5*	Natural Logarithms	p. 379 #1-53 odd
13.6	Exponential and Logarithmic Equations	p. 382 #1-55 odd

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

CHAPTER 10: GRAPHS OF THE TRIGONOMETRIC FUNCTIONS (≈ 4 hours)

10.1	Graphs of $y = a\ sin\ x$ and $y = a\ cos\ x$	p. 291 #1-35 odd
10.2	Graphs of $y = a\ sin\ bx$ and $y = a\ cos\ bx$	p. 294 #1-63 odd
10.3	Graphs of y = $a\ sin\ (bx + c)$ and $y = a\ cos\ (bx + c)$	p. 298 #1-43 odd
10.4	Graphs of $y = tan\ x,\ y = cot\ x,\ y = sec\ x,\ y = csc\ x$	p. 301 #1-23 odd
10.5	Applications of the Trigonometric Graphs	p. 303 #1-13 odd

CHAPTER 20: ADDITIONAL TOPICS IN TRIGONOMETRY (≈ 10 hours)

20.1	Fundamental Trigonometric Identities	p. 531 #7-61 odd
20.2	The Sum and Difference Formulas	p. 536 #1-41 odd
20.3	Double-Angle Formulas	p. 539 #1-49 odd
20.4	Half-Angle Formulas	p. 543 #3-37 odd
20.5	Solving Trigonometric Equations	p. 547 #1-47 odd
20.6	The Inverse Trigonometric Functions	p. 553 #5-61 odd

CHAPTER 5: SYSTEMS OF LINEAR EQUATIONS; DETERMINANTS (≈ 5 hours)

5.5	Solving Systems of Two Linear Equations in Two Unknowns by Determinants	p. 157 #1-37 odd.
5.6	Solving Systems of Three Linear Equations in Three Unknowns Algebraically	p. 161 #1-19 odd
5.7	Solving Systems of Three Linear Equations in Three Unknowns by Determinants	p. 167 #1-35 odd

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